



Southwest Power Pool
FINANCE COMMITTEE MEETING
November 10, 2016
Dallas, TX

• M I N U T E S •

Administrative Items

SPP Chair Harry Skilton called the meeting to order at 7:30 a.m. The following members of the Finance Committee participated:

Harry Skilton	SPP Director
Larry Altenbaumer	SPP Director
Kelly Harrison	Westar Energy
Sandra Bennett	AEP
Laura Kapustka (phone)	Lincoln Electric
Mike Wise	Golden Spread Electric Cooperative
Tom Dunn	SPP
Others attending included:	
Jim Eckelberger	SPP Director
Graham Edwards (phone)	SPP Director
Jerry Peace	OG&E
Denise Buffington (phone)	KCPL
Barbara Sugg	SPP
Carson Hampson	SPP
Nick Brown	SPP
Dianne Branch (phone)	SPP
Zeynep Vural (phone)	SPP
Sheri Dunn (phone)	SPP

Minutes from the July 6, 2016, September 27, 2016, and October 25, 2016 meetings were reviewed. Kelly Harrison motioned to approve the minutes. The motion was seconded by Sandra Bennett and approved by unanimous voice vote.

The Committee reviewed and adjusted its meeting schedule for 2017. The final schedule is included with these minutes.

2017 Budget and Administrative Fee Rate

SPP staff provided an in-depth review of SPP's Information Technology department. The review started with a detailed discussion of the scope and responsibilities of the department and was followed by information on the processes and theory utilized in making spending decisions in the department and factors outside the department that also drive expenditures.

SPP staff provided a summary of the major components of the 2017 budget and administrative fee including; i) salary and benefit expenses; ii) capital expenditure projects; iii) outside services expense; and iv) load assumptions.

Comments from Committee members and other participants were directed at i) ROI analysis (or lack thereof, on capital spending; ii) opportunities to more efficiently purchase weather forecasting services region wide; and iii) additional presentation details (clearly identifying project phases and commitments, "foundation" capital expenditures).

Larry Altenbaumer made a motion for the Committee to recommend the 2017 Budget to the SPP Board of Directors for approval and to establish a 2017 administrative fee rate of 41.9¢/MWh. The 2017 budget consists of total expenses of \$196.6 million, debt repayment of \$23.2 million, and capital expenditures of \$19.5 million. The motion was seconded by Harry Skilton and approved by unanimous voice vote.

Finance Committee
November 10, 2016

The Committee would like to re-focus on cost reduction initiatives during the first quarter of 2017 if SPP does not have positive momentum on its membership expansion efforts.

Future Meetings

The next meeting of the Finance Committee is scheduled for December 5, 2016 at the SPP Corporate Office in Little Rock, AR beginning at 2:00 p.m. and ending at 6:00 p.m.

There being no further business, Harry Skilton adjourned the meeting at 3:15 p.m.

Respectfully Submitted,

Thomas P. Dunn
Secretary



Southwest Power Pool, Inc.
FINANCE COMMITTEE
Action Items Status Report
November 10, 2016

	Action Item	Date Originated	Status	Comments
1.	Quantify liquidity provided to Integrated Marketplace by virtual transactions	July 6, 2016	New	SPP Market Design group working on
2.	Evaluate inclusion of credit process controls in SSAE 16 audit scope	July 6, 2016	New	
3.	Investigate how SPP member utilities insure against cyber liabilities	July 6, 2016	New	
4.	Engage firm to review work of actuary on benefit plans	April 5, 2016	New	
5.	Direct Credit Practice Working Group to reevaluate practice of using positive value TCR as collateral for TCR portfolio	April 5, 2016	New	To be discussed at December 5, 2016 meeting
6.	Investigate alternative metrics to use in allocating SPP's costs to the region	July 6, 2016	New	In process
7.	Full review of corporate liability insurance	12/07/2015	Complete	Presented at July 7, 2016 meeting
8.	Prepare a graph of historical member deficit	April 5, 2016	Complete	Presented at July 7, 2016 meeting
9.	Report each meeting on significant legal issues	April 5, 2016	Complete	Presented at July 7, 2016 meeting
10.	Determine requirement for SPP to fund RSC	April 5, 2016	Complete	Presented at July 7, 2016 meeting
11.	Review description of RE function in financial audit footnotes	April 5, 2016	Complete	Removed any mention of RE from footnotes
12.	Provide documentation of control activities on credit security refunds	April 5, 2016	Complete	Presented at July 7, 2016 meeting
13.	Re-review controls on approving invoices for payment	April 5, 2016	Complete	Presented at July 7, 2016 meeting
14.	Document value added by financial only market participants compared to profits earned by those participants in SPP markets	April 5, 2016	Complete	Presented at July 7, 2016 meeting
15.	Illustrate impact of charging NITS based on energy and PtP based on reserved capacity	April 5, 2016	Complete	Presented at July 7, 2016 meeting
16.	Provide information on December 2015 settlement dispute activity	April 5, 2016	Complete	Description sent on afternoon of April 5, 2016

17.	Add Settlement and Credit metrics to Committee materials	3/11/2016	Complete	Scheduled for April 2016 meeting
18.	Revisit SPP's rate design	11/10/2015	Complete	Scheduled for April 2016 meeting
19.	Prepare document outlining capital expenditures and funding options	7/17/2015	Complete	Scheduled for April 2016 meeting
20.	Establish a scorecard for presentation to MOPC, SPC, and BOD indicating costs associated with member required projects/services.	10/11/2012	Complete	Presented at March 11, 2016 meeting
21.	Create checklist of committee duties	7/09/2015	Complete	Presented at March 11, 2016 meeting



**Southwest Power Pool, Inc.
FINANCE COMMITTEE MEETING
November 9-10, 2016
DFW Hyatt Regency Hotel
Dallas, TX**

• A G E N D A •

November 9, 2016

7:00 p.m. – 9:00 p.m.

Coleman's Corner Room

1. Dinner
 - a. 2017 Meeting Schedule

November 10, 2016

7:30 a.m. – 2:30 p.m.

Meeting Room ECL 1113-1114

1. Administrative (15 minutes) Harry Skilton
 - a. Meeting Minutes (5 Minutes).....
 - b. Review of Action Items (10 minutes) Tom Dunn
2. 2017 Budget Review (360 Minutes)
 - a. Technology "Deep Dive" (180 Minutes) Barbara Sugg
 - b. 2017 Budget (180 Minutes)..... Tom Dunn
3. Adjourn Harry Skilton

Memorandum

To: **Finance Committee Members**
 From: **Tom Dunn**
 CC: **Shaun Scott**
 Date: **November 16, 2016**
 Re: **2016 - 17 Meeting Schedule**

Detailed below is a schedule for face-to-face meetings of the Finance Committee for 2016/2017 along with suggested agenda items to be covered at the meetings.

<u>Meeting Date</u>	<u>Time</u>	<u>Meeting Location</u>	<u>Major Agenda Item</u>
October 25, 2016	3:00	Teleconference	Preliminary 2017 Budget Review
November 10, 2016	7:30	Dallas, TX	2017 Budget Review (dinner 11/9)
November 22, 2016	10:30	Dallas, TX	2017 Budget
December 5, 2016	2:00	Little Rock, AR	SSAE-16 Audit Report, BPI Review Corporate Insurance Review, Authority Review, Actuary Assumption Review
February 22, 2017	10:00	Dallas, TX	2016 Investment Manager performance
April 4, 2017	7:30	Dallas, TX	Financial Audit Review (dinner 4/3) 2017 New Debt Issuance Ongoing Auditor Engagement Process
July 6, 2017	7:30	Dallas, TX	BPI Review (dinner 7/5) Mid-Year Review 2018 Admin Fee Forecast Financial Audit Engagement
August 23, 2017	10:00	Dallas, TX	FC, SPC, & MOPC Chair meeting
September 26, 2017	8:30	Dallas, TX	Joint FC/SPC Meeting to review 2018 Operating Plan
October 31, 2017	3:00	Teleconference	Preliminary 2018 Budget Review
November 9, 2017	7:30	Dallas, TX	2018 Budget Review (dinner 11/8)
November 21, 2017	10:30	Dallas, TX	2018 Budget
December 4, 2017	2:00	Little Rock, AR	SSAE-16 Audit Report, BPI Review Corporate Insurance Review, Authority Review, Actuary Assumption Review



**Southwest Power Pool
FINANCE COMMITTEE MEETING**

July 6, 2016

Dallas, TX

• M I N U T E S •

Administrative Items

SPP Chair Harry Skilton called the meeting to order at 7:30 a.m. The following members of the Finance Committee participated:

Harry Skilton	SPP Director
Larry Altenbaumer	SPP Director
Kelly Harrison	Westar Energy
Sandra Bennett (phone)	AEP
Laura Kapustka	Lincoln Electric
Mike Wise	Golden Spread Electric Cooperative
Tom Dunn	SPP

Others attending included:

Bruce Scherr (phone)	SPP Director
Graham Edwards	SPP Director
Traci Bender (phone)	NPPD
Denise Buffington	KCPL
Scott Smith	SPP
Richard Ross	AEP
Nick Brown	SPP
Stan Payne	Stephens Insurance
Kevin McBride	Stephens Insurance
Jim Goss	Stephens Insurance

Minutes from the April 5, 2016 meeting were reviewed, including a detailed review of the action items. Larry Altenbaumer motioned to approve the minutes. The motion was seconded by Mike Wise and approved by unanimous voice vote.

The Committee reviewed edits to the Finance Committee Scope Document based on recommended changes discussed at the April 2016 meeting. Laura Kapustka motioned to approve the edited document. The motion was seconded by Kelly Harrison and approved by unanimous voice vote. The approved document will be forwarded on to the SPP Corporate Governance Committee for their review, approval, and adoption.

The Committee requested SPP staff perform additional analysis to quantify the value virtual transactions provide to the SPP Integrated Marketplace.

The Committee requested SPP staff evaluate adding controls arounds its credit processes to the scope of controls subject to the SSAE 16 controls audit.

Corporate Liability Insurance Review

SPP staff and representatives from Stephens Insurance delivered a thorough review of SPP's corporate liability insurance program. Staff was directed to visit with several of SPP's utility members to gain insights on how they insure against cyber liabilities. SPP staff will present options for cyber liability insurance policies at the Finance Committee's December 2016 meeting.

2017 Administrative Fee Forecast

SPP an analysis of the factors leading to its forecast of under-recovery in 2016 and the impact that under-recovery coupled with expected increases in personnel costs would have on the administrative fee forecast in 2017. The largest single driver impacting the future administrative fee forecast is lower zonal peak demand throughout the SPP

Finance Committee
July 6, 2016

footprint. SPP is presently forecasting a 2017 administrative fee rate of just over 41¢/MWh. This rate will exceed the rate cap of 39¢/MWh in the SPP tariff.

Mike Wise motioned to increase the Schedule 1A rate cap in the SPP tariff to 43¢/MWh. The motion was seconded by Sandra Bennett and approved by unanimous voice vote.

2016 Auditor Engagements

SPP staff presented a recommendation to engage the incumbent outside auditors to perform audits of SPP's financial statements (BKD, LLC), benefit plans (Thomas and Thomas), and SSAE 16 controls (KPMG). The Committee discussed and reached consensus on establishing a guideline of putting the audit business out for bid every 6 years unless the Committee determines a reason to not perform the exercise.

Kelly Harrison motioned to approve engaging BKD to audit SPP's 2016 financial statements, Thomas and Thomas to audit SPP's 2016 benefit plan financial statements, and KPMG to audit SPP's control environments for the 2016-17 audit period. The motion was seconded by Laura Kapustka and approved by unanimous voice vote.

Written Reports

The Committee reviewed the written reports provided in the meeting materials.

Future Meetings

The next meeting of the Finance Committee is scheduled for September 27, 2016 at the DFW Hyatt Regency hotel in Dallas, TX beginning at 8:30 a.m. and ending at 2:30 p.m.

There being no further business, Harry Skilton adjourned the meeting at 1:11 p.m.

Respectfully Submitted,

Thomas P. Dunn
Secretary



Southwest Power Pool, Inc.
FINANCE COMMITTEE
Action Items Status Report
July 6, 2016

	Action Item	Date Originated	Status	Comments
1.	Quantify liquidity provided to Integrated Marketplace by virtual transactions	July 6, 2016	New	
2.	Evaluate inclusion of credit process controls in SSAE 16 audit scope	July 6, 2016	New	
3.	Investigate how SPP member utilities insure against cyber liabilities	July 6, 2016	New	To be discussed at December 2016 meeting
4.	Engage firm to review work of actuary on benefit plans	April 5, 2016	New	
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6.	Full review of corporate liability insurance	12/07/2015	Complete	Presented at July 7, 2016 meeting
7.	Prepare a graph of historical member deficit	April 5, 2016	Complete	Presented at July 7, 2016 meeting
8.	Report each meeting on significant legal issues	April 5, 2016	Complete	Presented at July 7, 2016 meeting
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13.	Document value added by financial only market participants compared to profits earned by these participants in SPP markets	April 5, 2016	Complete	Presented at July 7, 2016 meeting
14.	Illustrate impact of charging NITS based on energy and PtP based on reserved capacity	April 5, 2016	Complete	Presented at July 7, 2016 meeting
15.	Provide information on December 2015 settlement dispute activity	April 5, 2016	Complete	Description sent on afternoon of April 5, 2016

Finance Committee
 July 6, 2016

16.	Add Settlement and Credit metrics to Committee materials	3/11/2016	Complete	Scheduled for April 2016 meeting
17.	Revisit SPP's rate design	11/10/2015	Complete	Scheduled for April 2016 meeting
18.	Prepare document outlining capital expenditures and funding options	7/17/2015	Complete	Scheduled for April 2016 meeting
19.	Establish a scorecard for presentation to MOPC, SPC, and BOD indicating costs associated with member required projects/services.	10/11/2012	Complete	Presented at March 11, 2016 meeting
20.	Create checklist of committee duties	7/09/2015	Complete	Presented at March 11, 2016 meeting



**Southwest Power Pool
FINANCE COMMITTEE MEETING**

September 27, 2016

Dallas, TX

• M I N U T E S •

Administrative Items

SPP Chair Harry Skilton called the meeting to order at 8:30 a.m. The following members of the Finance Committee participated:

Harry Skilton	SPP Director
Larry Altenbaumer	SPP Director
Kelly Harrison	Westar Energy
Sandra Bennett (phone)	AEP
Laura Kapustka	Lincoln Electric
Mike Wise	Golden Spread Electric Cooperative
Tom Dunn	SPP

Others attending included:

Bruce Scherr	SPP Director
Jim Eckelberger	SPP Director
Phyllis Bernard	SPP Director
Julian Brix	SPP Director
Josh Martin	SPP Director
Traci Bender	NPPD
Denise Buffington	KCPL
Bill Grant	SPS
Carl Monroe	SPP
Carson Hampson	SPP
Dennis Florum	Lincoln Electric
Jake Langthorn	OG&E
Jerry Peace	OG&E
Kelly Walters	Empire District
Michael Desselle	SPP
Mike Risan	Basin
Noman Williams	SouthCentral MCN
Paul Suskie	SPP
Rob Janssen	Dogwood Energy
Bruce Cude	SPS
Les Evans	Kansas Electric Power Coop
Venita McCellon-Allen	AEP
Ray Wahle	Missouri River Energy

The meeting was scheduled to provide an opportunity for Finance Committee members to review SPP staff's work on documenting an Operating Plan for 2017. Members of SPP's Strategic Planning Committee were invited to attend so they may be able to share their insights on the alignment of the draft Operating Plan with the 2014 SPP Strategic Plan.

Major discussion topics included:

- Sources of strategic inputs and regulatory drivers
 - Suggested SPP should provide a clear description of the value of initiatives prior to decisions to move forward with the initiative
 - Lack of clarity around how cost uncertainty is captured when evaluating initiatives

- Status of Strategic Plan Initiatives
 - Should SPP address inequities within transmission zones,
 - Consider MOPC discussion of Stakeholder Prioritization work at each regular Board of Director meeting,
 - Consider SPP staff identifying work that would need to be discontinued in order to perform work on new initiatives without an increase in overall spending
- Operating Plan
 - Document anticipated spending levels with initiatives and department level priorities
- Linkage of Strategic Plan strategies to Operating Plan initiatives
- Determination of Operating Plan consistency with strategic direction
 - The 2017 Operating Plan is consistent with the 2014 Strategic Plan

Future Meetings

The next meeting of the Finance Committee is scheduled for October 25, 2016 as a teleconference beginning at 3pm

There being no further business, Harry Skilton adjourned the meeting at 2:00 pm.

Respectfully Submitted,

Thomas P. Dunn
Secretary



**Southwest Power Pool
FINANCE COMMITTEE MEETING
October 25, 2016
Teleconference**

• M I N U T E S •

Administrative Items

SPP Chair Harry Skilton called the meeting to order at 3:00 p.m. The following members of the Finance Committee participated:

Harry Skilton	SPP Director
Kelly Harrison	Westar Energy
Sandra Bennett (phone)	AEP
Laura Kapustka (phone)	Lincoln Electric
Mike Wise	Golden Spread Electric Cooperative
Tom Dunn	SPP
Others attending included:	
Traci Bender (phone)	NPPD
Bruce Scherr	SPP Director
Jerry Peace	OGE
Dianne Branch	SPP
Zeynep Vural	SPP
Sheri Dunn	SPP
Nick Brown	SPP
Carson Hampson (phone)	SPP

2017 SPP Budget

The format of the meeting was a “round-table” discussion whereby Committee members and other participants could provide SPP staff with their initial impressions of the 2017 budget document and request additional detail and/or information to be provided at the November 10, 2016 meeting. The discussion yielded the following items where additional information was requested:

- a. Provide additional details on budget for maintenance and consulting expenses
- b. Illustrate multiple options for forecasting peak demand for Sept’16 through Dec’16
- c. Provide comparisons to peer organizations
- d. Focus on and discuss growth in technology spending; do a deep dive
- e. Identify total spending supporting FERC/NERC requirements
- f. Identify expected rates of return for capital expenditures; provide additional details on “foundation” capital expenditures
- g. Provide additional detail on maintenance and services expenses
- h. Forecast debt payments through 2027
- i. Reconcile post Integrated Marketplace implementation staffing reductions

Future Meetings

The next meeting of the Finance Committee is scheduled for November 10, 2016 at the DFW Hyatt Regency hotel in Dallas, TX beginning at 7:30am and concluding at 2:30pm.

There being no further business, Harry Skilton adjourned the meeting at 5:00 p.m.

Respectfully Submitted,

Thomas P. Dunn



2017 BUDGET

PREPARED BY ACCOUNTING DEPARTMENT

DRAFT



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I. EXECUTIVE SUMMARY

SPP VALUE

SPP has a proven record of creating value for our diverse member companies. Our markets; transmission planning efforts; and operations, reliability and professional services all provide significant benefits.

In 2014, we launched our Integrated Marketplace on time and on budget with the highest degree of quality. In the short time since then, our markets have provided over \$1 billion in cumulative benefits to the region.

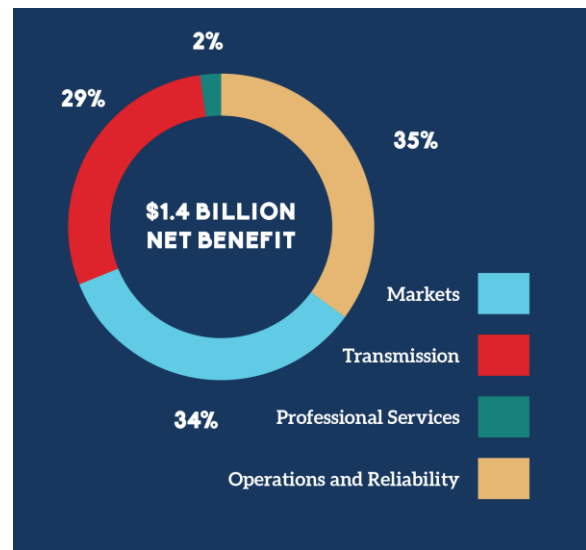
A recent study conducted by SPP and validated by the independent firm The Brattle Group found transmission expansion in the SPP region had a 3.5-to-1 benefit-to-cost ratio over its lifespan and has enabled the savings realized by our members in the Integrated Marketplace.

These and other services provide net benefits to SPP's members in excess of \$1.4 billion annually at a benefit-to-cost ratio of more than 10-to-1. For the typical end-use customer using 1,000 kWh per month, this means their \$100 electric bill would be \$105.65 without the services SPP provides.

SPP remains committed to producing value for its stakeholders and providing customers increased options and greater efficiency to meet the needs of their end users reliably and affordably.

Through centralized and leveraged services, SPP:

- Reduces overall costs by operating as a region;
- Provides reliability assurance and predictable operations of the bulk electric system;
- Facilitates effective transmission planning processes resulting in building and maintaining an economically optimized transmission system;
- Offers an open and transparent marketplace with economic benefits;



- Optimizes market efficiencies and transmission expansion along the seams of other markets and the emerging seam associated with the natural gas supply; and
- Ensures 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

The 2017 Operating Plan was drafted by SPP staff and vetted at a joint meeting of the SPP finance committee and strategic planning committee to ensure alignment with SPP's current Strategic Plan. SPP's 2017 Operating Plan documents the specific activities SPP will undertake during 2017 and links them to Strategic Plan initiatives.

The 2017 Operating Plan segregates work across three platforms:

1. **Major Project Investments** – represents investments driven by i) customers, ii) regulators, or iii) SPP staff which generally have broad impacts to services provided by SPP
2. **Major Technology Investments** – represents investments in technology to adapt to changes in scope, scale and/or security for SPP's technology infrastructure
3. **Keeping The Lights On** – represents ongoing and incremental investments in SPP foundation activities

Highlights from the 2017 Operating Plan include:


- **Settlement System Replacement**
SPP will replace current market and transmission settlement systems with a customized high-performance scalable system expected to be implemented by 2019. 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. Activities in 2017 include engaging vendors, finalizing system design and beginning system construction.
- **Phasor Measurement Unit (PMU) Data Exchange and Analysis**
The PMU Data Exchange and Analysis project will enhance SPP's current operations and after-the-fact event analysis and system model validation. Phase 1 commenced in 2016 with the primary achievements being the deployment of a PMU starter kit and development of a roadmap. Phase 2 (expected to run 2018-2019) includes implementation of a member portal and Phase 3 (commencing in 2018) encompasses the integration of PMU data collection and analytics into SPP's secure data network.
- **Voltage Security Assessment Tool (VSAT)**
The online VSAT identifies transmission system constraints real-time operators can mitigate using congestion management practices. The tool will also help operators and operations planning engineers prepare for and react to stability concerns to maintain reliable operation of the bulk electric system. Work will begin in 2017 and complete before the end of 2018.

The Operating Plan document is included following the supplementary schedules in section X.

NET REVENUE REQUIREMENT (NRR)

SPP's NRR for 2017 is budgeted at \$160.4 million representing a \$9.0 million increase over the 2016 forecast NRR of \$151.4 million. SPP projects an under-recovery of the 2016 NRR of \$6.4 million, which is the lion's share of the 2017 NRR increase. Other factors contributing to NRR growth are a \$3.2 million increase in maintenance expenditures and a \$2.7 million increase in personnel costs.

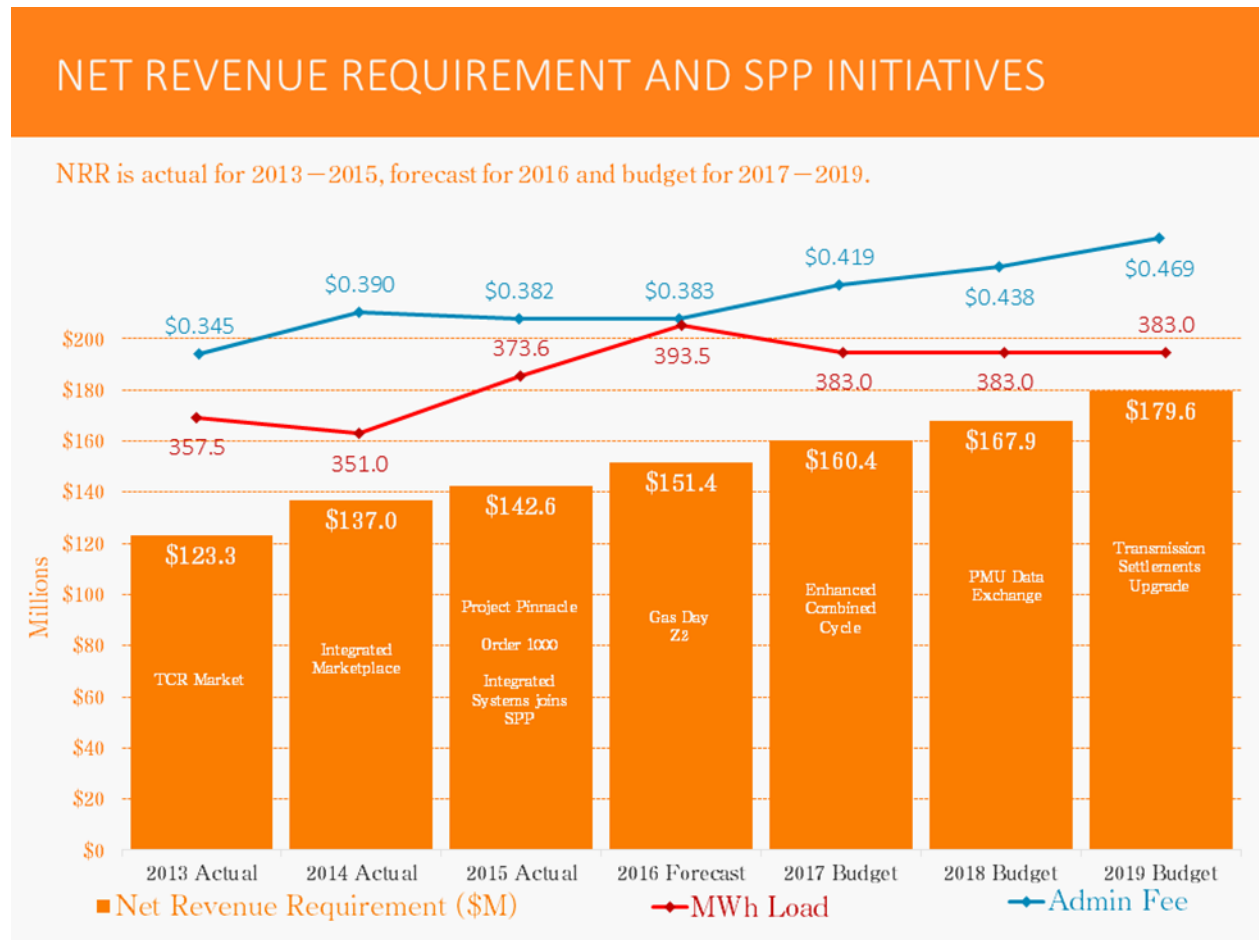
The proposed administrative fee rate for 2017 is 41.9¢/MWh. The admin fee tariff cap is 43.0¢. The 2016 rate was established at 37.0¢/MWh which was below the admin fee tariff cap of 39.0¢ at the time.



The 2017 proposed admin fee rate of 41.9¢/MWh is based on a net revenue requirement (NRR) of \$160.4 million.

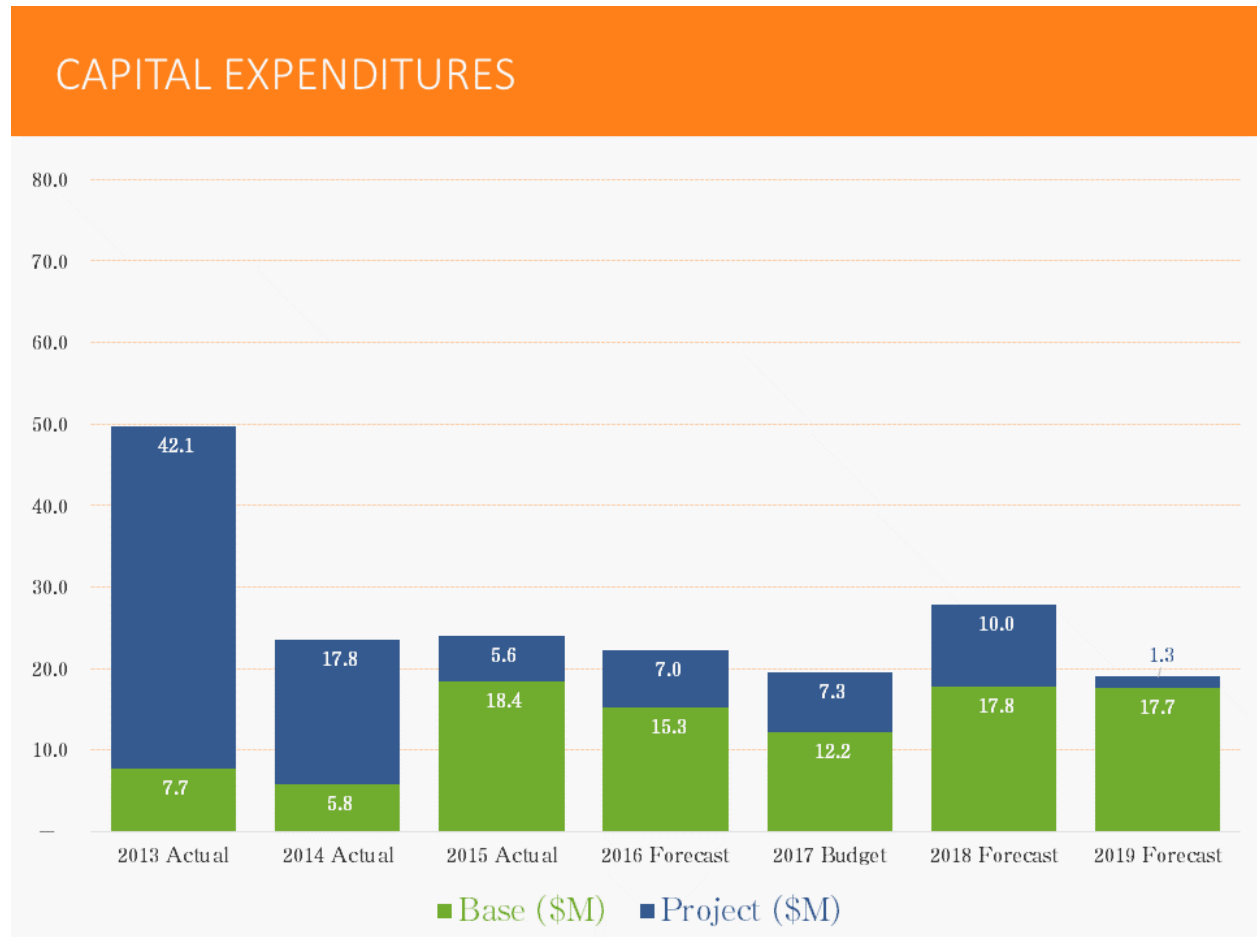
The admin fee rate increase is primarily due to significant under-recovery in 2016 resulting from lower-than-anticipated average peak monthly transmission demand in 2015. The lower average peak monthly transmission demand has continued through August of 2016 which has impacted the 2017 administrative fee rate.

The 2017 proposed admin fee rate of 41.9¢/MWh is based on an NRR of \$160.4 million, compared to the \$150.5 million 2016 budgeted NRR and \$151.4 million 2016 forecast NRR.



CAPITAL EXPENDITURES

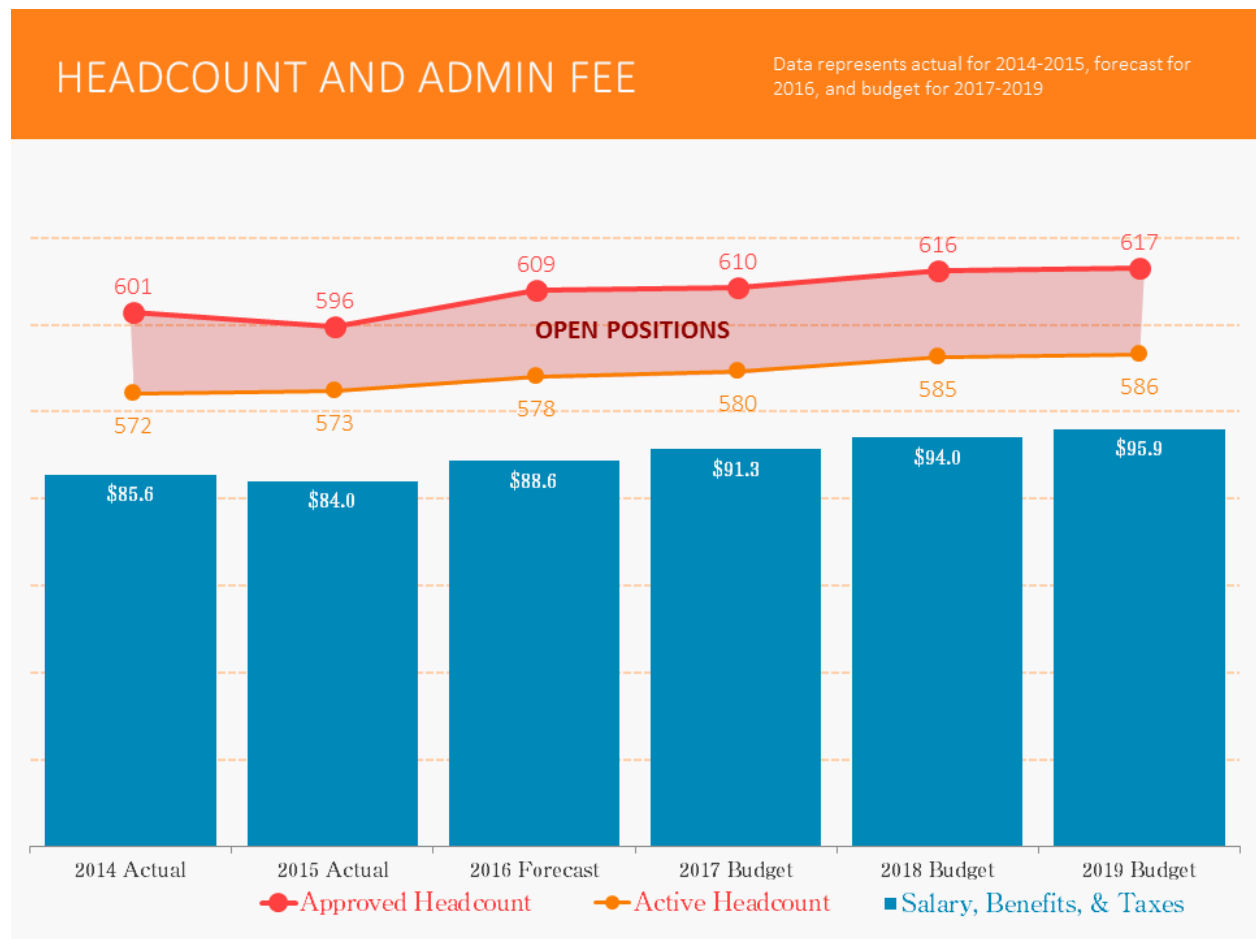
The 2017 budget identifies capital expenditures totaling \$66.3 million for 2017-2019. These projects represent investments in various initiatives. Each initiative was either requested by stakeholders, compliance-driven, or approved capital spending to improve and strengthen information technology and operations foundation.



SPP HEADCOUNT

The number of staff positions for 2017 is expected to remain relatively consistent with 2016 staffing levels, including a net increase of only one position over the 2016 forecast of 609. The 2017 staffing level is budgeted at 610, compared to 598 projected last year for 2017. The increase is associated with incremental out-of-budget positions added to the 2016 forecast as a result of assessing SPP’s compliance-related responsibilities and with repurposing positions required for incremental staffing needs for 2017 (refer to Section VI).

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.



II. SPP VALUE

SPP provides its customers increased options and greater efficiency to meet the needs of electric customers. Investment in transmission infrastructure throughout the SPP region enhances reliable delivery of electricity and optimizes SPP's markets to ensure electricity is delivered in the most economical fashion.

Over the last 75 years, SPP's scope of work has grown exponentially. Initially created to coordinate power delivery in support of wartime production efforts in central Arkansas in the early days of U.S. involvement in World War II, today SPP offers a portfolio of services for member organizations including reliability coordination, tariff administration, regional scheduling, transmission expansion planning, wholesale market operations, seams management, compliance, training and contract services.

SPP's footprint has also grown substantially. Twice in just the last ten years SPP has significantly expanded our borders to include the integration of Nebraska Public Power District, Lincoln Electric System and Omaha Public Power District in April 2009; and Western Area Power



SPP's Integrated Marketplace provided over \$1 billion in cumulative benefits to the region through September 2016.

Administration's (WAPA) Upper Great Plains Region, Basin Electric Power Cooperative and Heartland Consumers Power District in October 2015.

In 2014, SPP launched the Integrated Marketplace which was arguably the largest and most impactful single effort in our organization's history.

The project was completed on time and on budget with the highest degree of quality. SPP's Integrated Marketplace provided over \$1 billion in cumulative benefits to the region through September 2016.

SPP's member roster, footprint, tariff, responsibilities and staff size have grown significantly since we incorporated more than 20 years ago, but our values and commitment to serving our members have remained the same.

SPP has demonstrated through decades of success that our business model is built to stand the test of time. We have accomplished all of the above while expanding our membership and footprint to include all or part of 14 states, expanding our duties to include real-time and next-day energy markets and a consolidated Balancing Authority. As we've done in the past, SPP will

continue to provide exceptional value and services to our members in ever-changing circumstances as our industry continues to evolve.

SPP's business approach is to provide better value by creating and maintaining a strong, unique culture in which our staff and stakeholders collaborate to be as effective and efficient as possible.

SPP has a proven record of creating value for the companies we serve, who are as diverse as the services we offer. Our members include investor-owned utilities, electric cooperatives, municipalities, public power and state and federal agencies. In fact, we are the only Regional Transmission Organization (RTO) to count among its members a federal agency: Western Area Power Administration, Upper Great Plains Region.

A recent study conducted by SPP and validated by The Brattle Group found transmission expansion in the SPP region had a 3.5-to-1 benefit-to-cost ratio over its lifespan and has enabled a significant portion of the savings realized by our members in the Integrated Marketplace. The study also found 345 kV transmission projects within the SPP region cost just slightly more than \$1 million per circuit mile to construct, compared to more than \$3 million for non-SPP projects among Edison Electric Institute members.



SPP's services provide net benefits to members in excess of \$1.4 billion annually at a benefit-to-cost ratio of more than 10-to-1.

These and other services provide net benefits to SPP's members in excess of \$1.4 billion annually at a benefit-to-cost ratio of more than 10-to-1. For the typical end-use customer using 1,000 kWh per month, this means their \$100.00 electric bill would be \$105.65 without the services SPP provides.

III. 2017 NRR

NRR

Operating expenses (excluding depreciation and Federal Energy Regulatory Commission [FERC] fees) are expected to increase by 5 percent over the 2016 budget while transmission volume is projected to decrease 6 percent.

SPP's main focus remains the reliable planning and operation of the wholesale electric grid. The Strategic Plan positions SPP to fulfill its mission over the next decade and beyond. SPP's activities and initiatives are guided by the four foundational strategies identified in the Strategic Plan: 1) reliability assurance, 2) optimization of interdependent systems, 3) maintenance of an economical and optimized transmission system and 4) enhanced value and affordability of SPP services. These four strategies are interdependent, with reliability assurance serving as the basis of these strategies and enhancement of the value and affordability of SPP's services serving as the discipline.

Operating expenses, excluding depreciation and FERC assessments, are expected to be \$147.0 million in 2017, an increase of \$6.7 million compared to the 2016 budget. Growth in operating expenses results primarily from 1) salary and benefits increases due to additional staff focused on compliance efforts; and 2) Information Technology (IT) maintenance expense 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.

SPP received recommendations from two independent firms in 2016 suggesting changes SPP should implement to enhance its compliance efforts. The recommendations, taken together, resulted in significant shifts in internal responsibilities and addition of 11 new staff positions. 2017's budget includes a full year of salary and benefits for these positions.

During the 2017 budget planning process, 15 incremental staffing recommendations were examined and compared to staffing requirements associated with the 2016 open positions. Several of the 2016 open positions were eliminated and repurposed for utilization to fulfill responsibilities with higher priorities. The net impact for 2017 is a net increase of one position.

Maintenance expense is expected to increase in 2017 by \$1.2 million over the 2016 budget. The increase is primarily being driven by new capital expenditures and projects that are expected to be implemented in 4th quarter of 2016 and throughout 2017. For new capital expenditures, the majority of maintenance expense will be driven by 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, which comprise the second largest component of NRR after operating expenses, decreased by \$1.0 million from 2016 to 2017, as a result of the maturity in 2016 of the \$30.0 million debt issued in 2009.

	<u>2016 Budget</u>	<u>2016 Forecast</u>	<u>2017 Budget</u>
Income			
Tariff Administration Service	\$150.7	\$145.0	\$160.4
Fees & Assessments	27.5	26.6	28.1
Contract Services Revenue	0.5	0.5	0.5
Miscellaneous Income	3.4	4.3	5.0
Total Income	\$182.1	\$176.5	\$194.1
Expense			
Salary & Benefits	\$85.2	\$88.6	\$91.3
Depreciation & Amortization	59.7	58.6	30.5
Communications & Maintenance	20.9	18.8	22.2
Outside Services	15.1	15.8	14.5
Administrative / Other	15.8	15.9	15.8
Assessments & Fees	17.0	18.6	18.6
Travel & Meetings	3.4	3.0	3.3
Total Expense	\$217.1	\$219.3	\$196.1
Net Income (Loss)	(\$35.0)	(\$42.8)	(\$2.0)
Debt Repayment	\$24.2	\$24.2	\$23.2
MWh Forecast (in millions)	407.2	394.5	383.0
Base NRR (excluding adjustments)	\$146.8	\$147.7	\$150.2
Net Revenue Requirement	\$150.5	\$151.4	\$160.4
Recommended Admin Fee / MWh	\$0.370	\$0.370	\$0.419

BILLING DETERMINANTS

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 peak demand (12CP) for each customer.

The 12CP available for NITS billings in 2017 are forecast based on year-to-date 2016 actual data with the year-to-date growth rate applied to the actual 2015 peak demand data for the forecast

months in 2016. The table below details the change in year-over-year monthly peak hour demand (in MW) during 2016.

	% Change <u>MOM</u>	% Change <u>YTD</u>
January 16 to January 15	-8.72%	-8.72%
February 16 to February 15	-9.20%	-8.95%
March 16 to March 15	-14.17%	-10.62%
April 16 to April 15	1.54%	-8.05%
May 16 to May 15	5.00%	-5.60%
June 16 to June 15	4.50%	-3.59%
July 16 to July 15	1.64%	-2.67%
August 16 to August 15	3.07%	-1.82%

The data clearly indicates that peak hour demand during the first quarter of 2016 was below prior year levels. Demand in the months of April through August exceeded the demand in the prior year. In total, peak demand for the period January 2016 through August 2016 was 1.82 percent below the peak hour demand experienced in 2015. SPP forecasts the peak demand for the months of September through December 2016 by applying the 1.82 percent reduction to the actual demand experienced in September through December 2015. Combining the actual and forecast 2016 peak hour demand yields a 12CP total of 39,790 MW or 348,600,000 MWh of billing determinants.

PtP reserved capacity is estimated by applying the year-to-date variance between actual PtP service versus forecast PtP service for 2016. As of year-to-date through August 2016, PtP service was running -0.57 percent below the 2016 estimate. Reducing the 2016 estimate, essentially forecasting 2017 PtP service to be equal to 2016 actual PtP service, results in PtP billing determinants for 2017 of 32,200,000 MWh.

SPP also provides services to Southwestern Power Administration that yields the equivalent of 1,500,000 to 2,000,000 MWhs of billing determinants.

Summing the prior sources results in an estimated total billing determinants for 2017 of 383,000,000 MWh, which is well below the 2016 billing determinant total of 395,000,000 MWh. Actual billing determinants for NITS will be known in early February 2017. Billing determinants for PtP will not be known until service is reserved.

COMPONENTS OF 2017 NRR AND ADMINISTRATIVE FEE

The following table illustrates the calculation of the administrative fee. The 2017 calculation includes an adjustment to NRR to account for expected under-recovery in 2016 and the 2017 capital reserve fund.

Net Revenue Requirement (NRR) & Administrative Fee (\$ millions)				
	2016 Budget	2016 Forecast	2017 Budget	2017 Prior Estimate ⁽¹⁾
Operating Expenses (excl. Depreciation)	\$157.3	\$160.3	\$165.6	\$159.6
Debt service	24.2	24.2	23.2	23.2
Gross revenue requirement	\$181.5	\$184.5	\$188.8	\$182.8
Less:				
FERC expense	(17.0)	(18.6)	(18.6)	(17.0)
NERC revenue	(10.4)	(9.5)	(10.8)	(10.5)
Other revenues	(4.7)	(5.5)	(6.1)	(4.1)
Non-Cash Adjustments	(2.6)	(3.2)	(3.2)	(2.6)
Base NRR prior to adjustments	\$146.8	\$147.7	\$150.2	\$148.5
Billing Determinants (MWh millions) ⁽²⁾	407.2	394.5	383.0	407.2
Calculated Admin Fee / MWh	\$0.360	\$0.374	\$0.392	\$0.365
<i>Non-recurring & NRR Adjustments / MWh ⁽³⁾</i>	<i>\$0.009</i>	<i>\$0.009</i>	<i>\$0.027</i>	<i>\$0.005</i>
Current/Calculated Admin Fee/MWh	\$0.370	\$0.384	\$0.419	\$0.370
Proposed Admin Fee / MWh	\$0.370	\$0.370	\$0.419	\$0.370
Admin Fee Tariff Cap	\$0.390	\$0.390	\$0.430	\$0.390

(1) 2017 Prior Year Estimate refers to the 2017 estimate made during the 2016 budget presentation
(2) Defined as coincident peak for network service and capacity for point-to-point service in MWh
(3) Refer to section below

Non-recurring Items & NRR Adjustments (\$ millions)				
	2016 Budget	2016 Forecast	2017 Budget	2017 Prior Estimate ⁽¹⁾
Base NRR prior to adjustments	\$146.8	\$147.7	\$150.2	\$148.5
2015 Over-recovery	(0.6)	(0.6)		
Capital expenditure reserve	4.3	4.3	3.9	2.2
2016 Under-recovery			6.4	
Net Revenue Requirement	\$150.5	\$151.4	\$160.4	\$150.7
Billing Determinants (MWh millions)	407.2	394.5	383.0	407.2
<i>Non-recurring items / MWh</i>	<i>\$0.009</i>	<i>\$0.009</i>	<i>\$0.027</i>	<i>\$0.005</i>

FUTURE FORECASTING

SPP constructs a three-year budget plan each year in accordance with the tariff. The 2017 – 2019 budget is used as the basis for the five-year forecast. Consistent with the original three-year budget, the billing units for 2020 and 2021 remain equal to the 383.0 MWh forecast for 2017 thru 2019 and only minimal inflationary adjustments were applied to the operating expenses.

Capital expenditures are also assumed to be consistent with the 2019 forecast. SPP has included in its rate recovery in 2020 and 2021 collection of 20 percent of the forecast capital expenditures for each year. This collection will serve to reduce interest costs going forward.

	<u>2017 Budget</u>	<u>2018 Budget</u>	<u>2019 Budget</u>	<u>2020 Budget</u>	<u>2021 Budget</u>
Income					
Tariff Administration Service	\$160.4	\$167.9	\$179.6	\$182.4	\$190.8
Fees & Assessments	28.1	28.8	29.2	29.8	30.3
Contract Services Revenue	0.5	0.5	0.0	0.0	0.0
Miscellaneous Income	5.0	5.1	5.1	5.2	5.3
Total Income	\$194.1	\$202.3	\$213.8	\$217.3	\$226.5
Expense					
Salary & Benefits	\$91.3	\$94.0	\$95.9	\$97.8	\$99.8
Depreciation & Amortization	30.5	23.7	25.1	25.6	26.1
Communications & Maintenance	22.2	25.6	29.7	30.3	30.9
Outside Services	14.5	15.8	16.4	16.7	17.1
Administrative / Other	15.8	16.0	15.5	15.8	16.1
Assessments & Fees	18.6	19.2	19.8	20.2	20.6
Travel & Meetings	3.3	3.5	3.5	3.6	3.7
Total Expense	\$196.1	\$197.8	\$205.9	\$210.1	\$214.3
Net Income (Loss)	(\$2.0)	\$4.5	\$7.9	\$7.3	\$12.2
Debt Repayment	\$23.2	\$28.0	\$35.2	\$35.1	\$40.6
MWh Forecast (in millions)	383.0	383.0	383.0	383.0	383.0
Base NRR (excluding adjustments)	\$150.2	\$162.4	\$175.8	\$178.5	\$186.9
Net Revenue Requirement	\$160.4	\$167.9	\$179.6	\$182.4	\$190.8
Recommended Admin Fee / MWh	\$0.419	\$0.438	\$0.469	\$0.476	\$0.498

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 (section V)
- Operating expenses (section VI)
- Debt service (section VIII)

Operating expenses represent the largest component of the net revenue requirement and consist of budgeted costs for ongoing operations. Operating expenses are presented in two different views:

- By resource type (e.g., staffing, facilities) (section VI)
- By division (e.g., operations, engineering) (section VII)

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.

The budget identifies 15 capital projects impacting 2017, in addition to the foundation projects. 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 IT technologies (servers, data storage, networking equipment and software licenses) driven by security requirements, application and architectural enhancements and legacy growth. Capital projects are discussed in section V.

Debt service costs are principal payments and interest expense related to various borrowings obtained to fund SPP's capital expenditures. The term of different sources of funding is matched to the estimated useful life of these specific projects. Debt service is discussed in section VIII.

BUDGET GUIDANCE AND ASSUMPTIONS

SPP's Operating Plan

The SPP operating plan is used as a guide for the budgeting process.

SPP presented an updated operating plan to the Finance Committee to document SPP's 2017 tactical scope and provide a broad understanding of SPP's 2017 plans, environment, assumptions and costs.

Along with planning for technology investments, the following major project investments are identified in the Operating Plan:

- Settlement System Replacement
- PMU Data Exchange and Analysis
- VSAT
- Governance, Risk and Compliance Tool (GRC)

More information on these initiatives can be found in the Capital Projects section V.

SPP's longstanding policy has been to fund capital expenditures through issuance of notes 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. SPP's capital expenditure program has been significant over the past several years, dominated by the Integrated Marketplace and corporate campus projects. Looking forward, SPP's capital expenditure requirements are forecast to decline from recent levels to an average of \$22 million per year.

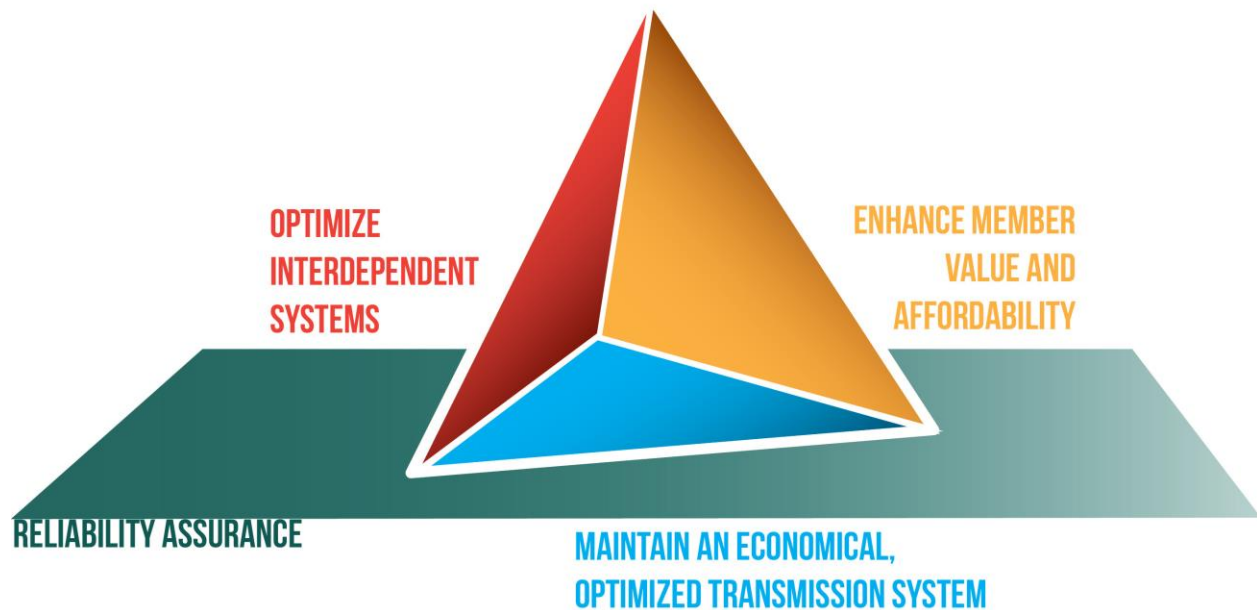
Budget Development

Planning meetings held during June 2016 provided guidance in developing the 2017 budget. Although a zero-based methodology was utilized in certain previous years, under the direction of the executive team, each department director was required to create an incremental-based budget for operating expenses. The incremental-based method was also utilized in the 2016 budget process. Justifications were required for significant variances to the current 2016 forecast. Departmental directors held numerous, collaborative meetings with the following objectives: 1) to minimize headcount additions and 2) to further examine discretionary operating costs for possible reductions. At the cornerstone of achieving these objectives was a focus on managing project-related work (including foundational activities) to such a level as to allow for little or no incremental staffing requests. The budget reflects adjustments agreed upon by the director group and subsequently approved by the executive team.

ALIGNMENT OF 2017 BUDGET WITH SPP'S STRATEGIC PLAN

The Operating Plan was presented to the Strategic Planning Committee (SPC) and Finance Committee (FC) as a basis for the 2017 budget and to ensure alignment with SPP's Strategic Plan.

The energy industry remains in a period of dynamic transformation. While developing its Strategic Plan, SPP considered several of the evolving factors affecting demand, generation resources and transmission requirements of SPP and its members. The increase in demand, generation and transmission in the SPP footprint is related to volatility in oil, natural gas drilling and transportation industries and to the surge in the addition of renewable resources (mostly wind energy) to the generation mix. These trends present significant operational and planning challenges for SPP and are critical to the four foundational strategies identified in the Strategic Plan.



These foundational strategies are aimed to create the capabilities and operational processes 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.

A comprehensive list of the foundational strategies, related initiatives and how the 2017 Operating Plan and budget supports each initiative can be found in the Operating Plan document in section X of the supplementary schedules.

V. CAPITAL PROJECTS

SPP expects 2017-2019 capital expenditures to be approximately \$66.3 million.

Beginning in early 2016, a comprehensive list of new and on-going projects was compiled in consideration for the 2017 – 2019 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. The PRPC worked closely with project managers, IT directors and vendor managers to create scope requirements and estimate anticipated workload associated with the implementation of the projects. The PRPC received 13 new project requests for the 2017-2019 budget cycle. Additionally, nine carryover projects were taken into consideration given they were anticipated to continue into 2017, requiring ongoing budget and staffing support. The PRPC reviewed, ranked and assessed the value of the submitted projects and ultimately submitted its recommendation to the SPP officers for approval in July 2016.

2017-2019 Capital Expenditures (\$ millions)					
	Prior	2017	2018	2019	Total
Carry Over Projects					
Enhanced Combined Cycle - Gas Day	\$ 6.4	\$ 0.6	\$ -	\$ -	\$ 7.0
TTSE Dispatcher Training Simulator	0.2	0.4	3.0	-	3.6
PMU Data Exchange, Phase 1	0.8	0.7	0.3	0.2	2.0
Identity and Access Management System (IAMS)	0.2	0.4	0.1	-	0.7
Z2 Crediting, Phase 2 & 3	0.4	0.1	-	-	0.5
Other	0.3	0.4	0.0	-	0.7
New Projects					
Settlement Systems Replacement Project	\$ -	\$ 2.1	\$ 3.0	\$ -	\$ 5.1
Online Voltage Stability Analysis Tool (VSAT)	-	0.8	0.6	-	1.5
PMU Data Exchange, Phase 2 & 3	-	-	0.4	1.0	1.4
Reliability Communications Tool	-	-	1.0	-	1.0
Governance, Risk and Compliance Tool (GRC)	-	1.0	-	-	1.0
Engineering Hub	0.2	0.6	-	-	0.8
Online Transient Security Assessment Tool (TSAT)	-	-	0.6	-	0.6
Other	-	0.2	1.0	0.1	1.3
Total Non-Foundation Projects	\$ 8.6	\$ 7.3	\$ 10.0	\$ 1.3	\$ 27.2
Total Foundation Capital Expenditures		\$ 12.2	\$ 17.8	\$ 17.7	\$ 47.7
Total Capital Budget	\$ 8.6	\$ 19.5	\$ 27.8	\$ 19.0	\$ 74.9

The following section describes noteworthy projects in greater detail. A complete list of initiatives and associated capital budgets appears in the supplementary schedules section IX.

MAJOR CAPITAL PROJECTS

Settlement Systems Replacement Project

The replacement project contemplates replacing the current market and transmission settlement systems with a custom designed, single, high performance and scalable system solution which will provide greater flexibility to respond to SPP initiatives and member request. 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 GE systems: ETSE 3.0.9 Market Settlement system and ETS 2.5 Transmission Settlement System. These systems currently experience performance and stability issues and create obstacles for the Settlements department to execute the processes and procedures required to meet SPP's tariff obligations.

Online Voltage Stability Analysis Tool (VSAT)

No tools are currently available to identify stability constraints on the SPP system in real time. The increasing amount of volatility from renewable resources has the potential to create unstable conditions that would not be identified in a timely manner.

VSAT will identify constraints on the system that will enable real time operators to mitigate by using current congestion management tools and will enable real time operators and operational planning engineers to prepare for and to react to stability concerns in order to maintain reliable operation of the Bulk Electric System. VSAT will also provide more in-depth data to determine at what point voltage collapse will occur for the defined contingencies. By doing so, SPP can make proactive decisions if studies indicate post-contingent voltage collapse could occur outside the threshold of current criteria.

Enhanced Combined Cycle

Enhancements to the Integrated Marketplace will allow market participants to submit resource offers for several configurations of a combined cycle generating unit. Each configuration will be modeled in the market clearing engine as a separate resource. This increased flexibility will allow optimization of the combined cycle resource configuration throughout the unit commitment processes. SPP expects to be able to increase economic dispatch (measured as reduced generation costs) by \$3 million annually. New combined cycle plants are expected to join the SPP market in the future which will serve to increase the economic benefits.

TTSE Dispatcher Training Simulator

This project is a phased evolution of the current Dispatcher Training Simulator (DTS) to a more fully-integrated Training and Testing Simulated Environment (TTSE) 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 to prepare SPP Operators on the SPP region in normal and emergency situations. Phase 1 is expected to complete by the end of 2016 and will include an independent, stand-alone DTS environment for EMS along with some vendor enhancements. Future phases will consider the addition of interactive market simulators, stand-alone visualization capabilities and other additional functionality in the 2017-2018 timeframe.

PMU Data Collection and Analysis

Completion of this project will provide the capability to enhance after-the-fact event analysis and will improve system model validation efforts. PMU data can assist in 1) real-time situational awareness, 2) identifying generator trips and island situations and 3) enhancing State Estimator accuracy. This project commenced in 2016 with the following tasks anticipated to be completed by the end of the year: deployment of a PMU starter kit, development of an overall roadmap, member engagement to address footprint coverage needs and the receipt of existing PMU data from SPP members and MISO. Phase 2 is expected to run from 2018-2019 and will feature the implementation of a member portal allowing members the ability to 1) view the same PMU screens as SPP staff and 2) receive PMU data from their neighbors thus increasing their own situational awareness. Phase 3 would likely run from 2018-2019 and would encompass 1) the design, test and deployment of a highly available system that would integrate with EMS and 2) further operationalizing the PMU application into the operations and planning areas.

Governance, Risk and Compliance (GRC) Tool

A GRC tool will provide a platform to help identify and manage tasks associated with compliance, regulatory and risk management obligations and track the responsibilities for each staff member relative to those obligations. The tool will provide a depository for those job tasks, a way to map the staff responsible (business owners) and provide risk assessment and management tools for those tasks. A synchronized approach to manage this information and activity would allow SPP to operate more efficiently, enable information sharing and provide a more effective method for measuring, assessing and reporting metrics on the adherence to policies and procedures, operational requirements and other regulatory obligations.

FOUNDATION CAPITAL EXPENDITURES

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

IT Applications

Budget items for 2017 include incremental software licenses for the Data Services and SQL Virtualization infrastructure and the pursuit of new Oracle database functionality known as “Multi-tenant” which will allow consolidation of databases onto fewer servers, thereby reducing future database server costs. The SQL virtualization infrastructure is intended to offload data from the current Netezza environment to lower-tiered storage platforms, thus deferring and/or eliminating the need to upgrade the current Netezza platform due to rampant data growth.

IT Systems Administration

The IT operations budget is subdivided between the following primary areas: Systems Administration, Network/Telecom and Service Management.

Systems Administration

The systems administration department has responsibility for supporting all hardware and software infrastructure, including servers, enterprise storage, storage backup systems, operating systems and systems management tools. Major initiatives in the 2017 budget 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*)
- Incremental licenses for server security
- Incremental licenses for deployment and availability of virtualized hosts
- Additional licenses to support various corporate applications (i.e. Outlook, Enhanced File-Transfer and CyberArk password safes)

Technology/Server Refresh

The Systems Administration department manages approximately 450 physical servers and roughly 1400 virtual servers. Generally speaking, it is the policy of IT to replace physical hardware after a five-year useful life based on exposure to



Technology refresh and data storage make up 97% of the Systems Administration Foundation capital expenditures budget.

increased failure rates, discontinued or unaffordable vendor support, operating system incompatibility and the need for faster application performance and connectivity requirements.

SPP has approximately 101 physical servers (dedicated and virtualized) that are targeted for replacement during 2017, contributing to roughly 70 percent of this total budget. As part of 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

During 2017, the System Administration department intends to continue the implementation of “Flash Storage” technology (as appropriate) due to its heightened performance capabilities. In addition to growth in the production environment, additional storage capacity is anticipated at the third-party data storage site and for corporate SAN (Storage Area Network)/NAS (Network Attached Storage) growth. This accounts for approximately 27 percent of this budget.

Software licenses

A relatively small amount of this budget is earmarked for incremental licenses for storage, virtualization and server-based software (Centrify, Vplex, Cyber-Ark, etc.)

Network/Telecom

The Network/Telecom department has responsibility for managing SPP’s hardware and software network, which includes the core data network as well as voice, telephony, firewall and network security solutions.

As part of a three-year upgrade project beginning in 2015, the team continues to overhaul the core network infrastructure that includes 40GB capacity for core switch modules, firewall modules, cabinet switch technology and data center cabling infrastructure. This project, which encompasses over 350 routers/switches/firewalls, will alleviate existing network performance bottlenecks and position SPP to absorb additional data traffic/processing that is anticipated in upcoming years. Approximately 80 percent of the 2017 Network/Telecom budget is designated for these upgrades.

The remaining budget encompasses upgrades and enhancements to various systems, including SPP’s Voice-over-IP (VoIP), Firewall Management, Load Balancing and Wireless Lan technologies.

Service Management

The Service Management department has responsibility for IT’s process and control systems, including performance/asset monitoring, change management and enterprise support services (i.e., Service Desk).

The 2017 budget includes additional software licenses for asset discovery, additional baseline management licenses driven by CIP Version 5 and upgrade/consulting services for SPP's baseline-management and change-management environments.

IT Architecture

In 2017, this area will have a designated budget that is focused on near-term investments which are expected to yield longer-term technical, financial and productivity benefits. The 2017 initiatives align with the architectural roadmap and include the following initiatives:

- Data-Lake and Big Data infrastructure foundation
- Data security
- Mobile and Cloud-based Infrastructure

Data-Lake and Big Data

SPP business owners and stakeholders require access to many years of historical data to perform data analysis, data mining and analytics. As a result, the amount of stored data continues to increase. SPP has traditionally stored this data in Netezza appliances and Oracle databases, which are designed for high performance. These environments are costly and require significant dollars to add incremental capacity or upgrade/replace the hardware. The vision is to create a Data-Lake infrastructure to store vast amounts of historical data using cost-economical storage and compute capacity, which can grow incrementally as needed. The vision includes providing traditional tools to allow SQL access to the data to enable data validation, data analysis, data mining and analytics capabilities. During 2016, SPP began a project known as "SQL Virtualization," which is the first phase of the Data-Lake project. The SQL Virtualization project is estimated to offload approximately 60TB of data from production Netezza appliances by the end of 2016, thereby improving the Netezza appliance performance and increasing the longevity of the existing Netezza appliances while still providing SQL access to the offloaded data through traditional database tools.

Data Security

As more and more data is offloaded from the historical data stores into the Data-Lake/SQL Virtualization infrastructure, data security becomes very important. The goal is to provide role-based security access controls and logging capabilities to meet the SOC 1 audit requirements.

Mobile and Cloud

Mobile applications are rapidly replacing browser-based applications. A mobile authentication infrastructure is critical to enable SPP teams to build mobile applications in the future in a cost-effective, secure and consistent manner.

Automation is a key initiative within IT to facilitate productivity, consistency and a reduced need for incremental headcount while maintaining ongoing growth in infrastructure. Cloud-based infrastructure enables automation through automated provisioning, patching and better

management of the infrastructure along with show-back reports and capacity planning.

IT Cybersecurity

The cybersecurity department was established in early 2016 to ensure SPP's compliance with cybersecurity standards, as well as implement and enforce quality security practices throughout the organization.

Identity and Access Management (IAM) Software

IAM addresses the need to ensure appropriate access to resources across diverse technology environments and to meet increasingly rigorous compliance requirements. SPP is incurring significant cyber security and compliance risk along with reduced operating efficiency due to continued use of manual IAM processes. With the constant threat of external and internal cyber-attacks, the addition of the Integrated Market, the increased rigor of SOC 1 objectives and NERC CIP Version 5, an integrated software solution that manages identity and access has become a necessity for SPP. The initial cost of the software is included within the project budget as reflected on page 20.

Splunk – additional licenses and data storage

SPP currently uses a software product called Splunk as the preferred security, information and event management solution. The product was originally purchased in 2014 with a limited amount of licenses and data/storage capacity. As the tool continues to be used throughout SPP for real-time debugging, firewall traffic analysis, analytics on login failures and other support purposes, SPP will need additional licenses and physical storage.

Tripwire – additional licenses and enhancements

Tripwire IP360 is used by SPP for vulnerability assessments and security risk management. Based on NERC/CIP standards to perform cyber vulnerability assessments of the ESP and all cyber assets, additional licenses for incremental qualifying assets are needed.

Application Whitelisting and other software

Traditional malware prevention methods such as anti-virus, firewalls and intrusion prevention systems often do not provide the necessary level of defense needed to protect SPP endpoints such as application servers, operator consoles, desktops, etc. As opposed to an approach that attempts to identify and block all malicious files and activity, application whitelisting will only permit known, secure programs. Essentially, whitelisting flips the traditional antivirus model from a "default allow" to a "default deny" for all executable files, resulting in a considerably more effective solution.

Foundation – Other (Non-IT) Department Foundation

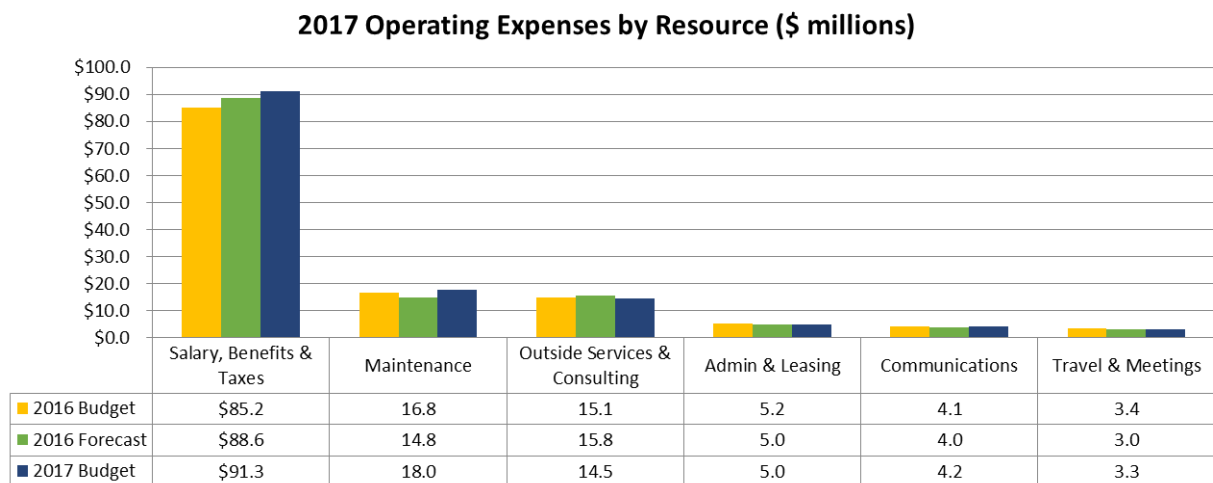
Items included in this foundation budget encompass all other software and hardware needs for departments outside of IT. A significant amount of the 2017 budget relates to the engineering department's investments in tools and systems to improve modeling, planning and study activities. This includes additional enhancements to transmission congestion rights and other custom applications, along with additional licensing for Enfuzion (transmission planning studies) and related engineering-support software. Also included are costs associated with additional licenses, enhancements and consulting services associated with Documentum, which serve as the enterprise system for document storage, archival and retrieval.

Operations – Marketplace Enhancements

The Integrated Marketplace implemented in 2014 is still considered to be in the nascent stage of operation and will continue to experience the need for higher levels of modification as both staff and market participants identify opportunities for continuous improvement of market efficiency. The trend is expected to continue for at least the next few years where design changes are needed to improve on certain assumptions made during the earlier stages of market rules development. These changes include expected enhancements to the Market Operator Interface (MOI), the Market User Interface (MUI), the Market Clearing Engine (MCE) applications and the Market Database (MDB).

VI. 2017 BUDGET: RESOURCE UTILIZATION VIEW

SPP’s 2017 budget encompasses utilization of various resources to allow SPP to carry out strategic goals and organizational objectives. The chart below shows SPP’s resources and the corresponding 2017 budget amounts in comparison to 2016 budget and forecast. The following section discusses each component in detail.



2017 Operating Expense Budget by Resource (\$ millions)

	2016 Budget	2016 Forecast	2017 Budget	2017 Prior
Salary, Benefits & Taxes	\$85.2	\$88.6	\$91.3	\$86.8
Maintenance	16.8	14.8	18.0	19.0
Outside Services & Consulting	15.1	15.8	14.5	13.0
Admin & Leasing	5.2	5.0	5.0	4.6
Communications	4.1	4.0	4.2	4.2
Travel & Meetings	3.4	3.0	3.3	3.4
Total Expense	\$129.8	\$131.1	\$136.2	\$131.0

* Excludes depreciation, FERC fees, and interest

STAFFING: VALUING WORK AT SPP

SPP’s employees are the most valued resource and the single largest element of the operating budget.

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

Staffing Levels

SPP strives to attract and retain an educated, skilled employee base to provide the highest level of service and value for its members.

SPP's management continuously evaluates SPP's staffing levels across all areas of the organization. In addition, the SPP Human Resources Committee is responsible for the review and approval of employee and executive benefit plans, organizational structure and compensation programs. The committee periodically engages consultants to benchmark SPP compensation and benefit programs and annually reviews these plans to ensure competitiveness in the marketplace within a cost effective budget. SPP benefit plans support the organization's goal of attracting and retaining career employees that are well-suited to the SPP corporate culture.



Compensation and benefits are regularly monitored to ensure SPP remains a competitive and attractive employer.

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.

2016 Staffing Changes

Several changes were made to the headcount forecast in 2016 as compared to the 2016 budget.

Headcount	2016 Budget	2016 Forecast	2017 Budget
RTO Total	571	581	582
Regional Entity	28	28	28
SPP Total	599	609	610

As part of SPP's 2016 compliance demonstration project, two separate firms were selected to provide independent assessments of SPP's internal compliance program. After careful analysis of the recommendations of each firm, 11 incremental out-of-budget positions were vetted and approved by SPP's officer team for inclusion in the forecast beginning mid-year 2016.

During the 2016 budgeting process, the operations division agreed to eliminate two positions by January 2017. One of the two positions was eliminated in mid-2016, and the 2016 headcount forecast was adjusted from 599 to 609 to represent a net increase of 10 positions (11 incremental and one reduction).

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

2017 Staffing Changes

Future staffing needs were evaluated during the 2017 budget process. Management identified the need for incremental staff associated with specific projects and other day-to-day functions. These 15 incremental positions were assessed by the senior management team and compared to the current open positions. This analysis led to utilizing seven of the 2016 open positions to cover the anticipated needs for the higher prioritized incremental workload. Four of the proposed positions were retracted on further consideration, and three positions were delayed until 2018 when the needs will be reassessed during future budget processes. The net result of this process is one net incremental position in 2017, six in 2018 and one in 2019.

Approved Staffing Levels				
	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
2016 Budget	599			
Net incremental positions	11			
Operations 2017 reduction in 2016	<u>(1)</u>			
2016 Forecast	609			
IT Applications (PMU, Settlements)		2		
Market Monitoring		1		
Reductions due to turnover (Operations)		<u>(2)</u>		
2017 Forecast		610		
IT Applications (PMU, MMDD, Settlements)			5	
Operations (Instructional Designer)			<u>1</u>	
2018 Forecast			616	
IT Applications (PMU)				<u>1</u>
2019 Forecast				617
Prior Budget / Forecast		598	599	n/a

The table below shows the staff numbers by executive division:

2016 - 2019 APPROVED POSITIONS BY DIVISION					
	<u>2016 Budget</u>	<u>2016 Forecast</u>	<u>2017 Budget</u>	<u>2018 Forecast</u>	<u>2019 Forecast</u>
Operations	161	160	158	159	159
Information Technology	146	154	156	161	162
Engineering	76	80	80	80	80
Finance & Corporate Services	67	69	69	69	69
Process Integrity	58	52	52	52	52
Regulatory, Legal & RSC	25	26	26	26	26
Market Monitoring (MMU)	15	15	16	16	16
Officer	11	11	11	11	11
Interregional Relations & Market Design	10	10	10	10	10
Government Affairs	5	6	6	6	6
Unidentified Reductions	-3	-2	-2	-2	-2
RTO Total	571	581	582	588	589
Regional Entity	28	28	28	28	28
SPP Total	599	609	610	616	617

The 2016 budget included 602 proposed positions with a commitment to reduce headcount by three positions due to turnover. One of the three positions was eliminated in the Settlements department when workload was assumed by existing staff as a position was vacated. The unidentified reductions in the chart above reflect the two remaining unidentified positions.

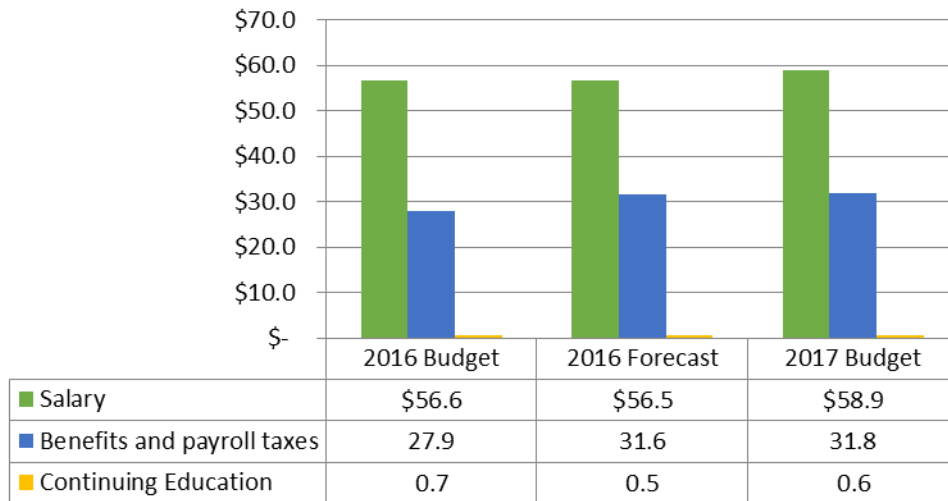
Staffing Components

The base salary budget assumes a merit increase of 3.0 percent, a promotion increase of 0.75 percent and a 5.0 percent vacancy factor.

The staffing budget for 2017 includes funding for staff compensation (base salary, performance compensation and overtime pay), benefits and payroll taxes, relocation and tuition reimbursement.

Salary Expenses (\$ millions)	2016 Budget ⁽¹⁾	2016 Forecast	2017 Budget ⁽²⁾	2017 Prior
Base salaries at beginning of year	\$55.6	\$55.6	\$58.6	\$57.3
Incremental staff	0.5	1.8	0.1	0.0
Merit Increase	1.4	1.4	1.7	1.4
Promotions	0.4	0.4	0.5	0.4
Premium Pay	1.0	1.2	1.0	1.0
Vacancy	(2.3)	(3.9)	(3.0)	(2.3)
Total Salary Expenses	\$56.6	\$56.5	\$58.9	\$57.8
(1) 2016 vacancy 4.0%, merit 2.5%				
(2) 2017 vacancy 5.0%, merit 3.0%				

Salaries, Benefits and Taxes (\$millions)



Even though positions were added, the 2016 salary forecast remains relatively flat to the 2016 salary budget as a result of variations from the vacancy rate assumed in the original budget. The 2016 budget assumed a 4.0 percent vacancy rate; however, the 2016 forecast reflects an average vacancy rate of 6.0 percent based on the current year trend.

Vacancy and Merit Assumptions

During the 2016 budget planning process, 2015 vacancy levels averaged 4.3 percent. A vacancy factor of 4.0 percent was applied to 2016 – 2017 based on this trend. By the end of 2016, headcount is expected to be within 5.1 percent of the projected 2016 level (578 of 609). SPP anticipates staff turnover in 2017 to be consistent with trends experienced in 2015 and 2016. A vacancy rate of 5.0 percent was applied to the 2017 – 2019 budget. This equates to turnover averaging 31 positions during the calendar year (579 of 610 positions).

	<u>2016 Budget</u>	<u>2016 Forecast</u>	<u>2017 Budget</u>	<u>2017 Prior</u>
Vacancy rate	4.0%	6.0%	5.0%	4.0%

The Human Resources Committee (HRC) recommends an overall merit increase of 3.0 percent for 2017 based on a review of several regional and industry factors, including SPP members. A merit increase of 3.0 percent is included in the 2017 salary budget. The promotion pool budget is also based on the HRC recommended percentage and remains consistent with the past several years at 0.75 percent.

Merit Increase 5-Year Trend

	2013	2014	2015	2016	2017
HRC Approved	2.0%	2.4%	1.7%	2.5%	3.0%
SPP Budget	2.0%	2.4%	2.0%	2.5%	3.0%

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; payroll taxes; and continuing education. Below is a breakdown of employee benefits and taxes:

Benefits, Taxes & Con't Ed (\$ millions)	2016 Budget	2016 Forecast	2017 Budget	2017 Prior
Performance Compensation	\$8.9	\$9.3	\$9.5	\$9.1
Retirement Plans (401k and Pension)	8.6	11.0	11.1	8.8
Payroll Taxes	4.7	4.6	4.6	4.9
Medical Benefits	4.4	5.0	5.0	4.3
Continuing Education	0.7	0.5	0.6	0.7
Other Employee Benefits	0.5	0.9	0.8	0.4
Dental Benefits	0.4	0.4	0.4	0.4
Life Insurance Benefits	0.4	0.4	0.4	0.4
Total Benefits, Taxes & Con't Education	\$28.6	\$32.1	\$32.4	\$29.0

Performance compensation comprises the largest component of benefits, followed by retirement plans, payroll taxes and medical benefits. Performance compensation is budgeted at the target level of 15.0 percent of base salary and is paid in March of the following year. SPP total compensation targets the 50th percentile inclusive of performance compensation.

For the pension and retiree healthcare expense, the 2016 forecast and 2017 budget amounts are based on the most recent actuarially calculated pension costs. A notable increase can be seen from the 2016 budget to the 2016 forecast and 2017 budget. This increase resulted from reduction of the discount rate used to value pension liabilities together with moving to a more current mortality table. SPP will make cash contributions of \$5.4 million to the pension plan during 2016. Contributions to the plan are expected to be \$5.7 million in 2017. Funding for 401(k) matching contribution is estimated at 4 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. The healthcare plan is discussed in detail in the following section.

Medical Benefits Costs

The net cost of the self-funded medical plan in the 2017 budget is \$5.0 million which is in line with the 2016 forecast and represents an increase of 14 percent or \$0.6 million compared to the 2016 budget of \$4.4 million. The increase is driven by higher claims experienced during 2016.

Healthcare Costs (\$ millions)			
	2016 Budget	2016 Forecast	2017 Budget
Gross Claims	\$4.7	\$5.3	\$5.4
Admin Fees	1.0	1.0	1.0
Employee Contributions	(1.3)	(1.4)	(1.4)
Net Expenses	\$4.4	\$5.0	\$5.0
Number of employee participants	522	532	539

Since late 2015 and throughout 2016 SPP has experienced an increase in medical claims. Total gross claims are estimated to be \$5.4 million in 2017, which is in line with the 2016 forecast.

Approximately 92 percent of employees currently participate in the medical plan, which is comparable with previous years, however slight increases have been experienced in participation rates over the past few years. The total estimated average number of employee participants in 2017 is 539, compared to 532 in 2016. In late 2015, SPP retirees were removed from SPP's self-funded plan. 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, which 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 2017, which is in line with 2016. During 2016, SPP was able to mitigate the increase in fees that normally would have been incurred by increasing the deductible amount on per participant losses. For 2017, staff is planning to implement further changes to the plan to limit the increase in claims and administrative costs.

Employee contributions to the medical plan offset the overall cost and are estimated to be \$1.4 million in 2017. The net annual cost of the medical plan to SPP per participant is expected to be approximately \$9.3k in 2016 and 2017.

SPP's Human Resource Committee targets an 80/20 cost share between employer and employee for the medical benefit costs.

MAINTENANCE

Growth in maintenance expense is largely driven by new capital projects requiring annual support agreements to sustain the health and operation of the system.

The maintenance budget includes expenses to maintain SPP's IT hardware and applications and for maintaining corporate facilities (general plant maintenance).

Maintenance Expense (\$ millions)	<u>2016 Budget</u>	<u>2016 Forecast</u>	<u>2017 Budget</u>	<u>Prior 2017</u>
IT Software & Equipment	\$15.7	\$13.6	\$16.8	\$18.1
General Plant Maintenance	1.2	1.2	1.1	0.8
Total	\$16.8	\$14.8	\$18.0	\$19.0

Realizing the considerable impact of maintenance costs, the IT sourcing team is highly focused on this area and engages in efforts to minimize maintenance costs through various measures including leveraging multi-year term agreements, aligning product purchases, pursuing price-protection agreements and right-sizing the level of support with the criticality of the environment.

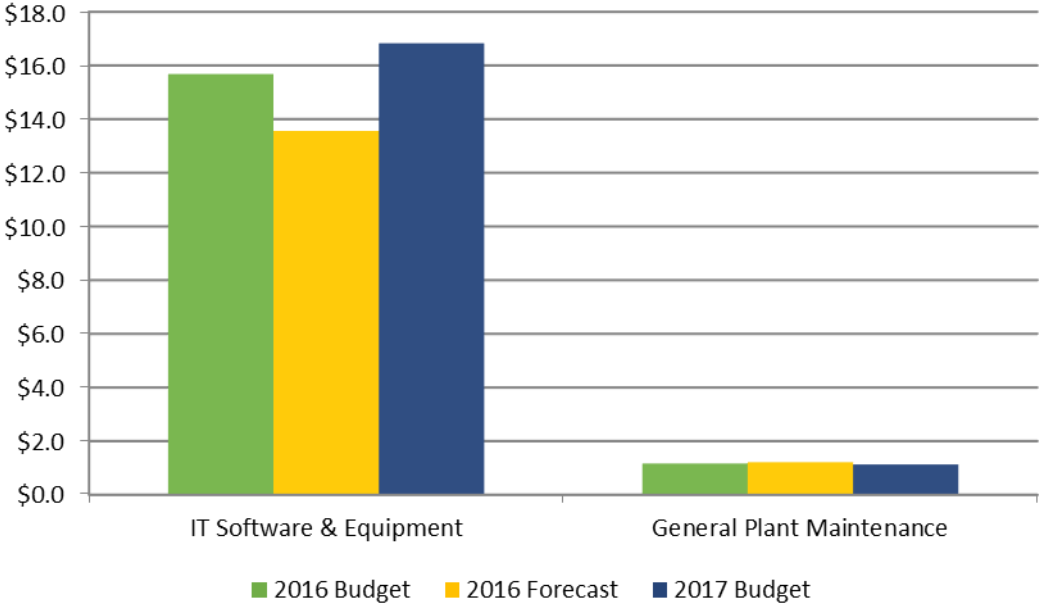
The IT maintenance budget includes anticipated expenses to support SPP's operating environment. Maintenance agreements include necessary components such as product support, security patches, product updates and software version upgrades. In particular, this budget includes:

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

The 2017 budget reflects an increase of \$1.1 million and \$3.2 million over the 2016 budget and forecast, respectively. The increase in maintenance costs is driven by new capital expenditures and enterprise projects implemented in 2016 and throughout 2017. Enterprise projects impacting maintenance include the Settlements System Replacement, PMU, DTS, EMS Upgrade, online VSAT and ICCP upgrade. The increase in maintenance associated with other capital purchases includes such items as new and/or replacement servers, storage and networking equipment (primarily driven by CIP and ESP separation) and increased software licensing.

In some instances, the purchase of new capital equipment and software will displace existing products. Maintenance cost reductions are realized for new products that include a warranty; however, the majority of the 2017 capital spend is for incremental hardware and software, which results in overall increases of maintenance costs.

Maintenance by Type (\$ millions)



Maintenance				
Maintenance Expense (\$ millions)	<u>2016 Budget</u>	<u>2016 Forecast</u>	<u>2017 Budget</u>	<u>Prior 2017</u>
Foundation	\$9.0	\$6.7	\$9.5	\$10.5
Market	2.0	1.9	1.8	2.0
Leveraged Services	1.8	1.5	1.8	1.9
Reliability	1.5	1.4	1.4	1.6
General Plant Maintenance	1.2	1.2	1.1	0.8
Project/Other	0.9	1.4	1.8	1.5
Transmission	0.5	0.6	0.5	0.6
Total	\$16.8	\$14.8	\$18.0	\$19.0

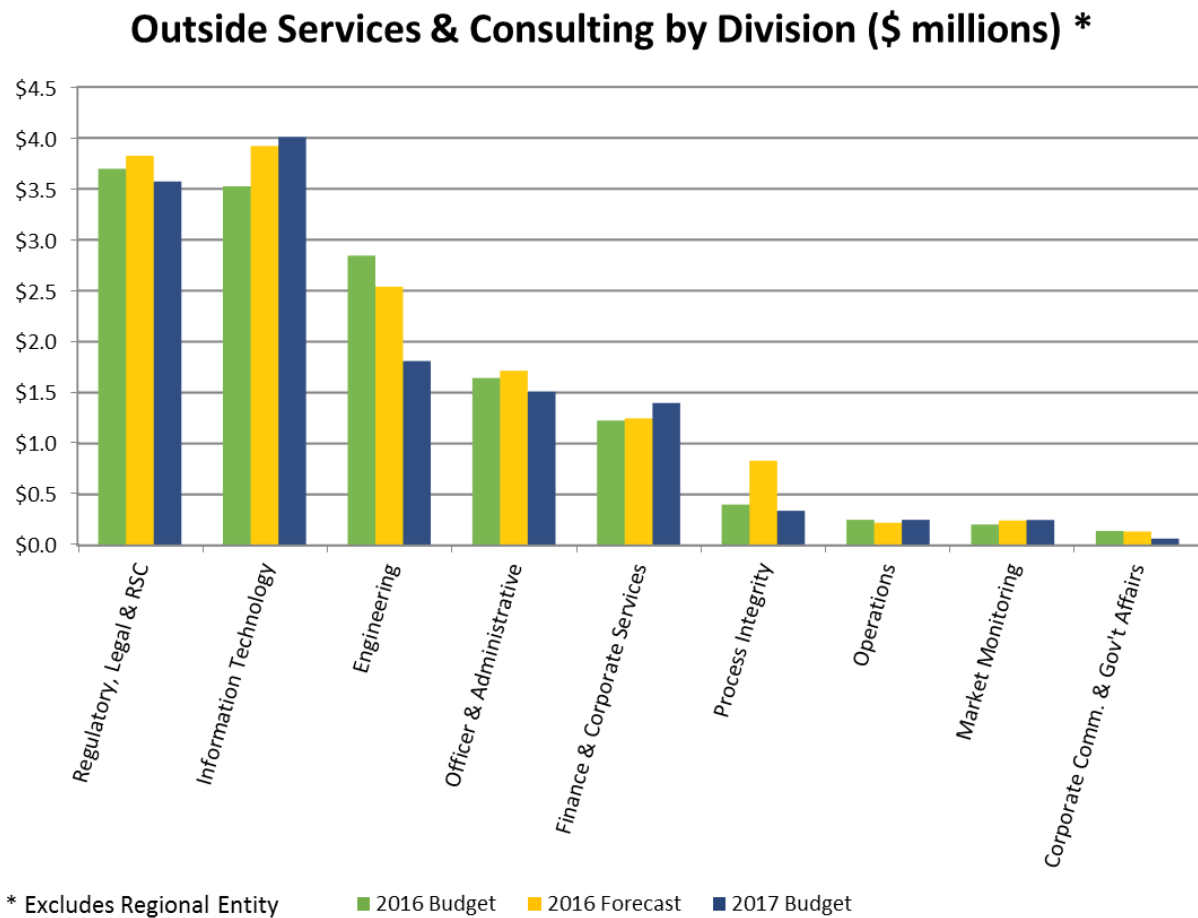
In addition to IT maintenance, various other facility expenses such as janitorial expense, landscape maintenance and preventive maintenance are included in the maintenance budget.

As the campus ages, additional cost are required for repairs and upkeep of the investment. As SPP has occupied the facility for several years, historical data is used 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 systems and equipment maintenance are generally defined within the multi-year service agreements (e.g. elevators, chillers, generators, etc.). These agreements are reviewed prior to the renewal dates for cost/benefit analysis.

OUTSIDE SERVICES

Outside services expenses have decreased from the 2016 forecast in various areas and remain lower than the 2016 budget.

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



Outside Services and Consulting by Division (\$ millions)

	<u>2016 Budget</u>	<u>2016 Forecast</u>	<u>2017 Budget</u>	<u>Prior 2017</u>
Information Technology	\$3.5	\$3.9	\$4.0	\$3.8
Regulatory, Legal & RSC	3.7	3.8	3.6	2.6
Engineering	2.8	2.5	1.8	2.1
Officer & Administrative	1.6	1.7	1.5	1.5
Finance & Corporate Services	1.2	1.2	1.4	1.1
Process Integrity	0.4	0.8	0.3	0.4
Operations	0.3	0.2	0.3	0.0
Market Monitoring	0.2	0.2	0.2	0.2
Corporate Comm. & Gov't Affairs	0.1	0.1	0.1	0.1
RTO Total	\$13.9	\$14.7	\$13.2	\$11.8
Regional Entity	1.1	1.1	1.2	1.2
SPP Consolidated Summary	\$15.1	\$15.8	\$14.5	\$13.0

The largest component of the 2017 outside services budget resides in the IT and regulatory and legal departments.

- The IT department utilizes outside services for a variety of functions, including:
 - “Software-as-a-Service” for WebOasis, Webtrans and related transmission reservation services
 - Third-party data center services for hosting/storing remote data
 - Consulting and training for key projects and initiatives
 - Support for key application systems (e.g., CMS/POPS)
 - Staff augmentation for interim resource/skill requirements
 - Interchange Distribution Calculator (IDC) annual membership fees
 - Data Center cabling/wiring services, asset disposal services
 - Vendor security/penetration testing, etc.

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 skills or longevity of the project. The increase in outside services from 2016 to 2017 is attributable to cyber security and weather services. Cybersecurity services encompass assessments, penetration testing, cyber-hunting and phishing training activities. Increased weather services include additional wind forecasting

services (based on SPP's growth of wind generation load) and dual weather forecasting feeds.

SPP currently subscribes to a variety of services from one primary vendor that supports the facilitation of transmission, reliability and compliance requirements. SPP upgrades or increases services as needs arise throughout the year. The agreement with the vendor serves as a continuation of those services and has been in place since 2008. The monthly fees cover upgrades and defect resolutions for all of the contracted products such as WebTrans, WebOASIS, WebData, WebCares, WebImpact and premium service support fees. As a Reliability Coordinator, SPP is required by NERC to share in the cost of the IDC tool. The same vendor also supports the IDC tool.

- Outside legal counsel is employed for various litigation matters throughout the year in the legal department. Outside FERC counsel provides 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.
- The 2017 budget includes costs for Order 1000 Industry Expert Panel, with an offset in revenue to be recovered from the participants in the proposal process. A provision in the tariff requires SPP to perform a Regional Cost Allocation Review to evaluate the reasonableness of the base plan allocation methodology and associated factors every three years, which was included in the 2016 budget and forecast but not included again until 2019. The engineering department engages consultants for many aspects of the engineering planning processes including such areas as staff augmentation for engineering studies, model building and reliability assessment for the Regional Entity and administering the detailed project proposal (DPP) process related to FERC Order 1000. Generation Interconnection study requests are numerous, and consulting services are engaged to complete these studies when requests are greater than SPP staff can accommodate. As appropriate, the consulting costs in these studies are passed through to the participants in the process.

Engineering's existing Integrated Transmission Planning (ITP) efforts include the ITP Near-Term, a new ITP10 and the Order 1000 requirements for the DPP windows in those studies. Many of the aspects of Order 1000, such as DPP and PROMOD support for ITP10, must be processed in a timely manner in order to stay within the ITP schedule and provide submitters the opportunity to cure any deficiencies in the proposals. With this short-term duration and high volume of work, SPP will engage highly skilled technical analysts on a short-term contract basis rather than hiring a permanent resource or issuing a long term consulting contract.

The 2017 budget includes outside services and consultants in various other areas including the following:

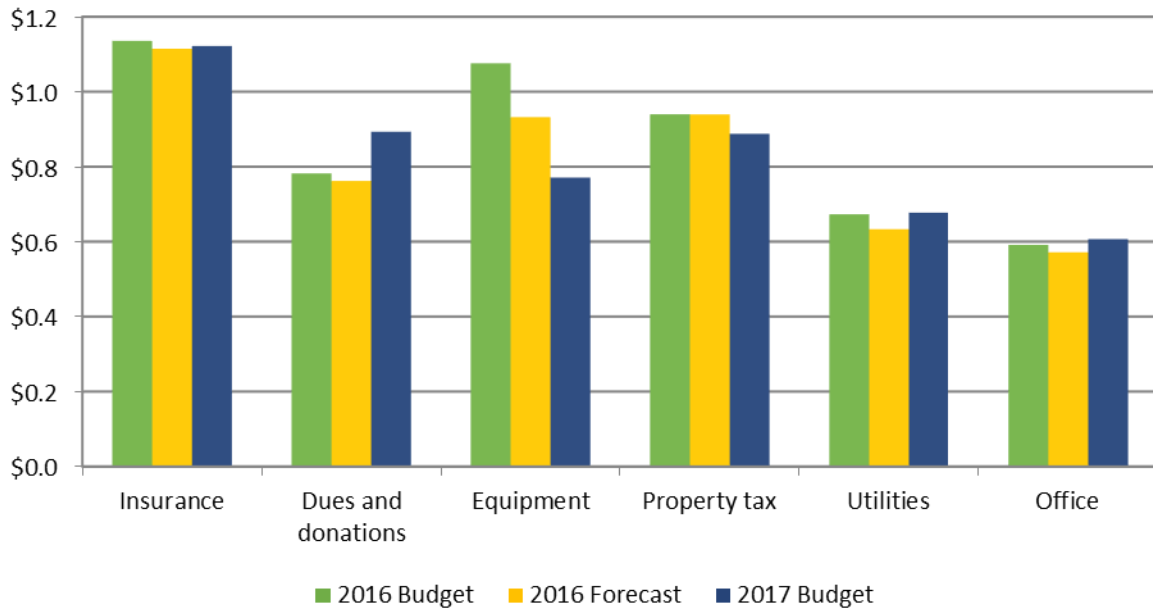
- \$1.5 million – Officer and Administrative: board of directors compensation, reporting analysis
- \$1.4 million – Finance and Corporate Services: facility and employee services, financial audits
- \$1.2 million – Regional Entity: trustee compensation, audits and hearings
- \$0.3 million – Process Integrity: SOC 1 audit
- \$0.3 million – Operations: wind study
- \$0.2 million – Market Monitoring: legal counsel and special studies
- \$0.1 million – Communications and Government Affairs: reporting and data services

ADMINISTRATIVE EXPENSES

Overall administrative expenses are expected to remain relatively consistent with the 2016 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)



The largest component of the Administrative expense is insurance expense. The various components are listed below.

Insurance Expense (\$ millions)	<u>2016 Budget</u>	<u>2016 Forecast</u>	<u>2017 Budget</u>	<u>Prior 2017</u>
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	0.1	0.1	0.1	0.1
Workers compensation	0.1	0.1	0.1	0.1
Total	\$1.1	\$1.1	\$1.1	\$1.1

SPP’s corporate insurance policies are used as a tool to transfer certain insurable risks from the corporation to third-party insurers. The majority of SPP’s premiums 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 defense and legal costs for claims made, which can be very extensive.

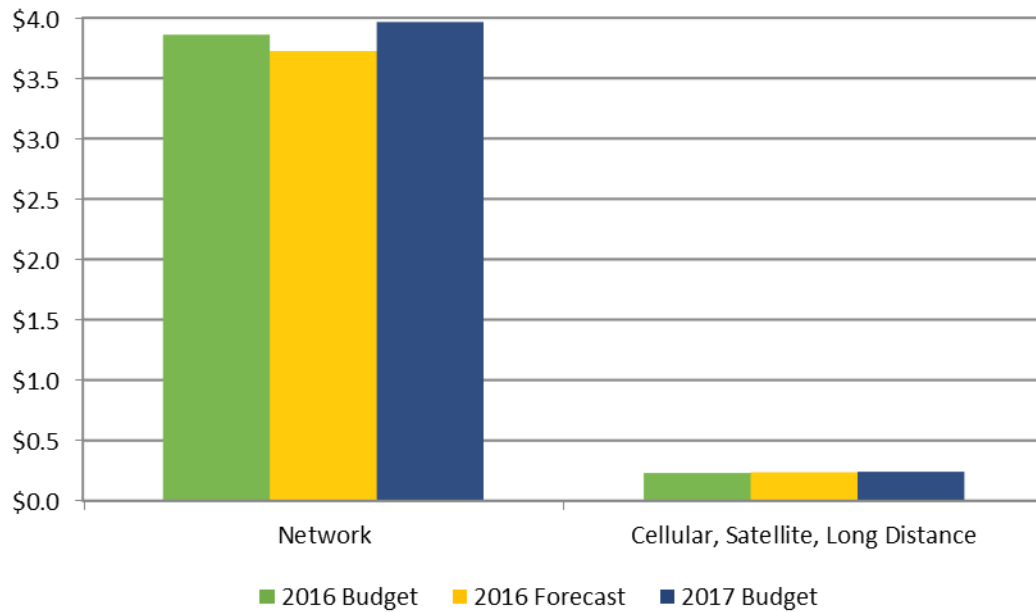
Dues are budgeted for professional or technical licenses and memberships in professional organizations related to employment by SPP, are required to maintain professional standing for employees or are otherwise beneficial to SPP. In addition to such employee dues, Electric Power Research Institute (EPRI) membership dues are also included in the budget for access to research conducted on issues related to the electric power industry and account for half of the dues and donations expense. A three-year contract with EPRI was issued in 2016 to expand participation in existing programs in grid operations, planning and renewable integration and HVDC 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 the wind integration study.

Utilities, office expense, equipment and property taxes make up the remaining administrative expense and remain reasonably constant.

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 estimated increase is driven by the need for additional internet bandwidth, an additional/secondary internet service and normal growth for SPPNet Frame relay circuits. Two options are under consideration to increase internet bandwidth and address current bottlenecks: 1) increasing bandwidth on the existing connections, along with segmenting corporate traffic from end-user/employee traffic or 2) adding a second/separate Internet service (increasing bandwidth and physically separating corporate and end-user traffic).

Communications Infrastructure (\$ millions)



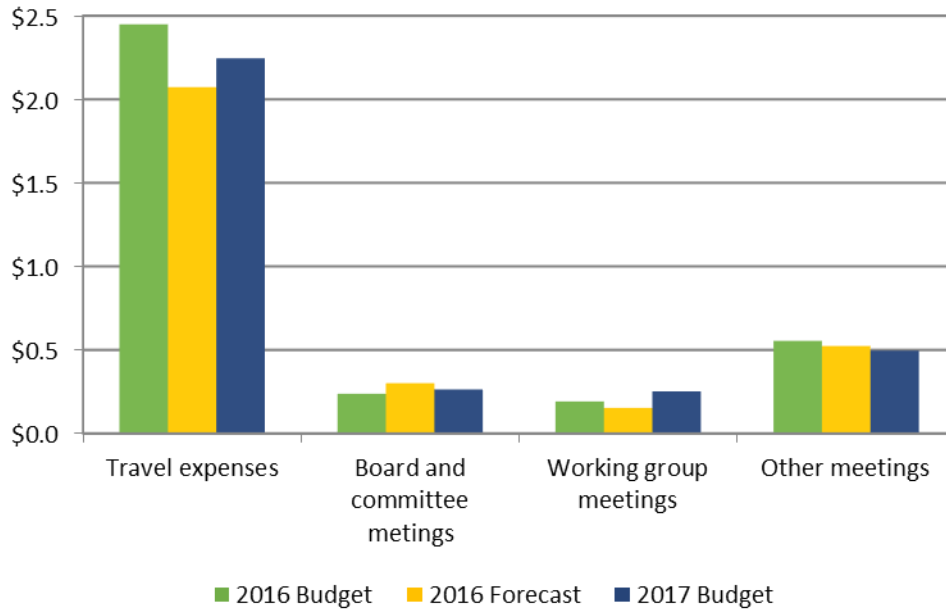
Communications (\$ millions)	<u>2016 Budget</u>	<u>2016 Forecast</u>	<u>2017 Budget</u>	<u>Prior 2017</u>
Network	\$3.9	\$3.7	\$4.0	\$3.9
Cellular, Satellite, Long Distance	0.2	0.2	0.2	0.3
Total	\$4.1	\$4.0	\$4.2	\$4.2

TRAVEL AND MEETINGS

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.

Travel and meetings expenses in 2017 remain relatively consistent as compared to the 2016 forecast and budget, with individually immaterial fluctuations.

Travel & Meetings (\$ millions)



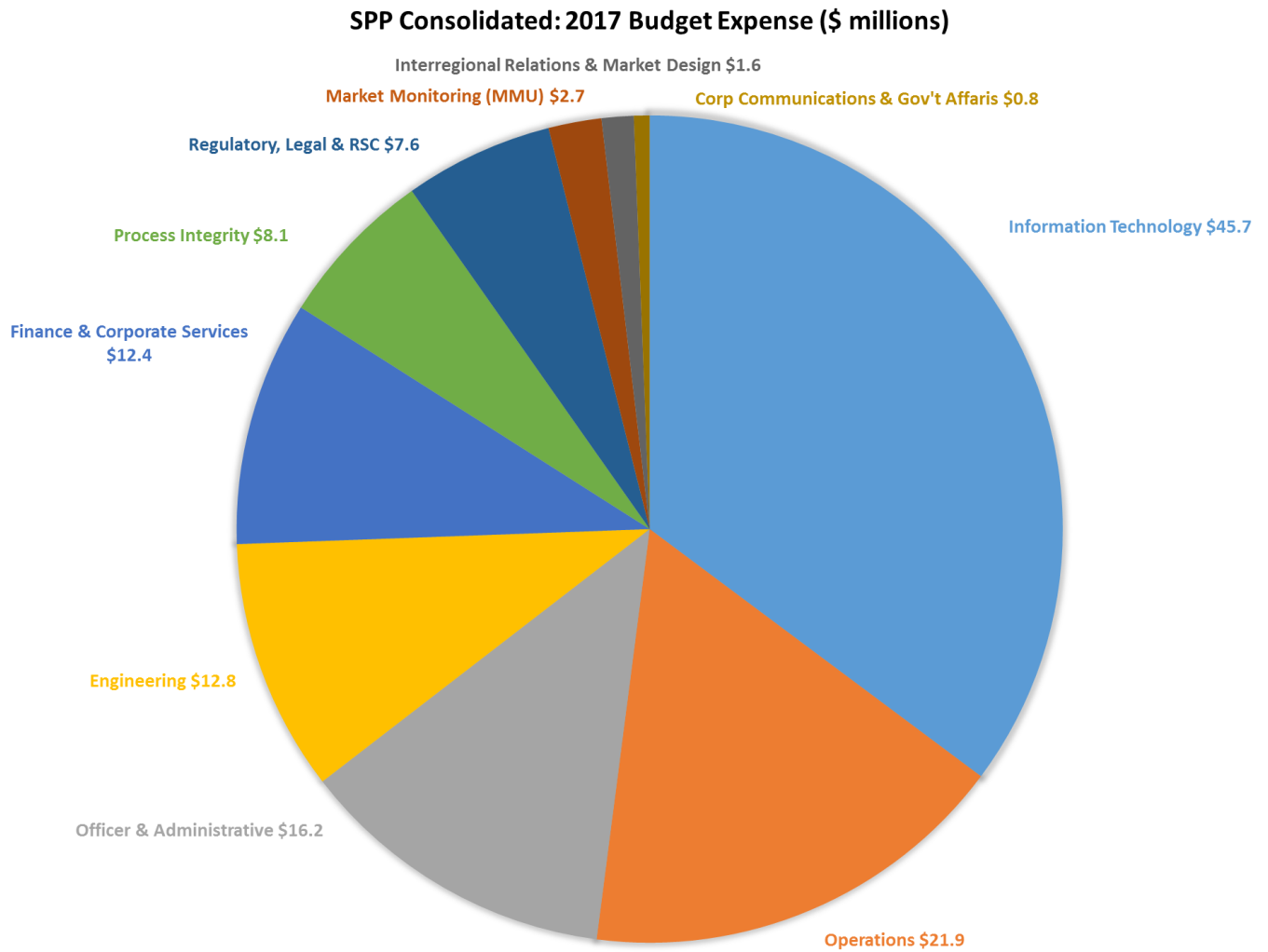
Travel & Meetings (\$ millions)	<u>2016 Budget</u>	<u>2016 Forecast</u>	<u>2017 Budget</u>	<u>Prior 2017</u>
Travel expenses	\$2.4	\$2.1	\$2.2	\$2.5
Board and committee meetings	0.2	0.3	0.3	0.3
Working group meetings	0.2	0.2	0.3	0.2
Other meetings	0.6	0.5	0.5	0.5
Total	\$3.4	\$3.0	\$3.3	\$3.4

Travel & Meetings by Division (\$ millions)

	<u>2016 Budget</u>	<u>2016 Forecast</u>	<u>2017 Budget</u>	<u>Prior 2017</u>
Finance & Corporate Services	\$0.7	\$0.7	\$0.7	\$0.6
Officer & Administrative	0.4	0.4	0.4	0.4
Process Integrity	0.4	0.3	0.4	0.4
Operations	0.4	0.3	0.3	0.4
Engineering	0.3	0.3	0.3	0.4
Regulatory, Legal & RSC	0.2	0.2	0.2	0.2
Information Technology	0.1	0.1	0.1	0.1
Corporate Communications & Government Affairs	0.1	0.1	0.1	0.1
Interregional Relations & Market Design	0.1	0.1	0.1	0.1
Market Monitoring	0.0	0.0	0.0	0.0
RTO Total	\$2.7	\$2.5	\$2.6	\$2.6
Regional Entity	0.8	0.6	0.7	0.8
SPP Consolidated Summary	\$3.4	\$3.0	\$3.3	\$3.4

VII. 2017 BUDGET: DIVISION VIEW

Total operating expense for each division is illustrated below and discussed in detail in the following section.



* Excludes FERC expense, interest, depreciation and Regional Entity

INFORMATION TECHNOLOGY

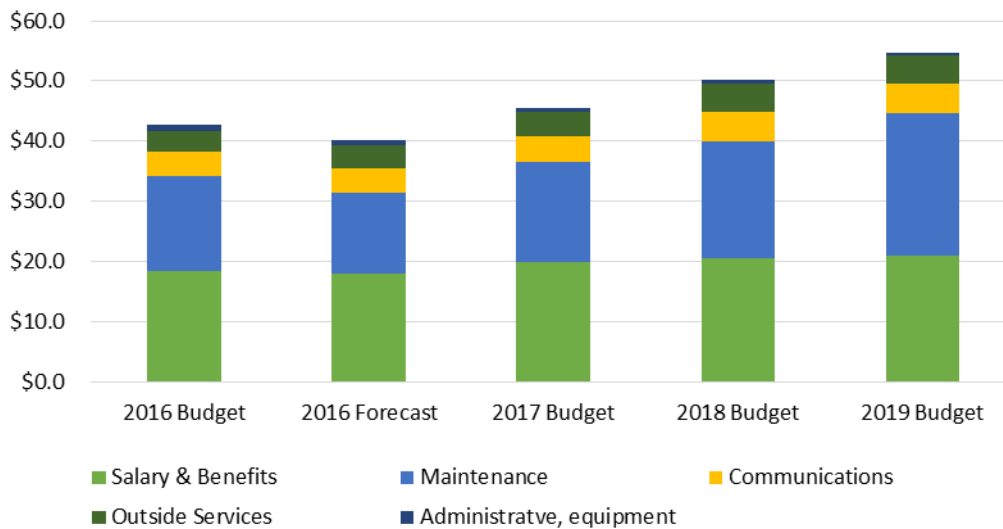
The primary mission of Information Technology (IT) is to develop, deploy, integrate and support the applications and infrastructure that supply SPP's operational and corporate systems.

IT is divided into five primary groups: enterprise operations, applications, sourcing and strategy, quality control and cybersecurity. SPP increased resource allocations in IT during 2016 to address cyber threats and compliance requirements.

- The IT sourcing and strategy department is responsible for managing the IT budget and facilitating and negotiating business activities with major IT vendors. The department works closely with the other IT departments to incorporate an appropriate short- and long-term budget and acquisition philosophy. This includes leveraging vendor relationships, managing asset lifecycles and ensuring adequate maintenance coverage. The chief IT architect is responsible for IT's technical strategy and direction, including a technical roadmap encompassing network, security, application and operation infrastructures. The chief architect works closely with IT management and other managers in the organization to coordinate and implement the overall IT strategy.
- The IT applications department provides 24x7-support for existing systems including transmission, reliability and the Integrated Marketplace. The department coordinates all software development efforts related to these key business systems and plans and supports integration of new members and market participants. IT applications plays an integral role in most new projects. They create requirements, tests and rollback plans; develop software; define, implement and review architecture; provide technical leadership and provide ongoing maintenance and systems support. The IT applications group also tests and implements all software upgrades.
- The IT enterprise operations department provides 24x7-support for all communications and networking systems and all of SPP's data centers' computer hardware and environmental needs. Each of these activities is critical to SPP's transmission, market, reliability and business processes.
- The IT quality control department identifies and implements risk-mitigation strategies to assist in the protection of SPP's assets. The department conducts timely internal reviews of evidence to ensure ongoing compliance obligations are met. IT quality control owns and maintains all compliance-related process and procedure documentation for IT and select departments outside of IT including associated and applicable Reliability Standard Audit Worksheets (RSAWs). The department also plays a significant role in IT EMBC/recovery planning and facilitating applicable processes, procedures and testing activities.

- SPP established its IT cybersecurity department in 2016 to ensure the company’s compliance with all requirements of FERC-approved, North American Electric Reliability Corporation (NERC) cybersecurity standards. The department proactively evaluates and employs best practices to ensure SPP’s overall IT security and preparedness is at optimal levels and works closely with the IT quality control and compliance departments to ensure security measures are adopted, implemented and followed according to SPP policies.

Information Technology 2017 Budget (\$ millions)



Information Technology Expenses (\$ millions)

Expense	<u>2016 Budget</u>	<u>2016 Forecast</u>	<u>2017 Budget</u>	<u>2018 Budget</u>	<u>2019 Budget</u>
Salary & Benefits	\$18.4	\$17.9	\$19.8	\$20.6	\$20.9
Maintenance	15.7	13.6	16.8	19.5	23.7
Communications	4.1	4.0	4.2	4.9	4.9
Outside Services	3.5	3.9	4.0	4.7	4.7
Administrative, equipment	1.1	0.9	0.7	0.5	0.5
Travel & Meetings	0.1	0.1	0.1	0.1	0.1
Total Expense	\$42.9	\$40.3	\$45.7	\$50.2	\$54.8
Headcount	146	154	156	161	162

Staffing expense is the main component of the IT budget. As a result of findings during SPP’s 2016 compliance demonstration project, six incremental, out-of-budget positions were included in the forecast beginning mid-year 2016. Various 2016 positions were repurposed based on analysis of incremental staffing needs for 2017 compared to 2016 open positions. This resulted in interdepartmental transfers and a net of two additional positions included in the IT forecast: a total increase of eight over the 2016 budget. Salaries and benefits do not reflect a

directly proportional increase; vacancies throughout the year are reflected at the department level in the forecast, but vacancies are budgeted at the administrative department level. The 2017-2019 budgets include additional, incremental positions associated with anticipated workload for specific initiatives including settlements, PMU, MMU/MMDD and VSAT.

Other significant components of the IT budget relate to maintenance, communications and outside services. These expenses are discussed in detail in Section VI.

OPERATIONS

The operations division administers SPP's tariff and performs reliability coordination throughout SPP's footprint with a highly-trained staff of engineers, certified system operators and specialized support personnel to carry out this fundamental strategic goal.

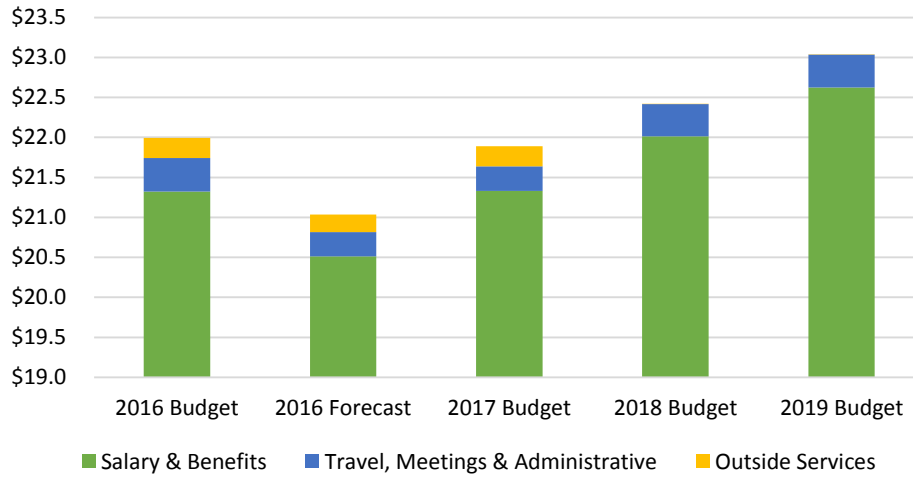
The operations division is responsible for many of the duties and responsibilities outlined in SPP's open-access transmission tariff and membership agreement. Operations staff are the front-line employees who engage in real-time in the reliability and market aspects of SPP on a 24-hour-a-day, seven-day-a-week basis. Operations is organized across three distinct departments: systems operations, markets administration and operations support.

- The systems operations department is responsible for 24x7 monitoring of the bulk grid in the SPP region and for ensuring operators and support staff are properly trained in compliance with NERC standards.
- The markets administration department is divided into two main groups that reflect the fundamental structure of real-time and day-ahead markets. Included are operators and engineers who oversee the operation of the day-ahead market while optimizing reliable delivery of economic energy on a daily basis. Duties include providing data integrity in real-time and performing after-the-fact data analyses to optimize benefits for SPP's market participants.
- The operations support department provides support services to the operations division in areas such as outage coordination, load forecasting, modeling and data validation, market data and registration and extensive customer interaction and support.



Headcount will be reduced by two positions in 2017 through efficiencies gained from a maturing staff.

Operations 2017 Budget (\$ millions)



Operations 2017 Budget (\$ millions)

Expense	<u>2016 Budget</u>	<u>2016 Forecast</u>	<u>2017 Budget</u>	<u>2018 Budget</u>	<u>2019 Budget</u>
Salary & Benefits	\$21.3	\$20.5	\$21.3	\$22.0	\$22.6
Travel, Meetings & Administrative	0.4	0.3	0.3	0.4	0.4
Outside Services	0.3	0.2	0.3	0.0	0.0
Total Expense	\$22.0	\$21.0	\$21.9	\$22.4	\$23.0
Headcount	161	160	158	159	159

Staffing expense is the main component of the operations budget, followed by travel, meetings and administrative expenses and outside services. During the 2016 budget process, operations committed to a reduction of two positions in 2017, one of which occurred in 2016 and is reflected in the 2016 forecast. Headcount reductions are achieved through efficiencies gained from a maturing staff who are able to absorb workload as turnover occurs. An additional reduction is planned for 2017 for a total of three reductions from 2016-2017, with one instructional designer position added in 2018.

Similar to the 2016 budget, the 2017 operations outside services budget includes cost for a wind study as recommended by the executive team. SPP will soon reach and exceed wind penetration levels studied in 2009. The study is necessary to ensure future reliable operations.

Travel, meetings and administrative expenses are primarily associated with stakeholder and working group meetings, technical training and professional membership/licenses.

ENGINEERING

The engineering division's mission is to facilitate SPP's strategic goal to develop a robust transmission system within the SPP footprint, while creating optimum value for stakeholders, members and customers.

Principal duties of the engineering department include planning for 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 studies necessary to process requests for generation interconnection, transmission service and transmission congestion rights. The department gathers data and performs reliability assessment responsibilities in support of the Regional Entity. The predominance of these duties are required by the tariff and business practices, the membership agreement, NERC Reliability Standards and SPP criteria.

The engineering division is comprised of three departments: engineering planning; engineering research, development and tariff services; and engineering support.

Engineering Planning

The primary focus of the engineering planning department is tariff-required transmission planning studies and the ITP process. Costs associated with these efforts fluctuate depending on input from stakeholders concerning the criteria and complexity of the studies performed. The transmission owner selection process required to meet Order 1000 obligations also impacts study costs and scope.

The engineering planning department also focuses on compliance with NERC Reliability Standards. Responsibilities have increased as SPP's footprint has expanded and NERC has developed new and more complex standards. In response to increased compliance-related responsibilities, SPP created a sub-department (compliance and advanced studies) to focus specifically on NERC Reliability Standards.

In accordance with SPP's continuous improvement culture driver and mission of creating optimum value for stakeholders, members and customers, engineering planning will amend the ITP process in 2017. The SPP board of directors approved the recommendation from the Transmission Planning Improvement Task Force (TPITF) to combine the current, multiple ITP studies into one annual process, resulting in efficient and effective study processes for both economic and reliability planning. The reduction from two 12- and 18-month processes to a single, annual one will intensify the required workload and require the addition of two

incremental positions to engineering planning. These positions were reallocated from 2016 open positions in the process integrity group and result in no incremental headcount to SPP.

Engineering Research, Development and Tariff Services

The main goals of the engineering research, development and tariff services department are to assess new approaches and tools to refine performance objectives that align with future needs and to perform studies necessary to process requests for generation interconnection, transmission service and transmission congestion rights.

The cost of various studies conducted by the Transmission Service and Generation Interconnections sub-departments are recovered from the customers requiring the studies. SPP expects \$3.1 million in revenues in 2017 related to the studies performed.

The department budgets for research and information tools, such as publications and membership in Electric Power Research Institute (EPRI) and for industry expert consulting services to provide solutions for planning and operations process improvements.

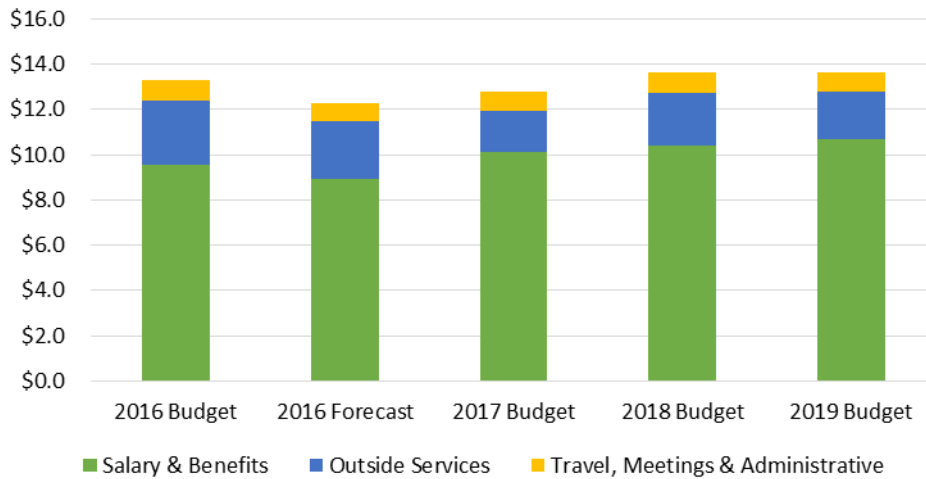
Engineering Support

The engineering support department:

1. Supports engineering's efforts to complete required planning obligations
2. Identifies and executes business solutions and efficiencies
3. Facilitates interactions with engineering and stakeholders
4. Provides resource coordination and allocation for engineering projects

Resulting efficiencies have eliminated consulting spend for onboarding of thousands of detailed project proposals (DPP) received in the ITP study. The additional cost estimation process of the ITP study is required by stakeholders to be performed by an independent third party and therefore has associated consulting costs. The engineering support department manages the process and minimizes costs by managing the number of projects estimated and competitively bidding the vendor engagements.

Engineering 2017 Budget (\$ millions)



Engineering Expenses (\$ millions)

Expense	2016 Budget	2016 Forecast	2017 Budget	2018 Budget	2019 Budget
Salary & Benefits	\$9.6	\$8.9	\$10.1	\$10.4	\$10.7
Outside Services	2.8	2.5	1.8	2.3	2.1
Travel, Meetings & Administrative	0.9	0.8	0.9	0.9	0.9
Total Expense	\$13.3	\$12.3	\$12.8	\$13.6	\$13.7
<i>Studies Revenues</i>	\$2.4	\$2.9	\$3.1	\$3.1	\$3.1
Headcount	76	80	80	80	80

Staffing expense is the main component of the engineering budget, followed by outside services and travel, meetings and administrative expense.

As a result of findings during SPP's 2016 compliance demonstration project, two incremental, out-of-budget positions were assigned to engineering beginning mid-year 2016. The incremental positions were added to focus on streamlining efforts and documentation of NERC standards; preparation for and verification of completion of NERC Criteria; and readiness and engagement for the creation of new NERC criteria.

Previously, the compliance department collected documentation and evidence of NERC criteria from numerous departments within engineering. With the addition of the two positions, engineering performs the validation and collection of documentation and criteria evidence and directly communicates results to the compliance department, increasing the compliance department's efficiency in their oversight of adherence to NERC criteria reporting standards.

Various 2016 positions were repurposed based on the analysis of incremental staffing needs for 2017 as compared to 2016 open positions. This resulted in inter-departmental transfers and equals a net of two additional positions included in the engineering forecast. These positions were added to accomplish planning improvements recommended by the TPITF and approved by the SPP board of directors (a total increase over the 2016 budget of four). The same increase is not evident in salary and benefits due to the fact that vacancies throughout the year are reflected at the department level in the forecast, but vacancies are budgeted at the administrative department level.

Travel, meetings and administrative costs are driven primarily by stakeholder and working group meetings, technical training and professional membership and licenses.

Outside services are used to augment staff within engineering for three main purposes: pass-through expenses for Generation interconnection and transmission service, FERC Order 1000 process activities within the ITP planning studies and skill specific consulting.

Engineering Outside Services (\$ millions)					
	<u>2016 Budget</u>	<u>2016 Forecast</u>	<u>2017 Budget</u>	<u>2018 Budget</u>	<u>2019 Budget</u>
Engineering R&D and Tariff Services	\$1.2	\$1.2	\$1.5	\$1.6	\$1.3
Engineering Planning	1.2	0.9	0.2	0.5	0.5
Engineering Support	0.4	0.4	0.1	0.2	0.2
Total	\$2.8	\$2.5	\$1.8	\$2.3	\$2.1

Generation interconnection and transmission service studies are based on the volume of participants. Since that volume can vary, outside services are retained to support studies over and above the current staff level in the engineering research, development and tariff services department. This is a pass-through expense, with revenue collected from the study participants. Additional services include supplemental research and studies related to collaborative research by industry groups on technology improvements and new tools to enhance power system operations and planning.

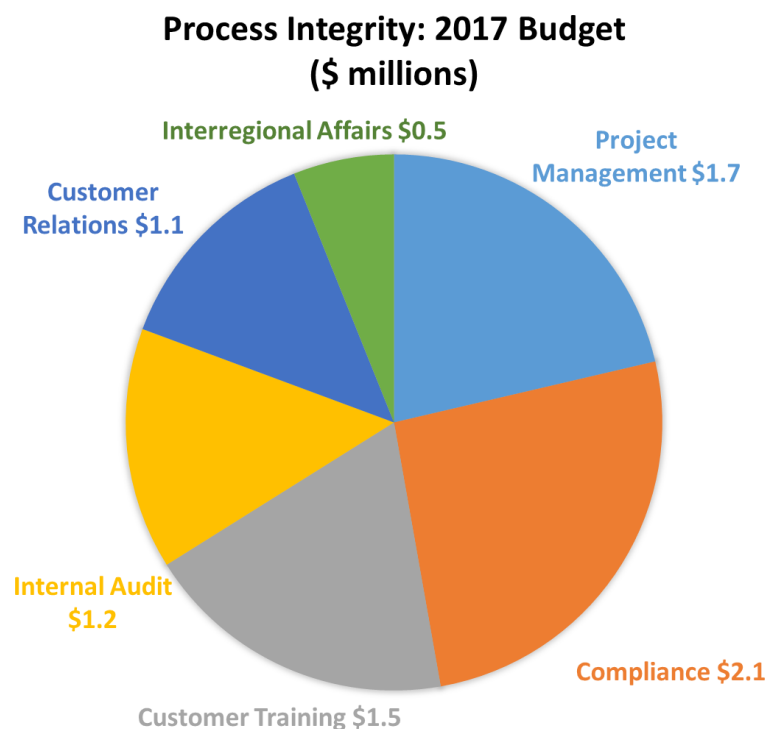
The notable decrease in 2017 for outside services expense in engineering planning is directly related to the type of ITP studies performed year over year. The 2016 budget and forecast reflect expenses for both an ITP Near-Term (ITPNT) and ITP10 study. The 2017 budget assumes the performance of only an ITPNT study, which requires reliability based analysis. The ITP10 study is more costly due to its requirement to perform economic analysis (more time-consuming and labor-specific) and was eliminated for 2017. The 2018 and 2019 budget do not reflect a significant increase because of the anticipated changes to the ITP process where one combined study will be performed each year rather than a Near-Term and Long-Term (10 or 20 year) study performed every other year.

At certain times, studies performed within engineering require a specific type of service. These services may be short-lived in nature but are necessary to the study process. As a result, the engineering support department budget includes costs for detailed project construction cost estimation services.

PROCESS INTEGRITY

The Process Integrity division provides leadership, expertise and value-added services that drive increased organizational efficiency, effectiveness and customer service excellence.

Although the departments that comprise the process integrity division are specialized in their focus and areas of expertise, they provide facilitation services leveraged across all other divisions to help create member value. Primary responsibilities in the process integrity division include internal audit, reliability standards compliance, stakeholder services including external member training and customer service, corporate project management and interregional activities. Functions within process integrity range from primarily internally focused duties to those whose purpose is to deliver value-added services directly to SPP members, customers and other stakeholders. Departments in this group work closely with SPP's oversight committee.



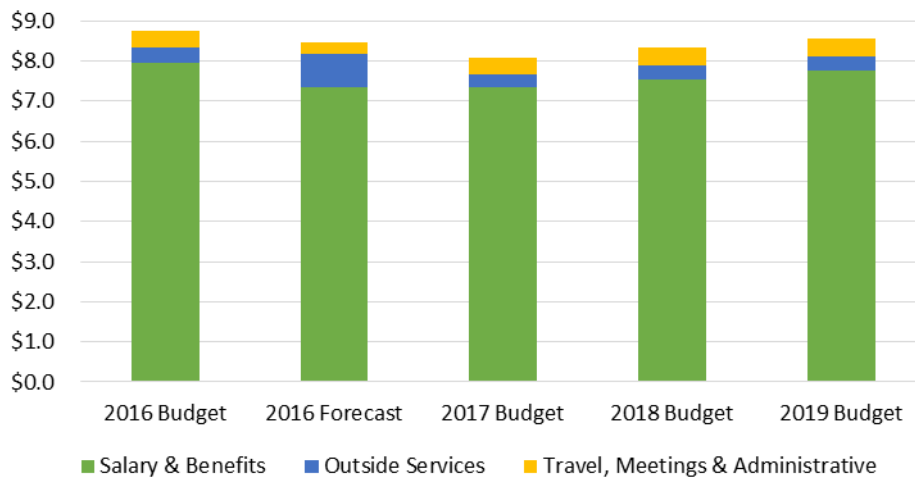
- The project management office (PMO) is responsible for overseeing and coordinating the design, development and implementation of projects within SPP.
- The main goals for the compliance department are assuring reliability standards and tariff compliance for the organization; providing compliance risk mitigation functions throughout the SPP organization; and facilitating member compliance outreach in coordination with the oversight committee.
- The stakeholder services department encompasses two work groups: customer relations and customer training. Customer relations builds and maintains mutually beneficial relationships in support of SPP's critical functions by providing facilitation, coordination,

issue resolution, planning and organization and account management through targeted communication to SPP’s customers, market participants and stakeholders.

Customer training provides learning activities for SPP stakeholders to enhance the knowledge and skills required for the reliable operation of the bulk power system and to participate effectively and efficiently in SPP’s energy market. In addition to providing traditional classroom training, customer training offers a robust suite of learning and e-learning activities, reference materials and job aids.

- The internal audit department provides independent and objective assurance and advisory services designed to add value and improve SPP’s operations. The department maintains and implements a risk-based audit schedule covering all of SPP business units. A critical function of the internal audit department is the coordination of the annual SOC 1 controls audit, which evaluates SPP’s internal controls as a service organization.
- The interregional affairs department participates in the development of industry-wide standards, serving in leadership roles in both NERC and the North American Energy Standards Board. Staff provides SPP leadership in the national effort to develop meaningful and achievable reliability standards. Working with other SPP staff, members and industry experts, the department works to ensure the standards necessary to maintain a reliable bulk electric system are in place with clear, effective, reasonable and measurable requirements.

Process Integrity 2017 Budget (\$ millions)



Process Integrity Expenses (\$ millions)

Expense	<u>2016 Budget</u>	<u>2016 Forecast</u>	<u>2017 Budget</u>	<u>2018 Budget</u>	<u>2019 Budget</u>
Salary & Benefits	\$7.9	\$7.3	\$7.3	\$7.5	\$7.7
Outside Services	0.4	0.8	0.3	0.4	0.4
Travel, Meetings & Administrative	0.4	0.3	0.4	0.4	0.5
Total Expense	\$8.7	\$8.5	\$8.1	\$8.3	\$8.6
Headcount	58	52	52	52	52

Staffing expense is the main component of the process integrity budget, followed by outside services and travel, meetings and administrative expense.

As a result of the findings during SPP's 2016 compliance demonstration project, two incremental out-of-budget positions were included in the forecast in the compliance department beginning mid-year 2016. Various 2016 positions were repurposed based on the analysis of incremental staffing needs for 2017 as compared to 2016 open positions. This resulted in various inter-departmental transfers and equals a net decrease of eight positions moved out of process integrity to accommodate higher priority responsibilities in other departments (net decrease from the 2016 budget of six).

The outside services expense for 2017 is related to the SOC 1 audit. The spike in the 2016 forecast is associated with staff augmentation and consulting services in the compliance and PMO departments primarily related to CIP compliance.

MARKET DESIGN AND INTERREGIONAL RELATIONS

Two distinct departments are managed under the Market Design and Interregional Relations division.

The market design department is responsible for the evolution of the energy and capacity markets, achieved through interactions and cooperation with members and other stakeholders while creating and enhancing markets in a member-driven way.

Other goals of market design are to maintain reliability and pursue innovative ways to increase reliability through economics. The department has three key responsibilities:

- Create and modify the current SPP regional market design through a member-driven process
- Analyze market efficiency and determine design improvements for discussion and changes by stakeholders
- Support other market-related initiatives for the development of new members and initiatives

The interregional relations department works closely with SPP's members and neighboring entities to ensure interregional seams activities are coordinated across the SPP organization in accordance with requirements contained in SPP's seams agreements.

Coordination with the Midcontinent Independent System Operator and other neighbors on seams issues and joint operating agreements have become increasingly important due to heightened operational and financial impacts to seams parties. The department also supports membership expansion efforts to bring new members into SPP.



Interregional Relations & Market Design Expenses (\$ millions)

Expense	<u>2016 Budget</u>	<u>2016 Forecast</u>	<u>2017 Budget</u>	<u>2018 Budget</u>	<u>2019 Budget</u>
Salary & Benefits	\$1.5	\$1.4	\$1.5	\$1.5	\$1.6
Travel, Meetings & Administrative	0.1	0.1	0.1	0.1	0.1
Outside Services	0.0	0.0	0.0	0.0	0.0
Total Expense	\$1.6	\$1.5	\$1.6	\$1.7	\$1.7
Headcount	10	10	10	10	10

Staffing expense is the main component of the market design and interregional coordination budget, followed by travel, meetings and administrative expense and outside services expense. These costs are driven primarily by stakeholder and working group meetings, technical training and professional membership and licenses.

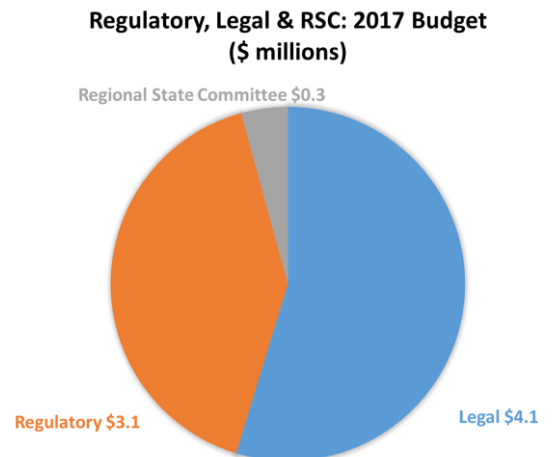
LEGAL, REGULATORY AND REGIONAL STATE COMMITTEE

This division is comprised of three distinct departments including: legal, regulatory policy and regional state committee (RSC).

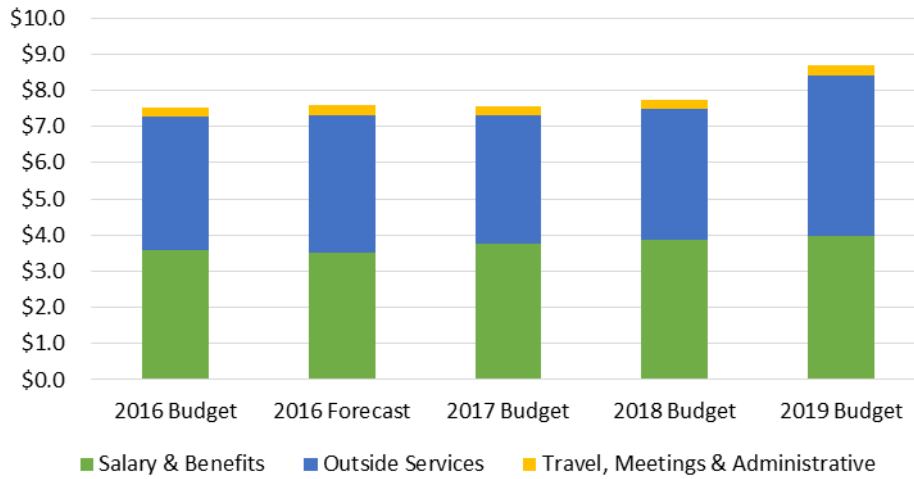
- The legal department continues to evolve into a value-added internal resource with the goal of reducing costs for and dependency on outside counsel, especially in FERC matters. Over the past several years the legal department has internalized a significant amount of legal work. While these savings have already been achieved, the legal department continues to seek ways to create efficiencies.

- The regulatory policy department has responsibility for all regulatory filings related to tariff implementation and revisions. The outside services expense budget includes costs for the Order 1000 Industry Expert Panel which is recovered in revenue from participants in the proposal process. A provision in the tariff requires SPP to perform a Regional Cost Allocation Review at least every three years, which last occurred in 2016.

- The RSC was established to provide collective state regulatory agency input on matters of regional importance related to the development and operation of bulk electric transmission. It is comprised of retail regulatory commissioners from agencies in Arkansas, Iowa, Kansas, Missouri, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota and Texas.



Regulatory, Legal & RSC 2017 Budget (\$ millions)



Regulatory, Legal & RSC Expenses (\$ millions)

Expense	<u>2016 Budget</u>	<u>2016 Forecast</u>	<u>2017 Budget</u>	<u>2018 Budget</u>	<u>2019 Budget</u>
Salary & Benefits	\$3.6	\$3.5	\$3.7	\$3.9	\$4.0
Outside Services	3.7	3.8	3.6	3.6	4.5
Travel, Meetings & Administrative	0.2	0.3	0.2	0.3	0.3
Total Expense	\$7.5	\$7.6	\$7.6	\$7.7	\$8.7
Headcount	25	26	26	26	26

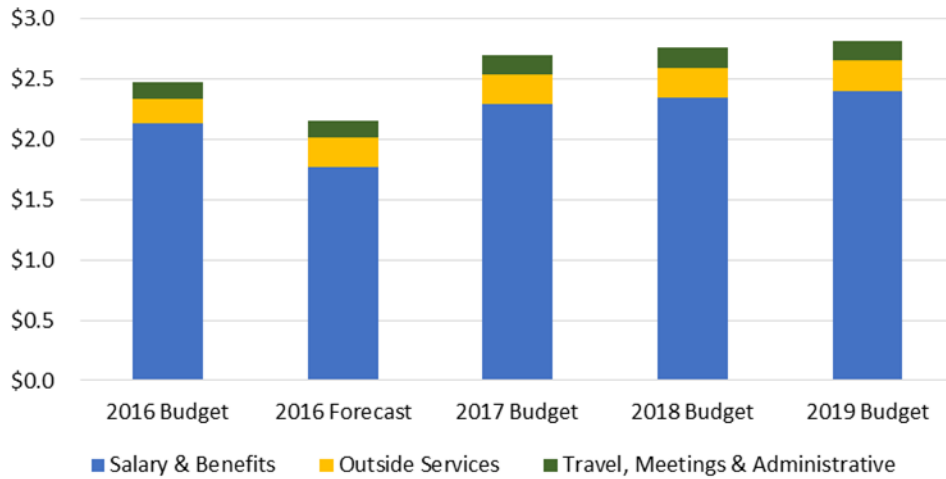
Staffing expense is the main component of the regulatory, legal and RSC budget, followed by outside services and travel, meetings and administrative expense. Various inter-departmental transfers resulted in one additional position for the legal department in the 2016 forecast. The same increase is not evident in salary and benefits due to the fact that vacancies throughout the year are reflected at the department level in the forecast, but vacancies are budgeted at the administrative department level.

MARKET MONITORING UNIT (MMU)

The main focus of the MMU division is to monitor the market and identify inefficiencies that adversely impact the economic operation. The MMU continues to concentrate on improving the efficiency of reporting activities and ensuring compliance with tariff requirements and FERC expectations.

The MMU engages outside legal counsel to provide support for the MMU and to provide additional independence for the MMU. The budget also reflects consulting services for special studies that support and supplement MMU staff activities.

Market Monitoring 2017 Budget (\$ millions)



Market Monitoring Expenses (\$ millions)

Expense	<u>2016 Budget</u>	<u>2016 Forecast</u>	<u>2017 Budget</u>	<u>2018 Budget</u>	<u>2019 Budget</u>
Salary & Benefits	\$2.1	\$1.8	\$2.3	\$2.3	\$2.4
Outside Services	0.2	0.2	0.2	0.2	0.2
Travel, Meetings & Administrative	0.1	0.1	0.2	0.2	0.2
Total Expense	\$2.5	\$2.1	\$2.7	\$2.8	\$2.8
Headcount	15	15	16	16	16

Staffing levels were assessed in 2016 and one senior market monitor position was added to the 2017 budget. This position will support increased market design issues, behavior studies of market participants, FERC requests and other ad-hoc studies.

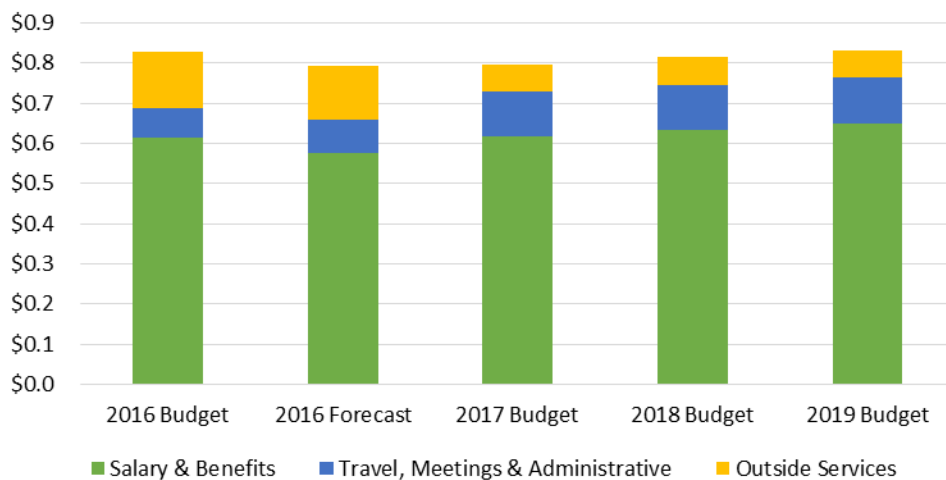
CORPORATE COMMUNICATIONS AND GOVERNMENT AFFAIRS

This division includes two separate departments with specific functions performed by each.

The corporate communications department is responsible for directing the internal and external communications for SPP. The department develops and implements strategic communications plans to educate the public on SPP’s mission and drive engagement among employees. The department also creates and preserves SPP’s brand image through its website, public presentations, collateral material and social media. The corporate communications department executes this strategy through various means, including communicating both the value of transmission and the value of SPP membership to stakeholders, regulators and the general public.

The government affairs and public relations department works to improve working relationships with customers throughout SPP’s footprint and to facilitate the dissemination of information to local, regional, state and federal agencies; legislative committees; policymakers and elected officials; the general public; and business and industry trade organizations who are engaged with or interested in the bulk electric system. The government affairs and public relations department facilitates and coordinates these relationships to develop a communications strategy to provide educational information to governmental entities, trade organizations and the general public while monitoring potential policy and legislative changes and determining SPP’s response.

Communications & Gov't Affairs 2017 Budget (\$ millions)



Communications & Government Affairs Expenses (\$ millions)

Expense	2016 Budget	2016 Forecast	2017 Budget	2018 Budget	2019 Budget
Salary & Benefits	\$0.6	\$0.6	\$0.6	\$0.6	\$0.7
Travel, Meetings & Administrative	0.1	0.1	0.1	0.1	0.1
Outside Services	0.1	0.1	0.1	0.1	0.1
Total Expense	\$0.8	\$0.8	\$0.8	\$0.8	\$0.8
Headcount	5	6	6	6	6

Staffing expense is the main component of the communications and government affairs budget, followed by travel, meetings and administrative expense and outside services expense.

The organizational structure of corporate communications and government affairs division was realigned in 2016 resulting in an incremental headcount in the division. The director position was eliminated and replaced with one manager (promotion), one supervisor (promotion) and one incremental staff position with no impact to staffing expense.

Outside services expense is primarily related to media outreach including news release distribution, media monitoring and photography and videography services.

FINANCE AND CORPORATE SERVICES

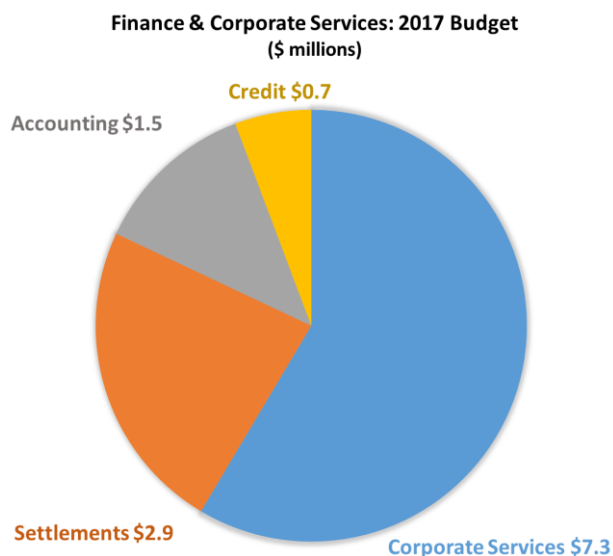
In addition to corporate services, this division includes settlements, credit and risk management and accounting and purchasing departments.

The corporate services department is comprised of human resources, corporate facilities and corporate administrative services sub-departments. The department provides support services to SPP employees and stakeholder groups and offer a work environment supporting SPP's business model and culture. In addition to staffing, expenses in this department are associated with upkeep and maintenance of the facility (physical security, utilities, janitorial, grounds maintenance, etc.), office supplies and postage, stakeholder meetings and various employee benefit programs.

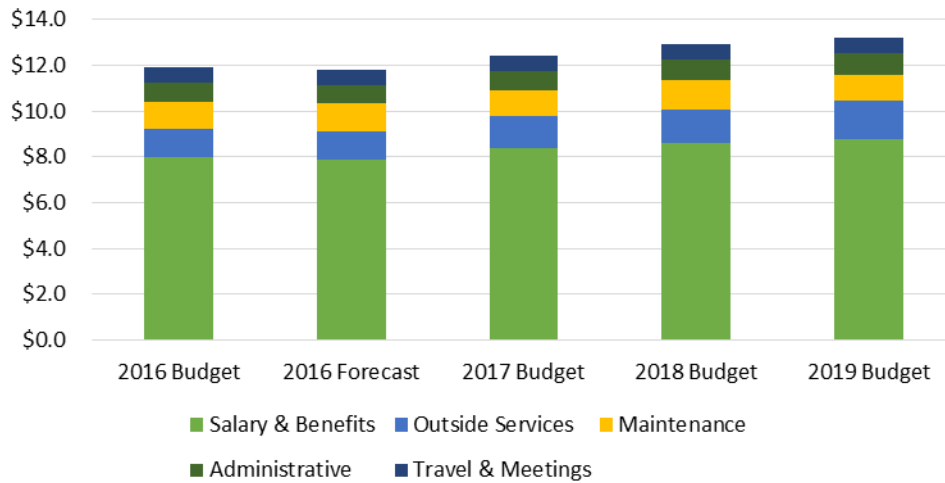
The fundamental purpose of the settlements department is the financial settlement of transmission and market transactions occurring under the tariff. The department's primary goal is to settle transactions which occur under the tariff and subsequently calculate charges and revenues based on the tariff regulations. Much of the information collected and created throughout SPP is administered within the Settlements department processes, including operational decisions that impact customer settlement statements. Software upgrades, process improvements, efficiency metrics tracking and the cross training of staff has resulted in the ability to maintain stable staffing levels without dependency on staff augmentation.

The credit and risk management department administers and monitors the extension of credit to market participants and works to protect the market participants and members from losses through diligent underwriting and collection efforts. The department's goal is to carefully monitor the credit risk and respond as necessary to continually protect the market participants and members.

The accounting and purchasing department is responsible for invoicing, cash management, payment processing, internal and external reporting, budgeting and forecasting, corporate accounting and end-to-end procurement services.



Finance & Corporate Services 2017 Budget (\$ millions)



Finance & Corporate Services Expenses (\$ millions)

Expense	<u>2016 Budget</u>	<u>2016 Forecast</u>	<u>2017 Budget</u>	<u>2018 Budget</u>	<u>2019 Budget</u>
Salary & Benefits	\$8.0	\$7.9	\$8.4	\$8.6	\$8.8
Outside Services	1.2	1.2	1.4	1.5	1.6
Maintenance	1.2	1.2	1.1	1.3	1.2
Administrative	0.9	0.8	0.9	0.9	0.9
Travel & Meetings	0.7	0.7	0.7	0.7	0.7
Total Expense	\$11.9	\$11.8	\$12.4	\$13.0	\$13.2
Headcount	67	69	69	69	69

Staffing expense is the main component of the finance and corporate services division. Outside services, maintenance and administrative expenses are primarily in the corporate services department and are related to support services for the facility and staff.

Various inter-departmental transfers resulted in two additional position in the finance and corporate services division in 2016. One position was eliminated in the settlements department, one position was transferred into the credit department from process integrity, and two positions were transferred into facility services from IT. The elimination of the position in settlements was in accordance with the directive to eliminate three positions as proposed in the 2016 staffing budget.

OFFICER AND ADMINISTRATIVE

The officer division includes the executives who oversee the overall business operations and provide strategic direction to SPP. Additionally, this division budget contains corporate overhead expenses such as insurance, pension and retiree healthcare and property taxes. These expenses are discussed in detail in section VI.

Officer & Administrative Expenses (\$ millions) *					
Expense	<u>2016 Budget</u>	<u>2016 Forecast</u>	<u>2017 Budget</u>	<u>2018 Budget</u>	<u>2019 Budget</u>
Retiree Pension & Healthcare Expense	\$6.0	\$8.4	\$8.4	\$8.6	\$8.7
Salary & Benefits	5.3	7.4	7.5	7.7	7.5
Insurance & Property Tax	2.1	2.1	2.0	1.8	1.8
Outside Services	1.6	1.7	1.5	1.7	1.5
Travel, Meetings & Administrative	0.8	0.9	0.9	0.9	0.9
Vacancy	(3.6)	(0.9)	(4.1)	(4.2)	(4.3)
Total Expense	12.3	19.6	16.2	16.4	16.2
Headcount	11	11	11	11	11

** Excluding: Interest, Deprec & FERC Fees
Including: Vacancy assumptions*

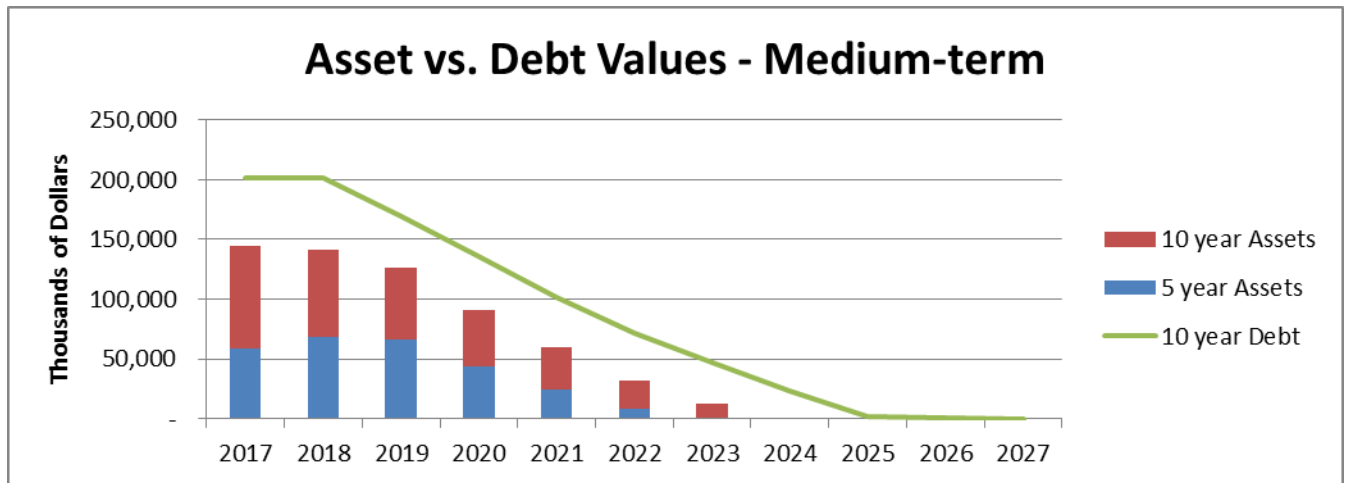
Pension and retiree healthcare expense for the 2016 forecast reflects updated amounts from the actuary calculated pension expense, which were received after the 2016 budget was approved. This change creates a \$2.4 million unfavorable variance when compared to 2016 budget.

The estimated vacancy rate is included in the salary and benefits budget of the administrative department. Since this adjustment is reflected here instead of at the individual department level, the forecast is higher in comparison to the yearly budgets as the forecast has been adjusted for vacancies at the department level with a minimal amount remaining in the administrative department. The 2016 budget assumed a 4 percent vacancy rate while the 2016 forecast reflects an average rate of 5 percent rate. SPP is expecting vacancies of 5 percent for the 2017 – 2019 budgets and forecasts.

VIII. DEBT SERVICE

SPP has a history of successfully securing funds from financial institutions and investors at competitive terms to finance its capital projects.

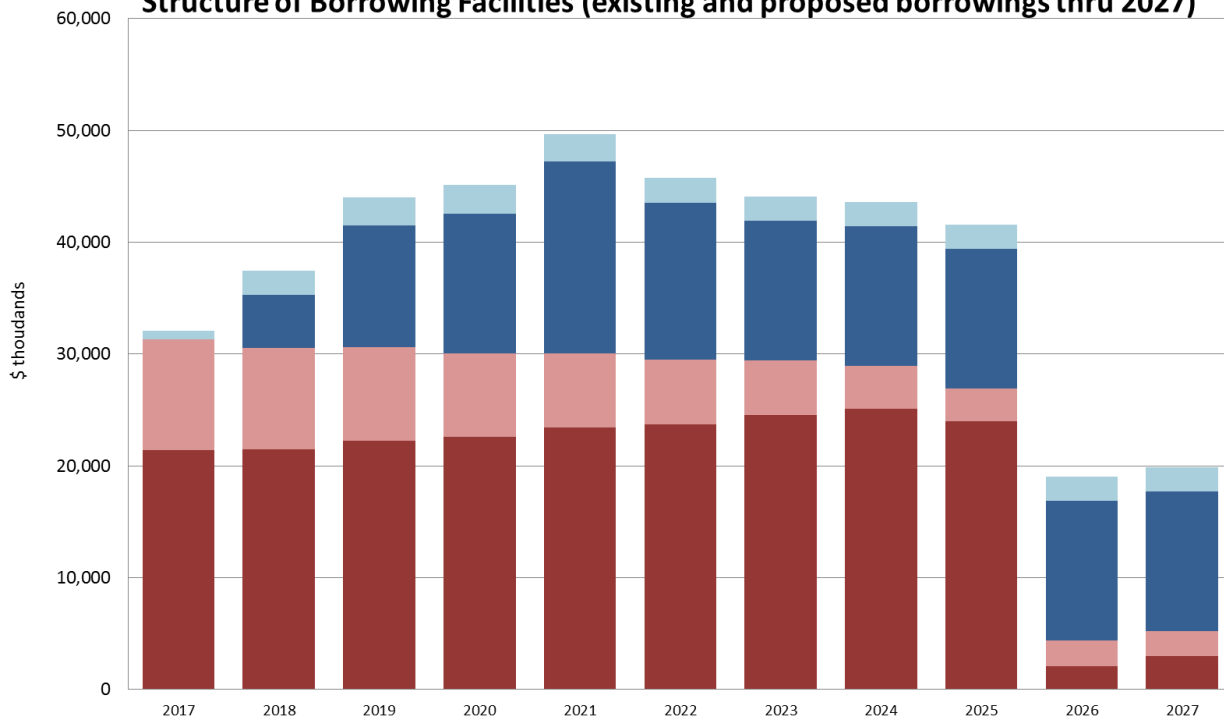
SPP's capital projects are funded from monies borrowed under medium and long-term credit agreements, primarily with institutional investors. SPP generally aims to match the duration of its borrowings to the useful life of assets that are acquired through borrowings. The following charts illustrate asset vs. debt values.



These capital costs are not fully included in SPP's NRR; however, annual principal and interest payments for borrowings (net of capitalized interest) are considered in the NRR calculation. SPP's outstanding borrowings are projected to equal \$263.1 million as of Jan. 1, 2017, with principal payments of \$23.2 million, \$28.0 million and \$35.2 million in 2017, 2018 and 2019, respectively.

SPP anticipates cash on hand from prior debt issuances of approximately \$15 million at January 1, 2017 to provide capital expenditure funding through the first half of 2017. Two new rounds of debt issuances are assumed in 2017 and 2018 at \$25 million each with a term of 5 years, to meet SPP's capital project funding needs through 2019. The following chart illustrates SPP's principal and interest payment obligations through 2030, including projected new borrowings.

Structure of Borrowing Facilities (existing and proposed borrowings thru 2027)



■ Principal Repayments (Existing)
 ■ Interest Payments (Existing)
 ■ Principal Repayments (New/proposed)
 ■ Interest Payments (New/proposed)

The schedule below shows the principal amounts outstanding for each borrowing at the beginning and end of the 2017-2019 budget periods, as well as annual principal payments.

Future Debt Repayments (\$ millions)								
	Issue Date	Issue Amount	Due Date	Balance 1/1/2017	2017 Prin. Pmts.	2018 Prin. Pmts.	2019 Prin. Pmts.	Balance 12/31/2019
5.51% notes due 2027	3/23/2007	\$5.1	Feb-27	\$3.1	(\$0.2)	(\$0.2)	(\$0.2)	\$2.5
4.82% construction notes due 2042 (2010A, 2010B)	10/31 & 12/28/2010	\$65.0	Dec-42	\$60.7	(\$1.2)	(\$1.3)	(\$1.3)	\$56.9
3.55% integrated markets notes due 2024 (2010C)	3/30/2011	\$70.0	Mar-24	\$50.8	(\$7.0)	(\$7.0)	(\$7.0)	\$29.8
3.00% capital funding notes due 2024 (2012D-1)	5/30/2012	\$50.0	Mar-24	\$36.3	(\$5.0)	(\$5.0)	(\$5.0)	\$21.3
3.25% capital funding notes due 2024 (2012D-2)	11/30/2012	\$50.0	Sep-24	\$38.8	(\$5.0)	(\$5.0)	(\$5.0)	\$23.8
3.8% capital funding notes due 2025 (2014-E)	3/21/2014	\$37.0	Dec-25	\$37.0	\$0.0	\$0.0	\$0.0	\$37.0
4.95% senior notes due 2025	3/10/2014	\$33.0	Mar-24	\$30.8	(\$3.0)	(\$3.0)	(\$3.8)	\$21.0
Capital lease obligation	2/1/2015	\$6.9	Nov-19	\$5.8	(\$1.8)	(\$1.9)	(\$2.0)	\$0.1
New borrowing - 2017	7/1/2017	\$25.0	Jun-22	-	-	(\$4.7)	(\$6.3)	\$14.1
New borrowing - 2018	7/1/2018	\$25.0	Jun-23	-	-	-	(\$4.7)	\$20.3
Total		\$367.0		\$263.1	(\$23.2)	(\$28.0)	(\$35.2)	\$226.7

IX. SUPPLEMENTAL ANALYSIS AND SCHEDULES

INCOME STATEMENT 2016-2017 COMPARISON (\$ MILLIONS)

	2016 Budget	2016 Forecast	2017 Budget	2017 Prior*
Income				
Tariff Administration Service	\$150.7	\$145.0	\$160.4	\$151.0
Fees & Assessments	27.5	26.6	28.1	27.9
Contract Services Revenue	0.5	0.5	0.5	0.5
Miscellaneous Income	3.4	4.3	5.0	2.8
Total Income	\$182.1	\$176.5	\$194.1	\$182.1
Expense				
Salary & Benefits	\$85.2	\$88.6	\$91.3	\$86.8
Employee Travel	2.4	2.1	2.2	2.5
Administrative	5.2	5.0	5.0	4.6
Assessments & Fees	17.0	18.6	18.6	17.0
Meetings	1.0	1.0	1.0	0.9
Communications	4.1	4.0	4.2	4.2
Leases	0.0	0.0	0.0	0.0
Maintenance	16.8	14.8	18.0	19.0
Services	14.8	15.5	14.2	12.7
Regional State Committee	0.3	0.2	0.3	0.3
Depreciation & Amortization	59.7	58.6	30.5	33.3
Other Expense	10.6	10.9	10.8	11.5
Total Expense	\$217.1	\$219.3	\$196.1	\$192.9
Net Income (Loss)	(\$35.0)	(\$42.8)	(\$2.0)	(\$10.7)
Debt Repayment	\$24.2	\$24.2	\$23.2	\$23.2
MWh Forecast (in millions)	407.2	394.5	383.0	407.2
Base NRR (excluding adjustments)	\$146.8	\$147.7	\$150.2	\$148.5
Net Revenue Requirement	\$150.5	\$151.4	\$160.4	\$150.7
Calculated Admin Fee / MWh	\$0.370	\$0.384	\$0.419	\$0.370
Recommended Admin Fee / MWh	\$0.370	\$0.370	\$0.419	\$0.370
<i>Tariff Cap on Admin Fee</i>	<i>\$0.390</i>	<i>\$0.390</i>	<i>\$0.430</i>	<i>\$0.390</i>
Capital Expense	\$22.2	\$20.3	\$19.5	\$29.7
Headcount	599	609	610	598

INCOME STATEMENT 2017-2019 (MILLIONS \$)

	2017	2018	2019
	Budget	Budget	Budget
Income			
Tariff Administration Service	\$160.4	\$167.9	\$179.6
Fees & Assessments	28.1	28.8	29.2
Contract Services Revenue	0.5	0.5	0.0
Miscellaneous Income	5.0	5.1	5.1
Total Income	\$194.1	\$202.3	\$213.8
Expense			
Salary & Benefits	\$91.3	\$94.0	\$95.9
Employee Travel	2.2	2.4	2.4
Administrative	5.0	4.6	4.6
Assessments & Fees	18.6	19.2	19.8
Meetings	1.0	1.0	1.1
Communications	4.2	4.9	4.9
Leases	0.0	0.0	0.0
Maintenance	18.0	20.8	24.8
Services	14.2	15.5	16.1
Regional State Committee	0.3	0.3	0.3
Depreciation & Amortization	30.5	23.7	25.1
Other Expense	10.8	11.4	10.9
Total Expense	\$196.1	\$197.8	\$205.9
Net Income (Loss)	(\$2.0)	\$4.5	\$7.9
Debt Repayment	\$23.2	\$28.0	\$35.2
MWh Forecast (in millions)	383.0	383.0	383.0
Base NRR (excluding adjustments)	\$150.2	\$162.4	\$175.8
Net Revenue Requirement	\$160.4	\$167.9	\$179.6
Calculated Admin Fee / MWh	\$0.419	\$0.438	\$0.469
Recommended Admin Fee / MWh	\$0.419	\$0.438	\$0.469
<i>Tariff Cap on Admin Fee</i>	<i>\$0.430</i>	<i>\$0.430</i>	<i>\$0.430</i>
Capital Expense	\$19.5	\$27.8	\$19.0
Headcount	610	616	617

BALANCE SHEET (\$ MILLIONS)

	<u>12/31/2016</u>	<u>12/31/2017</u>
ASSETS		
Current Assets		
Cash & Equivalents	\$52.0	\$66.6
Restricted Cash Deposits	193.4	212.7
Accounts Receivable (net)	37.7	39.2
Other Current Assets	10.3	11.4
Total Current Assets	<u>293.4</u>	<u>329.9</u>
Total Fixed Assets	92.6	81.6
Total Other Assets	2.7	2.6
Investments	10.2	10.4
TOTAL ASSETS	<u>\$398.9</u>	<u>\$424.6</u>
LIABILITIES & EQUITY		
Liabilities		
Current Liabilities		
Accounts Payable (net)	\$24.5	\$25.1
Customer Deposits	193.6	212.7
Current Maturities of LT Debt	23.2	28.0
Other Current Liabilities	45.8	46.9
Deferred Revenue	5.1	4.3
Total Current Liabilities	<u>292.2</u>	<u>317.0</u>
Long Term Liabilities		
US Bank Maumelle Mortgage - 2027	2.9	2.7
Campus 4.82% Senior Notes - 2042	59.5	58.3
Integrated Marketplace 3.55% Senior Notes - 2024	43.8	36.8
Capital Funding 3.00% - 2024	31.3	26.3
Capital Funding 3.25% - 2024	33.8	28.8
Capital Funding 3.8% - 2025	37.0	37.0
Capital Funding 4.95% - 2025	27.8	24.8
New Borrowing - 2022	0.0	20.3
Capital Lease Obligation	3.9	2.0
Other Long Term Liabilities	39.1	45.0
Total Long Term Liabilities	<u>278.9</u>	<u>281.8</u>
Net Income	(42.8)	(2.0)
Members' Equity	(129.4)	(172.2)
Total Members' Equity	<u>(172.2)</u>	<u>(174.2)</u>
TOTAL LIABILITIES & EQUITY	<u>\$398.9</u>	<u>\$424.6</u>

CASH FLOW FORECAST 2015-2017 (\$ MILLIONS)

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Operating Activities			
Net income/(loss)	(\$2.0)	\$4.5	\$7.9
Items not requiring cash			
Depreciation and amortization	30.5	23.7	25.1
Changes in assets and liabilities	5.7	-	-
Net cash provided by operating activities	<u>34.2</u>	<u>28.2</u>	<u>33.0</u>
Investing activities			
Acquisition of property and equipment	(19.5)	(27.8)	(19.0)
Net cash used in investing activities	<u>(19.5)</u>	<u>(27.8)</u>	<u>(19.0)</u>
Financing activities			
Repayments of long-term debt	(23.2)	(28.0)	(35.2)
Issuance of long-term debt	25.0	25.0	-
Net cash provided/(used) in financing activities	<u>1.8</u>	<u>(3.0)</u>	<u>(35.2)</u>
Increase/(Decrease) in Cash and Cash Equivalents	16.5	(2.6)	(21.2)
Cash and Cash Equivalents, Beginning of Year *	<u>16.8</u>	<u>33.3</u>	<u>30.7</u>
Cash and Cash Equivalents, End of Year *	<u><u>\$33.3</u></u>	<u><u>\$30.7</u></u>	<u><u>\$9.5</u></u>

* Operating and capital spending cash accounts.

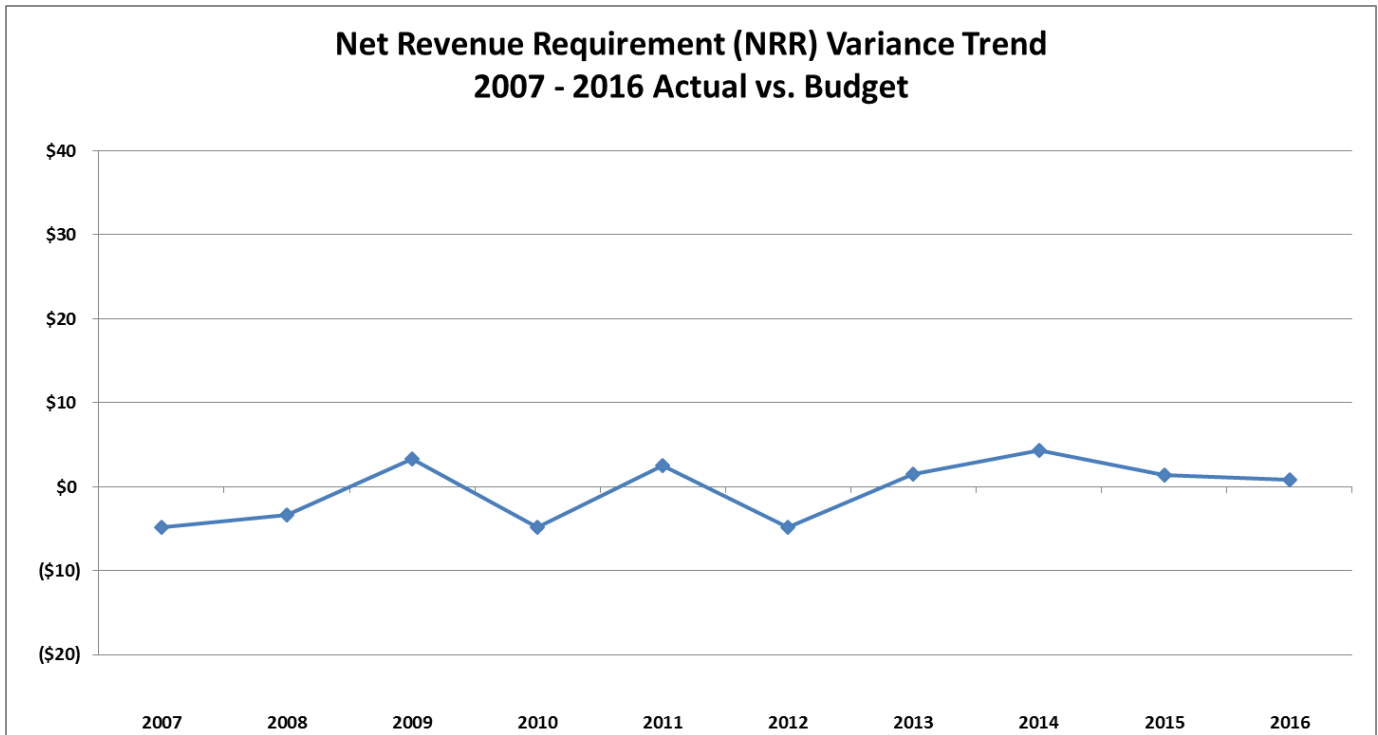
CAPITAL PROJECTS LIST (\$ MILLIONS)

	Prior Year(s)	2017 Budget	2018 Forecast	2019 Forecast	Total Capital
Carry Over Projects					
Enhanced Combined Cycle - Gas Day	\$ 6.4	\$ 0.6	\$ -	\$ -	\$ 7.0
TTSE Dispatcher Training Simulator	0.2	0.4	3.0	-	3.6
PMU Data Exchange, Phase 1	0.8	0.7	0.3	0.2	2.0
Identity and Access Management System (IAMS)	0.2	0.4	0.1	-	0.7
Z2 Crediting, Phase 2 & 3	0.4	0.1	-	-	0.5
EMS, CMT, and Markets Software & OS Upgrades	-	0.2	-	-	0.2
Circuit Redesign	0.1	0.0	0.0	-	0.1
Marketplace Portal Redesign (formerly "Liferay")	0.0	0.1	-	-	0.1
ICCP Software & OS Upgrade	-	0.1	-	-	0.1
New Projects					
Settlement Systems Replacement Project	\$ -	\$ 2.1	\$ 3.0	\$ -	\$ 5.1
Online Voltage Stability Analysis Tool (VSAT)	-	0.8	0.6	-	1.5
PMU Data Exchange, Phase 2 & 3	-	-	0.4	1.0	1.4
Reliability Communications Tool	-	-	1.0	-	1.0
Governance, Risk and Compliance Tool (GRC)	-	1.0	-	-	1.0
Engineering Hub	0.2	0.6	-	-	0.8
Online Transient Security Assessment Tool (TSAT)	-	-	0.6	-	0.6
Coordinated Transaction Scheduling	-	-	0.4	-	0.4
Day Ahead FFE Data Exchange	-	-	0.3	-	0.3
Freeze Date Replacement Allocation Calculator	-	-	0.3	-	0.3
Shadow Allocation Calculator	-	0.1	-	-	0.1
Enhanced Public Data	-	-	-	0.1	0.1
Interface Pricing	-	0.1	-	-	0.1
Total Non-Foundation Projects	\$ 8.6	\$ 7.3	\$ 10.0	\$ 1.3	\$ 27.2
Foundation					
Information Technology		\$ 7.9	\$ 13.3	\$ 13.6	\$ 34.8
Other Information Technology (Non-IT depts)		1.2	1.5	1.0	3.7
Operations		2.4	2.5	2.6	7.5
Facilities		0.5	0.3	0.3	1.0
Settlements		0.3	0.3	0.3	0.8
Total Foundation Capital Expenditures		\$ 12.2	\$ 17.8	\$ 17.7	\$ 47.7
Total Capital Budget	\$ 8.6	\$ 19.5	\$ 27.8	\$ 19.0	\$ 74.9

OUTSIDE SERVICES BY FUNCTION (\$ MILLIONS)

DESCRIPTION OF SERVICES	2016 Forecast	2017 Budget	Inc / (Dec)
Staff Augmentation			
Legal	\$2.8	\$2.1	(\$0.7)
Information Technology	0.6	0.5	(0.1)
Market Monitoring	0.2	0.3	0.0
Process Integrity (Compliance, PMO)	0.5	0.0	(0.5)
Total Staff Augmentation	\$4.2	\$2.8	(\$1.3)
Information Technology & Operations			
Transmission service (Ops) - OATI service fees	1.4	1.5	0.1
Reliability (Ops) Wind forecasting and studies	0.8	0.8	0.0
Reliability (Ops) IDC Tool (Interchange Distribution Calculator)	0.6	0.6	0.1
Cyber Security	0.3	0.3	(0.0)
Misc. IT services (cabling, storage, asset disposal)	0.5	0.6	0.1
Total Information Technology & Operations	\$3.5	\$3.8	\$0.2
Other			
Planning (Eng studies and R&D, FERC Order 1000, RSC, RCAR)	3.6	3.2	(0.3)
Board of Directors fees and expenses	1.1	1.2	0.0
Regional Entity (trustees and consulting)	1.1	1.2	0.2
Corporate services, campus and employee services	1.0	1.2	0.1
Audits, special engagements (SSAE 16/other audits)	0.5	0.5	0.0
Communications and training	0.1	0.1	(0.1)
Other	0.7	0.5	(0.2)
Total Outside Services	\$15.8	\$14.5	(\$1.3)

NRR VARIANCE HISTORY (\$ MILLIONS)



	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
Actual NRR	\$48.0	\$58.1	\$59.8	\$63.5	\$80.8	\$84.8	\$123.3	\$137.0	\$142.6	\$151.4 *
Budget NRR	\$52.8	\$61.5	\$56.5	\$68.4	\$78.4	\$89.6	\$121.8	\$132.6	\$141.2	\$150.5
Variance	(\$4.8)	(\$3.4)	\$3.4	(\$4.9)	\$2.5	(\$4.8)	\$1.5	\$4.4	\$1.4	\$0.9
	(9%)	(6%)	6%	(7%)	3%	(5%)	1%	3%	1%	1%

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

* The 2016 NRR represents the forecast as of August 2016 and excludes non-recurring items of \$3.7 million.

PRIOR YEAR BUDGET COMPARISONS (\$ MILLIONS)

	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Net Revenue Required Estimations							
2013 Budget - NRR Estimations	\$121.8	\$141.4	\$145.0				
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 *					\$160.4	\$167.9	\$179.6
<i>Actual NRR</i>	\$123.3	\$137.0	\$142.6				
Billing Unit Estimations							
2013 Budget - Billing Units Estimations	360.9	371.7	382.9				
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
<i>Actual Billing Units</i>	357.5	351.0	373.6				
Administrative Fee Estimations							
2013 Budget - Admin Fee Estimations	\$0.315	\$0.380	\$0.379				
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	\$0.438	\$0.469
<i>Actual Admin Fee</i>	\$0.345	\$0.390	\$0.382				

* Excluding non-recurring items

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

PROCESS IMPROVEMENTS

SPP staff and management proactively and continuously reviews 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. Staff was able to achieve efficiencies and implement improved processes as a result of:

- Automation of manual tasks or procedures,
- Review of team structures in relation to team goals and tasks, and restructuring organizationally,
- Staff maturation as the tenure and expertise of staff continues to grow with relatively low turnover rates across the company,
- Improved management and more effective utilization of outside vendors and the related services and products,
- Review and re-prioritization of initiatives to allow more effective staff focus on high-priority projects and deliverables that deliver most value to stakeholders.

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

Operations:

- Brought the Integrated System into full SPP membership without significant additions to staff by implementing organizational structure changes to capitalize on expertise and capability.
- Operations staff consistently seeks to identify queries and tools that SPP can use to offset improvement needs in vendor software, thereby decreasing reliance on outside vendors.
 - Alstom's eTerra-Vision was replaced by Macomber Map, which has additional advanced features and functionalities (e.g. weather overlays, visualization tools, contouring, generator and load bubbles, multiple map tiles) that SPP would have been required to acquire from multiple other vendors at a high cost.
 - Enhanced Tie Checkout process.
 - Enhanced operator displays, filling the gap between vendor-provided software and operational needs.
 - An operations log tool was developed in-house as an alternative to buying a much more costly product from an outside vendor.
- Operations developed the ratings submission tool which is saving time for SPP staff and members, particularly time spent determining the history of a rating.
- Tools to perform voltage and stability assessments were improved.
- As part of the Gas Day project, Day Ahead clearing process was moved to a shorter and earlier timeline.

- MCE Certification Tool/Enhancement: This new process cut full regression of the Market Clearing Engine to 2-3 days from 21 days and reduced technical staff needed to perform the regression substantially.
- Automation of several processes resulted in reduced risk of human error and implementation time (equivalent of up to two FTEs). Due to time savings, staff was able to focus on replacing the more costly ETerra Vision product with Macomber Map and BA Tie Line Checkout improvements. These new and improved tools mitigate operational issues and reduce time spent on troubleshooting by enabling rapid navigation between EMS and situational awareness tools.
 - OSISoft's PI Server product and AF (Asset Framework) modeling is utilized to import EMS and Market models to create AF Equipment and PI tags for recording historical data.
 - Deployments of new and improved operator displays and tools: The Macomber Map provides geospatial real time situational awareness tool with system monitoring and alarming. The PI software provides an overview dashboard and customized views for individual scenarios.
 - Automated development lifecycle builds and testing:
 - Automated building and testing of source code
 - Automated deployments to development testing (DEV) environments
 - Release automation and package deployments to SPP release automation software
 - Release automation to QA (quality assurance) and PROD (production) environments using SPP release automation software
 - Automated Macomber Map model creation

Engineering:

- The new Aggregate Transmission Service Study tariff language and process became effective in 2015. The new process is expected to provide value by reducing the amount of time to a final study result to six months compared to the previous average time of 18 months and reduce staff time and study costs by an estimated 80%.
- Cost savings were realized through pursuing bundled or multi-year software support agreements for engineering automation tools.
- The Engineering group has formed an automation task force with engineers from across the entire group who have expertise in software design and coding. The group leads multiple automation efforts, some of which are listed below:
 - Automation for onboarding DPP solutions has resulted in savings in consulting costs.
 - The modeling department has implemented several automation and process improvements in recent years that resulted in significantly less development time for MDWG (Market Design Working Group) and ITPNT (Integrated Transmission Planning Near-Term) models.
 - Compliance studies department has automated several processes that led to reduced analysis time and allowed for the completion of a larger transmission planning scope.

- Reliability planning department has implemented a number of process improvements through automation in the following areas that led to efficiency gains resulting in reduced staff time commitment and quicker results:
 - A significant time constraint in the ITPNT process is related to instances when the powerflow model cases crash and cannot be solved, which takes time to identify the cause and resolve the issue. By developing automation, staff has been able to identify and resolve issues much quicker and save staff time in the project schedules. Staff has also taken on more cases (additional contingencies in 2017 ITPNT) per stakeholder request that can be accommodated in part due to this.
 - Since the implementation of FERC Order 1000, there has been an increase in the number of projects submitted to SPP Staff for evaluation from less than 100 to over 2,000 in some studies. In the past, each project was evaluated manually. With the necessity of managing such a large number of projects today, staff developed a programmatic approach to screen projects to identify the top candidate solutions. Staff also built an algorithm into this program to assist engineers in selecting optimal projects that could defer or displace projects to save costs. Project proposal data file translator work
 - Database to house modeling data
 - Economic planning department has implemented process improvements in the ITP 10 process through multiple automation projects that has led to significant reductions in staff time and therefore allowed this department to absorb the increase in the scope of the 2017 ITP 10 and the additional future requested by the stakeholders.
- In scheduling new and existing NERC studies, compliance studies department took steps to raise awareness of scope creep with the stakeholders by emphasizing focus on meeting the standard criteria.
- The engineering division underwent a significant re-organization exercise during 2016 which led to:
 - Improved focus on compliance with NERC reliability standards
 - Continued focus on compliance with the tariff
 - Improved departmental accountability, ownership, and teamwork, better alignment of functions and responsibilities, and more effective management of responsibilities
 - Provided additional growth/development opportunities for staff

Information Technology:

- New automation processes resulted in efficiencies in documentation and evidence required for the SOC 1 audit.
- Efficiencies were gained in software development (example: Java reporting framework and Java code patterns used for Market Settlement reports and Market Settlement GUIs) and system installation (Nolio).

- Efficiencies and automation in Remedy have significantly improved employee and contractor onboarding as well as change and problem management.
- The continued use of server virtualization has allowed the IT department to keep up with increased number of servers (from approximately 600 in 2011 to 1800 in 2016; the data storage managed has grown from 500TB to nearly 3,000TB) with little or no growth in existing resources.
- The IT department has taken steps to re-prioritize some projects to reduce or defer financial and staff impact to future years while still satisfying hardware, software, and operating system support and requirements for CIP compliance (e.g. EMS/CMT/Markets upgrades).
- Efficiency and accuracy at which schema and metadata changes are completed due to upstream source application patches/enhancements have been greatly improved, which led to reduced implementation time and errors that cause re-work. For example, in terms of database schema changes, the department had supported roughly 1,790 tables in multiple environments for a total of 8,950 tables. These changes can now be made for approximately 6,150 additional tables in multiple environments for a total of 15,100 tables and takes the same or less amount of time.
- Enhancements and alerts were added to data repository systems that have increased the reliability of data loads, which result in less support work. The database department was able to eliminate manual validations by switching to a more effective and efficient tool. The alerting process was improved which enables the department to correct issues faster and prevent time-consuming false or invalid alerts. These improvements freed up valuable time to better support applications like SAS and SQL Virtualization.
- Start/stop scripts were created to use for data service systems which enabled departments to work more independently for patching activities.
- Further automation around application builds and deployments helped create more streamlined, repetitive processes.
- New processes were implemented to more efficiently handle additional access requests, which greatly reduced staff time for handling the requests. Access request work orders are being consolidated to be performed by a single employee (as opposed to several database administrators getting involved) which helped streamline the work through consolidation and standardization, and freed up the time of senior employees to better concentrate their efforts on more significant and higher-priority work, particularly around compliance tasks, providing support for production and project departments, and performing database maintenance to ensure optimum performance and capacity. Database space issues are being better monitored to reduce after-hours calls for these types of items. Prior to implementing a new monitoring process, the average monthly number of after-hours calls for database space issues was 27, which was reduced to average three calls subsequent to implementation.
- Programming improvements were implemented to ensure faster development of system enhancements and ease of knowledge transfer. This includes implementing standard frameworks that can be used as a base for future changes and programming patterns to allow for easier coding updates.

- The Enterprise Service Bus (ESB) application was replaced with a new solution and will provide improved functionality at a significantly lower cost (roughly \$360k/year lower).
- The Credit Management System (CMS) and Post-Operations Pre-Settlement (POPS) was migrated from vendor-owned application to an SPP in-house application, which allowed SPP to discontinue the external support agreements with the vendor, resulting in savings of up to \$500k/year.
- SQL Virtualization initiative has allowed SPP to defer (and potentially avoid) costs for upgrading the existing Netezza storage environment by migrating data to lower-cost platforms for older/archived data that is rarely accessed.
- The IT group has taken significant steps during 2016 to improve its processes to reduce security risks and ensure full compliance with CIP v.5:
 - New focus on Cybersecurity within IT, as well as Quality Control for managing compliance risks.
 - Extensive documentation of 100+ processes and procedures to ensure consistency of IT processes, as well as provide evidence to SERC/NERC for CIP compliance.
 - Baseline Management: This is a requirement of CIP V5 and requires SPP to maintain exact documentation/tracking of changes to SPP's CIP assets.
- Better alignment of maintenance agreements with useful life of products through multi-year and co-terminus agreements led to improved productivity (via reduction in repeated activities on an annual basis) and lower vendor costs via additional discounting.

Market Design:

- Improvements were implemented for the tariff revision request process, to reduce rework of tariff language, increase coordination for various working groups, and reduce staff and stakeholder time commitment for staff initiated revision requests. Market Design also had significant input for initiatives that resulted in reduced system changes, such as disqualifying fixed regulation offers from receiving regulation deployment adjustment charges.

Interregional Affairs:

- New seams-related planning and operations activities have been undertaken with the integration of the IS with no additional incremental headcount, such as a new Joint Operating Agreement with SaskPower and an agreement with Western-RMR pertaining to inadvertent energy accounting on the DC ties (negotiations about to be finalized).

Settlements:

- The settlements department restructured during 2016 to streamline operations by eliminating narrowly focused team divisions and instead making broader use of staff

expertise across the department. This initiative led to significant efficiency gains and elimination of one FTE position. The department also initiated re-prioritization efforts with stakeholders which resulted in deferral of certain market enhancements, thereby allowing staff to more effectively manage current workload and be able to devote more time for settlements system replacement project (which is expected to reduce settlement process inefficiencies by eliminating manual interventions and procedures).

Project Management Office:

- Through staff maturation and various process improvements (e.g. standardization and automation initiatives, repurposing of staff positions, increasing performance expectations for staff), PMO has been able to absorb incremental work (such as the new stakeholder prioritization process) and also transfer one FTE position to the Compliance Department where additional resources were needed due to the corporate-wide CIP effort. PMO has also taken steps to limit use of contractors to an exception basis only.

Corporate Services:

- Facility Services staff has matured and is able to operate and maintain various building systems independently, resulting in savings in third party services.
- AEP and SPP facilities, which are more economical than outside venues, are now being used more frequently in stakeholder meetings. The number of meetings at AEP and SPP in 2016 is 130, which is 20% more than 2013.
- Improvements were made in the area of benefits administration which have resulted in efficiencies and lower costs to SPP and staff:
 - A new benefits broker was engaged in 2016 with a lower fee structure and enhanced compliance services and data reporting.
 - SPP changed 401(k) platform provider in April 2016. This switch allowed staff to implement online services that created efficiencies by eliminating manual entry and paper enrollment forms.
 - The change in 401(k) platform provider resulted in reduction of administrative fees charged to plan participants and provided additional online services to staff, such as retirement planning.
 - SPP moved to a self-insured dental plan on January 1, 2016 which is expected to result in annual savings of up to \$100k compared to 2015 costs.
 - SPP changed the post-retirement healthcare benefit for employees eligible for this benefit to a Medicare option, funding through a Health Retirement Account. This change removed retirees from the SPP self-insured medical plan thus reducing the claims exposure from the SPP self-insured medical plan. This change provided better coverage to retirees at a savings to both retirees and SPP.
- Employee leaves of absence are now handled by a third party, which is more efficient and reduces liability exposure to SPP staff.

- The Human Resources Management System was updated to reduce manual entry and provide enhanced capability and efficiency, such as online submission of personal data by employees directly into the HR system which reduces/eliminates human error.

As a result of efficiencies gained in performance of existing tasks and activities, SPP staff was able to take on new tasks and projects with current resources, examples of which are provided below:

Operations:

- The operations department is experiencing and successfully managing significant growth in the below areas, which is being met by existing resources:
 - As a result of the addition of Integrated System, the operations department is now monitoring and coordinating many additional transmission lines, flowgates, generators, tie lines, etc. on a 24/7 basis.
 - There were significant increases in congestion management activities compared with prior years due to a number of factors such as the addition of IS, increase in wind resources, and new market-to-market requirements.
 - Gas-electric outreach activities have been growing requiring pipeline visits, coordinated communications, and new pipeline reports and maps. Gas-electric initiatives also requires staff to work through gas day changes and multi-configuration resource changes that will be implemented during 2016-2017. The number of generation resources continue to increase, resulting in increases in monitoring and communications activities by the Operations team. During the first ten months of 2016, the SPP region has had its generation fleet increase by an additional 22 resources totaling almost 3,000 MW. This net change includes 39 new resources and 17 retirements, both of which require modeling system changes and review of operations processes. These changes required additional monitoring and communications efforts equivalent to approximately 1 FTE which the existing team was able to absorb due to staff maturation and efficiency process improvements.
 - Growing complexity of SPP footprint requires more staff involvement in real-time and day-ahead basis to anticipate impact of all possible events, study all possible scenarios and coordinate all expected conditions, and to analyze events and outages to ensure reliability of the bulk electric system in real-time.
- The operations department increased the number of simulation and training exercises, including evacuation drills and load shed drills for each crew, to ensure better compliance with NERC standards and the tariff.
- NERC Standards are becoming more stringent and complex (such as in administration of system operation limits and CIP), demanding more time and effort from the Operations staff.

Engineering:

- Efficiencies and skill level improvements have allowed the modeling department to perform additional tasks such as:
 - Assisting in verifying the ITPNT Models against TAGIT data and identifying NTC issues using the NTC Checker tool developed by Modeling.
 - Perform modeling to support joint studies between SPP and outside organizations, which are being required more frequently. Five joint studies have been performed so far in 2016 whereas only one or two studies per year were being done until recently. These studies are between SPP and external entities including AECI, MISO, and SERC and are generally aimed at seams analysis and footprint expansion.
- SPP growing customer base requires additional time to work with and train the new customers on the use and requirements of the MOD tool and SPP's and NERC's modeling procedures and requirements, along with resolving model data issues. This additional focus has resulted in models that are more accurate and of higher quality.
- Additional studies performed outside of current tariff and NERC studies are as follows:
 - Minnesota Power Interconnection Study- studied the interconnection of an HVDC line into the SPP footprint
 - Out of cycle re-evaluations (11 projects ~ 1,000 hrs.)
 - Sidebar – 2016 ITPNT mitigation in the 2017 ITP10
 - Clean Power Plan analysis
 - MISO settlement distribution review
- TPL study process was incorporated into the 2017 ITPNT (in addition to the TPL-001-4 NERC studies performed by the compliance studies department)
- CIP-014 studies were performed at the request of some members.
- Increased volume in Generation Interconnection activity has led the last three GI Studies to be the largest ever conducted by the Engineering group.
- As a result of more efficient processes within the Economic Planning group, the following activities could be provided to benefit SPP's members:
 - Adding another future for the 2017 ITP10
 - Providing Solution 2A, which is a stakeholder-led effort to split cost estimates between likely competitive and non-competitive solutions to third party estimators and the transmission owners.
 - Increasing the quality of constraint assessment and DC to AC conversion.
 - Calculating benefit metrics for the 2017 ITP10 internally, which also reduced the cost of outside services.

Information Technology:

- Efficiencies and process improvements have enabled IT to absorb additional work, beyond normal functional defect/enhancement release support, with existing staff:
 - Evergreen Roadmap-based upgrades/updates: The evergreen roadmap is driven by IT Architectural standards to ensure SPP's software/applications are developed, implemented, and

upgraded to appropriate levels. This will ensure compatibility of software and the ability to stay current/compliant with security updates. This is an ongoing requirement that has received increased attention over the past year.

- Enhanced Combined Cycle project: A number of IT departments have been involved extensively in different facets of the project (e.g. significant amounts of time were invested in testing and implementing the software, installation of a large number of servers was required to support high performance requirements for the Market Clearing Engine).
- Build-out and support of a member facing ICCP (Inter-Control Center Communications Protocol) test environment: The ICCP ITE environment, which streamlines the member connectivity testing process and, most importantly, reduces risks to the production ICCP environment, was deployed at no additional cost to members and without additional staffing.
- Electronic Security Perimeter (ESP) separation: The IT department has been required to “separate” physical infrastructure and related software/applications to comply with the new CIP standards, which has required a significant amount of effort from existing resources.
- The new Line Rating Tool application was internally developed and will be supported by the IT department.
- ILTCR & Interim Allocation requirements for IS: In order to allow the IS entities to participate in the ILTCR auction upon joining SPP (in response to a FERC order), an interim long-term allocation capability was added to the Congestion Management software and process. This required software, data, and process updates which were implemented at no additional cost to members, without additional staff, and in conjunction with other TCR upgrades already in progress.
- Development and support of a new Schedule Data API (Application Program Interface): Schedule Data API provides near real time (OD+1) schedule data to customers wishing to analyze shadow settlement data earlier than OD+7. SPP developed this system in direct response to stakeholder requests voiced through the Stakeholder Prioritization Process, with no additional costs and without new headcount.
- Deployment and support of a 2nd EMS Training environment (Dispatch Training Simulator -DTS) to provide separate training environments for Customer Training and Operations.

- 2-Factor Application and Database Authentication: Allows for more secure access to SPP systems and database, reducing exposure to unwarranted access.
- PI Connector Enhancement: PI serves as both a situational awareness tool for SPP real time operators and engineers, as well as a data archive tool for operations data. The PI Connector Enhancement provided the capability to utilize archived operations data for historical data analysis and other non-real time purposes outside of the Electronic Security Perimeter (ESP), thereby reducing the need for ESP access for non-real time staff. This effort was completed without additional costs and headcount.
- ICCP Disaster Recovery (DR) Connectivity Requirement: Driven by a revision request, this project will result in redundant ICCP connectivity for all members by end of 2017. Redundant connectivity will position SPP and its members for greater resiliency in reliability coordination. SPP is undertaking this large effort in parallel to the enterprise-level effort to upgrade ICCP (2017-2018) without additional headcount.
- Stakeholder Prioritization Process development and implementation: New process implemented in 2016 that allows stakeholders to have input and prioritization of new functionality.
- Requirements around CIP v.5 resulted in additional workload some of which was absorbed by existing staff:
 - Several platforms and environments had to be “de-leveraged” to satisfy CIP requirements, which resulted in parallel but separate software and hardware infrastructure that need to be supported and maintained independently.
 - Significantly more complex change management and cyber vulnerability assessment processes
 - The scope of patching has dramatically increased, from the evaluation and testing perspective, to the timing, documentation and implementation across all software and hardware subject to CIP scope
- As a result of staff maturation and efficiencies, IT service desk has succeeded in becoming a central point of contact for both IT and facilities issues and absorbed transfer of responsibilities from

other areas of the company such as HR, coupled with increased scope (CIP, on/off boarding employees and contractors).

Customer Training:

- The customer training department has traditionally provided member training focused on reliability and market operations. However, the department was able to gain efficiencies in recent years due to staff maturation and now provides services and support in additional areas related to transmission, engineering, and settlements such as development of computer-based training on transmission settlements and a number of job aids (e.g. engineering wind and solar calculations job aid). The department has also been able to more actively get involved in industry organizations such as NATF and various committees at NERC to stay abreast of the developments in the electric industry.

Corporate Services:

- Within the human resources department, increase in work load due to numerous CIP-related changes and requirements (e.g. documentation, training) was absorbed by current staff.

X. SPP OPERATING PLAN DOCUMENT

The SPP Operating Plan is attached in its entirety as presented to the Finance Committee on Sept. 27, 2016.



SPP 2017 Operating Plan

September 27, 2016

Finance



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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 the services that SPP performs 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 that use members’ transmission systems. As a Regional Transmission Organization, SPP is mandated by the Federal Energy Regulatory Commission to ensure reliable supplies of power, adequate transmission infrastructure, and a competitive wholesale electricity marketplace. Regional Transmission Organizations

are like “air-traffic controllers” of the electric power grid. They do not own the power grid, but independently operate the grid minute-by-minute to ensure reliable delivery of power to end users. SPP also serves as a Regional Entity of the North American Electric Reliability Corporation.

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 the Federal Energy Regulatory Commission (“FERC”). All changes to the SPP regional tariff must be filed with, and approved by, the FERC prior to implementation. Failure by SPP to comply with the provisions of the tariff and/or any directive received from the FERC must be reported to the FERC and may be subject to penalties and fines.

Governing Documents

Open Access Transmission Tariff (“OATT”)

The SPP OATT delineates the majority of the required workload for SPP’s operations and engineering departments. Significant duties include, but are not limited to, the following:

- 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 each individual member and SPP. 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, the following:

- Act as the reliability coordinator for the bulk electric transmission system

- Develop regional reliability plans and emergency procedures
- Review and approve all planned maintenance of the bulk electric transmission system
- 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 of Directors. SPP has a responsibility to facilitate meetings of each and every organizational group. Currently, 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+)

Additionally, the Bylaws describe SPP's responsibilities as a Regional Entity. Duties associated with being the Regional Entity include, but are not limited to, the following:

- Investigate all reports or discoveries of non-compliance with ERO standards
- Perform reviews in conjunction with the Compliance Monitoring and Enforcement Program
- Recommend financial penalties and sanctions for non-compliance
- Administer the process for regional reliability standards

Protocols and Business Practices

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

Organization Structure

SPP operates via two distinct organizational structures. The first, which we'll refer to as the governance structure (Group Organizational Chart). It begins with the SPP 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. The output from this structure is generally directives on what work SPP is expected to accomplish.

The second organizational structure, which we'll refer to as the internal staff (SPP Organizational Chart), is the typical organizational chart illustrating 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.

Copies of the organizational structures can be found in Appendix A.

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 39¢/MWh¹. SPP is charging customers 37¢/MWh for service in 2016.

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 1 to 2 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 2016. SPP staff believes SPP will need to issue new notes in 2017 to fund capital expenditures.

Short-term liquidity is provided by managing SPP's cash float. SPP has an agreement, in principle, with a financial institution to put in place a \$30 million revolving credit facility to provide additional liquidity support. SPP is waiting on approval from the FERC in order to execute agreements with the financial institution.

2017 Expected Business Environment

Implementation of the EPA's Clean Power Plan ("CPP") was stayed earlier in 2016 by the U.S. Supreme Court with final legal determinations expected in mid-2017. If the CPP is ultimately upheld, it is expected to have significant impacts in the near term and well into the future. The CPP establishes the first-ever national standards to limit carbon pollution from power plants. The plan sets standards to reduce carbon dioxide emissions by 32% from 2005 levels by 2030. The current rule requires final compliance plans to be submitted by states in 2018 and measurement against 2005 CO₂ levels begins in 2022 and will increase to final compliance by 2030.

Several states within the SPP region have ceased efforts to develop compliance plans while the stay is in effect. A few state jurisdictions within SPP and across the nation are continuing to develop plans despite the CPP's stay. The current rule's uncertain legal status creates uncertainty regarding the timing and significance of future impacts to the industry's generation mix and transmission expansion needs.

Gas electric coordination continues to be a focus at the national level. SPP has filed in compliance and is in the implementation phase to comply with FERC's directive to align electricity markets with

¹ SPP's Board of Directors voted to increase the rate cap to 43¢/MWh at its July 2016 meeting. This change will require approval from the FERC prior to implementation.

natural gas markets. SPP will move its day-ahead market to close earlier in the day and shorten the solution time for posting results. This requires system changes and improved processing speed to reduce the solution time by 30 minutes. SPP's members are divided on the benefits of the approach SPP has filed to comply with the FERC directive.

Another major impact on SPP includes the cyber security threat landscape that is evolving to become more advanced, persistent and dynamic in nature. While the intent of the NERC CIP v6 standards is to address these issues, adherence to the standards alone is not sufficient. This will require SPP to continually assess and increase its cyber security capabilities and posture, by investing in the people, tools, processes and infrastructure required to adequately combat this threat. Cyber threats on utilities and energy companies are a growing threat with over 43% of companies in this space being attacked at least once each year according to a study published by Symantec.

There has been an almost 50% growth of electric cars sales in the United States year over year (source CleanTechnica, July 2015/July 2016). With the desire to reduce carbon emissions from automobiles, electric vehicle usage will begin to have a major impact on electricity sales and usage despite the current trend of flat or reduced demand. Electric vehicle usage in the SPP footprint will continue to grow and become part of the baseline electricity demand. Improved ranges and reduced costs to consumers will allow for greater penetration of electric vehicles in the central United States.

SPP expects continued growth in wind generation on our system. The region we serve is home to some of the highest on-shore wind potential in the Eastern Interconnection. By the end of 2016, we expect over 14 GW of wind generation installed in SPP. Nearly 8 GW of new wind generation is on schedule to be added by the end of 2018. In the 2016 GI cluster study windows, SPP received the two largest sets of GI requests ever and has another nearly 21 GW of new wind generation in our GI queue under various stages of study and/or development. New processes and/or study approaches will need to be developed in order to effectively study these large amounts of potential new generation, most of which are renewables. With this kind of growth in renewable resources, SPP will soon reach a point at which those resources will need to be delivered to other regions since we can no longer reliably utilize them for SPP's internal demand needs, even with additional transmission infrastructure.

The SPP region has seen limited growth in solar but has areas that are prime for development. Solar generation in the United States has been developed in the regions with the highest solar potential. Solar potential for SPP's region is just below the prime areas and we expect development in the near future. SPP's interconnection queue over the past year received nearly 3,000 MW of new solar generation requests. The prime solar areas are in regions with transmission and we expect a potential rapid development of solar. The expected growth in solar generation, coupled with over 14 GW of installed wind generation expected by year end 2016, will further task voltage stability in the footprint.

2016 will conclude a full year of operations with the Integrated System participating in SPP. SPP fully integrated the Integrated System in October of 2015. The Integrated System presented numerous new challenges for operations including managing a winter peaking system; significant hydro generation facilities, increased seams coordination; and a much larger geographic area to

monitor for reliability impacts. The addition of the Integrated System into SPP has also opened opportunities to expand SPP's services to affiliated entities in the western interconnect. There has been a real growth in the interest in the West for organized markets. Any future additions, either through membership or contracted services, will have a visible impact on SPP's operation. This is independent of whether SPP is the provider or it creates another complex seam to manage. There are studies underway to determine if more interactions would be beneficial across the East/West seam.

Consolidation, principally in the investor-owned utility space, is expected to occur in the SPP region in 2017. Empire Electric is being acquired by Algonquin Power & Utilities Corp in a transaction valued at \$1.49 billion. This transaction is expected to close in the first quarter of 2017. Westar Energy agreed to be acquired by Great Plains Energy in a deal valued at \$12.2 billion that is expected to close in the spring of 2017. Nationwide, utility consolidation has accelerated largely due to the increased cost of regulation, low or declining demand, and a lack of growth opportunities. Utilities are consolidating to create scale to address regulation in a cost effective manner and to unlock growth either through synergies or expansion into related utility operations.

Low electricity demand and low interest rates are creating economic pressure for utilities throughout the U.S. In the SPP region, these pressures are hitting while the cost of transmission is rising and is forecast to continue to rise due to new transmission and upgrade costs being included in the rate base. The allowed return on transmission investment is being impacted by overall low interest rates. Low return on capital investments, increased costs for transmission, and lower demand all adversely impact SPP members. SPP's services help offset these pressures by ensuring ratepayers receive cost effective and reliable electric services; with a benefits-to-cost ratio of more than 10 to 1, conservatively calculated.

Major 2017 Project Investments

Settlement System Replacement

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

Maintain an economical, optimized transmission system
Enhance member value and affordability

Investment and Timeline

The project initiated in 2016 and is expected to complete in 1Q'19. Significant milestones are projected as follows:

- 2016: Initial scope, issue request for quote, interview vendors, and finalize project approach
- 2017: Engage vendor, finalize design, and begin system construction
- 2018: System testing
- 2019: Implementation

Capital expenditures are forecast at \$5.1 million and will be incurred during 2017 and 2018. Internal SPP staff dedicated to the project are projected to cost \$3.2 million through project completion. SPP expects to add 3 incremental IT positions during the construction phase of the project. These positions will continue post implementation as SPP will support the system without an external support or maintenance agreement. Currently, SPP's engages external support for its settlements systems at a cost of \$1.4 million/year. SPP also expects to eliminate its usage of Oracle databases in the settlements system which will reduce Oracle expenditures by nearly \$3.0 million/year.

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 cost savings anticipated would not be realized.
- 2) Settlement system solution represents a paradigm shift in the Settlement and IT process including system approach and data base approach. Cost savings are dependent on a successful shift in data gathering and processing.

Phasor Measurement Unit Data Exchange and Analysis ("PMU")

The PMU Data Exchange and Analysis project will equip SPP with the capability to enhance both current operations and after-the-fact event analysis as well as system model validation efforts. Additionally, PMU data can assist in real-time situational awareness with measurement based dynamic voltage stability monitoring, detection of oscillatory modes, real-time tracking of phase angles to assess stress on the grid, identifying generator trips, island situations, and enhance State Estimator accuracy.

The initiative will progress in three distinct phases, as follows:

- Phase I (started in 2016) – Installation of systems to provide capability to send and receive and archive synchrophasor data, perform after the fact analysis, deploy real-time analytics engine for use in real-time operations as a non-critical informational tool in 2017. Setup Synchrophasor Strike Team to engage stakeholders, apply lessons learned, and develop business case for members. Support Department of Energy funded Open and Extensible Control and Analytics (openECA) Platform for Phasor Data project where SPP staff will deploy, test, and demonstrate the application being developed.
- Phase II (starting in 2018) – development of a member facing PMU portal to facilitate collaboration between SPP and members. Enhancing member's access to PMUs throughout the SPP footprint is expected to provide new and enhanced capabilities to all members.

- Phase III (starting in 2018) – Integrate PMU data collection and analytics into SPP’s secure data network for use with State Estimator and classifying PMU applications as a critical tool for real-time operations in 2019.

Benefits

The use of synchrophasor data in event analysis and real-time monitoring is expected to enhance SPP’s knowledge of the electric system stability which will result in improved system operations and planning. The initial phase is expected to help increase SPP’s situational awareness, assist in monitoring real-time voltage stability, track oscillations, and other key factors in calculating grid stress. The second phase is focused on increasing members’ situational awareness through the creation of a PMU portal enabling member access to PMU data throughout the SPP footprint. The third phase is focused on creating a highly available PMU system that is integrated with SPP’s energy management system allowing for additional operational uses that are expected to equip SPP with predictive capabilities to identify system disturbances before they occur and allow SPP and affected utilities to take action prior to an event occurring.

Strategic Plan Linkage

- Reliability assurance
 - Integration of variable energy resources
 - Event analysis

Investment and Timeline

The project consists of 3 phases; currently Phase I is in-flight:

- Phase I – capital expenditures of \$2.0 million (\$0.8 million spent in 2016), operating costs of \$2.0 million through 2019;
- Phase II – capital expenditure of \$0.3 million; operating cost of \$0.5 million through 2019;
- Phase III – capital expenditure of \$1.1 million, operating cost of \$1.4 million through 2019

Incremental staff additions associated with the PMU project are needed to support this new and complex technology across IT environments. This includes a senior engineer and a programmer/analyst in 2016, a programmer/analyst in 2017, a database administrator in 2018, and an additional programmer/analyst in 2019.

SPP would incur ongoing operating costs beyond 2018 which would be approximately \$0.7 million for Phase 1, \$0.2 million for Phase 2, and \$0.8 million for Phase 3 and would expect to incur capital costs to replace hardware and upgrade software every 3 to 5 years for all phases.

SPP believes its investment in PMU technology represents a fairly conservative approach. More ambitious approaches were evaluated but did not provide a compelling enough benefit to justify adoption.

Risks

While the use of PMU data in model validation and post-event analysis is generally considered a best practice the use of PMU data for real-time system monitoring is gaining traction but is not universally adopted. The systems utilized to analyze the data are in their infancy and may require several years to significantly improve system operation, design or monitoring.

There is a possibility that the investment in PMU capabilities may require a few years to yield long-term benefits. Additionally, a more robust solution will require SPP utilities as well as neighboring regions to share synchrophasor data with SPP. These utilities/systems may need to invest in communication infrastructure to be capable of transmitting the data.

Voltage Security Assessment Tool (“VSAT”)

The online VSAT tool will identify constraints on the transmission system that real time operators will be able to mitigate using current congestion management tools. The VSAT tool 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 Bulk Electric System.

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 wind generation and future investments in solar energy within SPP footprints, 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 Bulk Electric System. 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

Work on implementing VSAT will begin in 2017 and 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 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 energy management system on the Alstom (now GE) platform. Their implementations have been very straightforward. We anticipate a similar implementation at SPP since we are using a proven application and proven architecture. Internal resource constraints may impact the timeline for implementation but are not expected to be a factor.

Governance, Risk, and Compliance Tool (“GRC”)

A governance, risk, and compliance tool will: 1) assist in the identification of job tasks that have compliance or risk management obligations, 2) provide mapping and workflows to support performance of those obligations, and 3) assist staff in managing their responsibilities in a timely, effective, efficient manner.

Benefits

In order to manage the risk associated with non-compliance for regulatory and reliability standards, it is imperative that SPP staff be afforded an opportunity to properly assess all job tasks upon which there may reside a regulatory or compliance obligation. In addition, the current management of those obligations are primarily manual process, which inherently increases risk of human error, exacerbated when the compliance obligation overlaps several departments within SPP, as is often the case. SPP staff are asked to shoulder the burden of those compliance obligations, often without sufficient time or experience to have knowledge or awareness that the obligation exists. This limits their ability to properly manage the risk associated with that obligation and errors are bound to happen. The GRC tool typically provides a mechanism to properly identify and track those obligations, to identify and assess risk throughout the organization relative to those obligations, and to provide the documentation and systematic controls management that goes a long way in reducing the non-compliance risks.

With regards to quality and reliability enhancement, a GRC tool provides more robust coverage of the compliance obligations, and provides a hedge against the errors typically manifested with multiple, overlapping responsibilities in a complex regulatory environment. Efficiency will be positively impacted, as the manual processes and control activities are replaced with more robust, systematic means to identify and track risks across the organization.

Strategic Plan Linkage

- Reliability Assurance

Investment and Timeline

Full implementation of the GRC tool will take 12 months. Capital investment for purchase of software and hardware, and consulting is \$0.9 million, non-capital investment for SPP staff time is estimated at \$0.2 million. Ongoing maintenance expense is estimated at \$0.0 million/year.

Risks

Two significant unknowns exist that will impact the timeliness and budget for the project. Most significantly is understanding the scope of SPP’s compliance requirements. The existing compliance process is manual and spans most departments within SPP. Successful implementation will require thorough and accurate mapping and identification of all touchpoints in the process. Full understanding of the scope of compliance may impact the robustness of the GRC tool that is selected.

Deferred or Declined Projects

There are many project proposals SPP considers when determining its plan for the upcoming year. Numerous of these projects are not approved to begin work during the year due to i) a lack of staff resources to accomplish the work; ii) lack of funding to pay for the project; or iii) the project lacks sufficient detail to warrant moving forward at this time.

Appendix B summarizes all of the projects reviewed by SPP for the 2017 fiscal year.

2017 Major Technology Investments

SPP's ability to provide the vast majority of its services is contingent on employing 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 1,700 physical and virtual servers across multiple environments interconnected by a high availability network. Significant investments are made annually to not only maintain the existing capabilities of the technology infrastructure but to also enhance the structure 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 2017 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*)
- Incremental licenses for server security
- Incremental licenses for deployment and availability of virtualized hosts
- Additional licenses to support various corporate applications (i.e. Outlook, Enhanced File Transfer and CyberArk password safes)

Technology/Server Refresh

The Systems Administration team manages approximately 450 physical servers, along with roughly 1400 virtual servers. Generally speaking, it is the policy of IT 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 101 physical servers (dedicated and virtualized) that are targeted for replacement during 2017 at a total expected replacement cost of \$2.6 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 characteristics of the stored data. Across all storage platforms and technologies currently in place at SPP, total capacity is 1.5 petabytes. SPP's need for additional storage grows annually based on years of Integrated Marketplace data that must be retained as well as due to additional entrants to SPP's transmission and market services. SPP expects to increase total storage capacity by 20% in 2017 to comply with its data storage requirements.

Network/Telecom

As part of a three-year upgrade project that began in 2015, SPP will continue an overhaul to the core network infrastructure that includes 40 gigabyte capacity for core switch modules, firewall modules, cabinet switch technology, and data-center cabling infrastructure. This project, which encompasses over 350 routers/switches/firewalls, will alleviate existing network performance bottlenecks and well-position SPP to absorb additional data traffic/processing anticipated in upcoming years. Spending on this initiative is expected to top \$1.7 million in 2017.

Other network systems slated for upgrades or enhancements in 2017 include Voice-over-IP (VoIP), Firewall Management, Load Balancing, and Wireless Lan technologies.

IT Architecture

SPP maintains an architectural roadmap to guide its evaluation of and evolution to emerging technologies. The 2017 initiatives aligning with the architectural roadmap include the following:

- Data-Lake and Big Data infrastructure foundation
- Data security
- Mobile and Cloud-based Infrastructure

Data-Lake and Big Data

SPP business owners and stakeholders require access to many years of historical data to perform data analysis, data mining, and analytics. As a result, the amount of stored data continues to increase. SPP's growth has resulted in much of this data being stored in traditional high performance databases and appliance. These environments are costly, and require significant dollars to add incremental capacity or upgrade/replace the hardware.

The vision is to create a Data-Lake infrastructure that can store vast amounts of historical data using cost-economical storage and compute capacity, which can grow incrementally as needed. The vision includes providing traditional tools to allow SQL access to the data to enable data validation, data analysis, data mining, and analytics capabilities. During 2016, SPP began a project known as "SQL Virtualization", which is the 1st phase of the Data-Lake project. The SQL Virtualization project is estimated to offload approximately 60 terabytes of data from production high performance appliances by the end of 2016, thereby improving the high performance appliance performance and longevity while still providing SQL access to the offloaded data through traditional database tools.

Data Security

As more and more data is offloaded from the historical data stores into the Data-Lake/SQL Virtualization infrastructure, data security becomes very important. The goal is to provide role based security access controls and logging capabilities to meet SPP's auditable controls requirements.

Mobile and Cloud

Mobile applications are rapidly replacing browser based applications. A mobile authentication infrastructure is critical to enable SPP teams to build mobile applications in the future in a cost-effective, secure, and consistent manner.

Automation is a key initiative within IT to facilitate productivity, consistency, and a reduced need for incremental headcount while maintaining ongoing growth in infrastructure. Cloud-based infrastructure enables automation through automated provisioning, patching, and better management of the infrastructure along with show-back reports and capacity planning.

Cyber Security

SPP management has identified the risk of a cyber intrusion or hack as the risk having the highest probability of occurrence and highest impact when it does occur. SPP added additional approved staff in 2016 to provide greater focus on not just prevention of the cyber event but addressing the event once it is known. A new process being rolled out in early 2017 is application whitelisting. As opposed to an approach that attempts to identify and block all malicious files and activity, application whitelisting will only permit known, secure programs. Essentially, whitelisting flips the traditional antivirus model from a "default allow" to a "default deny" for all executable files, resulting in a considerably more effective solution.

Keeping The Lights On

Reliability is job #1 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 organization 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 Department Investment and Resources						
	Salary & Benefits	Travel	Services	Other	CapEx	Approved Staff
2017	\$ 21.3	\$ 0.3	\$ 0.3	\$ 0.1	\$ 8.7	158
2016	\$ 20.5	\$ 0.3	\$ 0.2	\$ 0.1	\$ 6.4	160

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, 7 days 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, maintain the models for the state estimator and the commercial modeling tools, training, and balancing authority operations. Additionally, staff from this group work with numerous stakeholder groups including; MOPC, Business Practices WG, Balancing Authority Operating Committee, Generation WG, Operating Reliability WG, and Operations Training WG. Finally, staff represents SPP and its members at numerous NERC working groups.

2017 Priorities

Wind Study – Continue efforts of evaluating the impact of increased wind integration and solar integration to the reliability and efficiency of the SPP footprint and timely identify areas of concerns that need to be addressed through expanded technical requirements for the control systems of those resources or other requirements enforced through market protocols, tariff or SPP Criteria.

Enhance operator tools – Improve the types of information utilized by the operations staff in monitoring system stability and voltage status.

Enhance operations' capabilities - Continue efforts of gathering PMU data from SPP members, filtering out abnormalities and make results available to real-time operations.

Market to Market – Continue efforts to work with MISO to improve the utilization of Market to Market and make Market to Market settlements more reflective of the efficiencies gained by both markets.

Strategic Plan Linkage

- Reliability Assurance
- Optimize Interdependent Systems

- Reliability Assurance

- Reliability Assurance

- Optimize Interdependent Systems

Gas Coordination – participate in advancing solution to extend a gas pipeline as an alternative to construction of new generation to eliminate electric system contingency.

- Optimize Interdependent Systems

Engineering

Engineering Department Investment and Resources						
	Salary & Benefits	Travel	Services	Other	CapEx	Approved Staff
2017	\$ 10.1	\$ 0.3	\$ 1.8	\$ 0.6	\$ 0.5	80
2016	\$ 8.9	\$ 0.3	\$ 2.5	\$ 0.5	\$ 0.6	80

Principal duties of SPP’s engineering department include planning SPP’s transmission system necessary 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 Regional Entity. The predominance of these duties are required by SPP’s OATT and business practices, the Membership Agreement, NERC Reliability Standards, and SPP Criteria.

2017 Priorities

Increased Compliance – Continue efforts to meet new compliance requirements resulting from changes to MOD-033 standards and improve existing compliance processes and assurance

Planning Studies – Perform required transmission planning studies that will include completion of the 2017 ITPNT assessment, initiation of the 2018 ITPNT assessment, and a coordinated study with ERCOT as requested by the Texas PUC to evaluate Lubbock Power’s desired transition into ERCOT. The 2018 ITPNT assessment will include new efforts to leverage SPP’s planning process for improved ability to comply with NERC TPL standards

Customer Initiated Service Studies – Perform GI, TSR, and congestion hedging studies per customer requests. SPP received the two largest sets of GI requests during its 2016 cluster study window; similar volumes are expected in 2017. New approaches need to be developed to effectively study this volume of potential new generation (primarily renewables).

Strategic Plan Linkage

- Reliability Assurance
- Reliability Assurance
- Maintain Economical, Optimized Transmission System
- Reliability Assurance

Capacity Margin Refinement – Implement new data collection and evaluation processes necessary to support the LRE, reserve margin assurance, and deliverability policies that were approved in 2016. Support the newly formed Supply Adequacy WG which is expected to discuss additional refinements.

- Reliability Assurance
- Enhance Member Value

Transmission Planning Improvements – Develop detailed processes, business practices, and tariff language needed to implement the TPITF-recommended and Board of Director approved transmission planning improvements.

- Reliability Assurance
- Maintain Economical, Optimized Transmission System

Eastern Interconnection WECC Study – Provide technical review and research guidance to facilitate completion of a DOE-funded study evaluating opportunities to increase electricity transfers between the eastern and western interconnections.

- Maintain Economical, Optimized Transmission System
- Optimize Interdependent Systems

Export Pricing – Support the Export Pricing Task Force; provide technical analysis of available transfer capability and the economic viability of the transfer capability between SPP and its neighbors. This effort will provide insights into pricing necessary to recoup transmission expansion costs as well as revenues benefitting the SPP region.

- Maintain Economical, Optimized Transmission System

Next Generation of Z2 – Support the development of improvements or replacement of current Z2 crediting process.

- Enhance Member Value

Efficiency Improvements – Develop and implement automation of toolsets.

- Enhance Member Value

Staff Development – Implement programs for growth and retention of key employees to reduce the need for contracting key skillsets and mitigate the risk and cost of transitional staff and loss of knowledge and expertise from the organization.

- Enhance Member Value

Information Technology

Information Technology Department Investment and Resources						
	Salary & Benefits	Travel	Services	Other	CapEx	Approved Staff
2017	\$ 19.8	\$ 0.1	\$ 4.0	\$ 25.7	\$ 11.6	156
2016	\$ 17.9	\$ 0.1	\$ 3.9	\$ 18.5	\$ 10.4	154

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 (IT-Enterprise Operations, IT-Applications, IT-Sourcing Strategy, IT-Quality Control, and IT-Cyber Security), along with a Chief Architect.

The IT-Enterprise Operations department provides 24x7-support for all communications and networking systems, and all computer hardware and environmental needs for the SPP 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 IT-Sourcing Strategy team has responsibility for managing the IT budget and facilitating/negotiating business activities with major IT vendors. The team works closely with the other IT departments to incorporate an appropriate short and long-term budget and acquisition philosophy, which incorporates vendor leveraging/relationships, asset lifecycles, and adequate maintenance coverage.

The IT-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 IT-Cyber Security team was enhanced and consolidated in 2016 to ensure SPP is complying with all requirements of the FERC approved NERC Cyber Security Standards. Additionally, the team proactively evaluates and employs best practices to ensure SPP's overall IT security is at optimal levels. The team works closely with IT and SPP's Compliance departments to ensure security measures are adopted, implemented and followed according to SPP policies.

2017 Priorities

Automation – Areas of opportunity include patch management, CIP documentation and compliance activities, virtual server provisioning, and other internal testing and integration processes.

Strategic Plan Linkage

- Enhance Member Value

Reduce 3rd Party consultant engagements – increased and aligned skills of internal staff to become more self-sufficient in supporting SPP’s infrastructure and applications, as well as better positioned to assume support for enterprise projects (e.g., Z2 and Settlements replacement). Going forward, the team will continue to focus on maximizing existing resources in an effort to minimize costly external vendor augmentation

- Reliability Assurance
- Enhanced Member Value

CIP compliance and cyber-security focus - focus on refinement of CIP and cyber processes and seek opportunities to increase efficiency with ongoing tasks, documentation requirements, and procedures.

- Reliability Assurance
- Enhance Member Value

IT compute and data infrastructure – evaluate various server/compute architectures, including consolidated/converged platforms and cloud computing (internal and external). Balance data-storage requirements with lower cost platforms, and continue pursuit of a big data architecture to manage and provide large quantities of data for analytics.

- Enhance Member Value

Cost Management – substantiate the accuracy and validity of SPP’s asset inventory (hardware and software), including a focus on software licenses and maintenance agreements. This will allow for prudent and non-duplicate software purchases, as well as compliancy with software usage in accordance with vendor software agreements.

- Enhance Member Value

Corporate

Corporate Department Investment and Resources						
	Salary & Benefits	Travel	Services	Other	CapEx	Approved Staff
2017	\$ 32.4	\$ 0.6	\$ 6.8	\$ 5.6	\$ 1.1	136
2016	\$ 30.0	\$ 0.8	\$ 6.9	\$ 5.7	\$ 2.8	135

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

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

Additionally, 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.

2017 Priorities

Membership expansion – expect clear indications of some new member consideration in late 2016 or early 2017; continue discussions with other prospects

Settlements – Settlements is the #2 identified risk (medium probability/high impact) for SPP. Efforts include complete replacement of existing systems, analysis of upstream data feeds to ensure consistent format, efforts to eliminate one-off settlement processes (i.e. uniform settlement processes)

Government affairs - Increase interactions with legislators, policymakers and agencies at both the state and federal level to develop relationships and further their understanding of SPP and the role of RTOs. This is particularly important in light of congress considering changes to the Federal Power Act as well as recent activities by the Environmental Protection Agency and Commodity Futures Trading Commission.

NERC Compliance – Strengthen SPP’s culture of compliance in response to several issues identified recently. Efforts include allocation of additional resources for corporate wide compliance as well as compliance efforts areas susceptible to compliance failures.

Strategic Plan Linkage

- Optimize Interdependent Systems
- Enhance Member Value
- None
- Reliability Assurance

Process Integrity

		Process Integrity Department Investment and Resources					
	<u>Salary & Benefits</u>	<u>Travel</u>	<u>Services</u>	<u>Other</u>	<u>CapEx</u>	<u>Approved Staff</u>	
2017	\$ 7.3	\$ 0.3	\$ 0.3	\$ 0.1	\$ 0.5	52	
2016	\$ 7.3	\$ 0.2	\$ 0.8	\$ 0.1	\$ 0.2	52	

Primary responsibilities within 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 within this group work closely with the SPP Oversight Committee.

2017 Priorities

Compliance – Continue to strengthen SPP’s overall compliance posture, both in Operations/Planning and

Strategic Plan Linkage

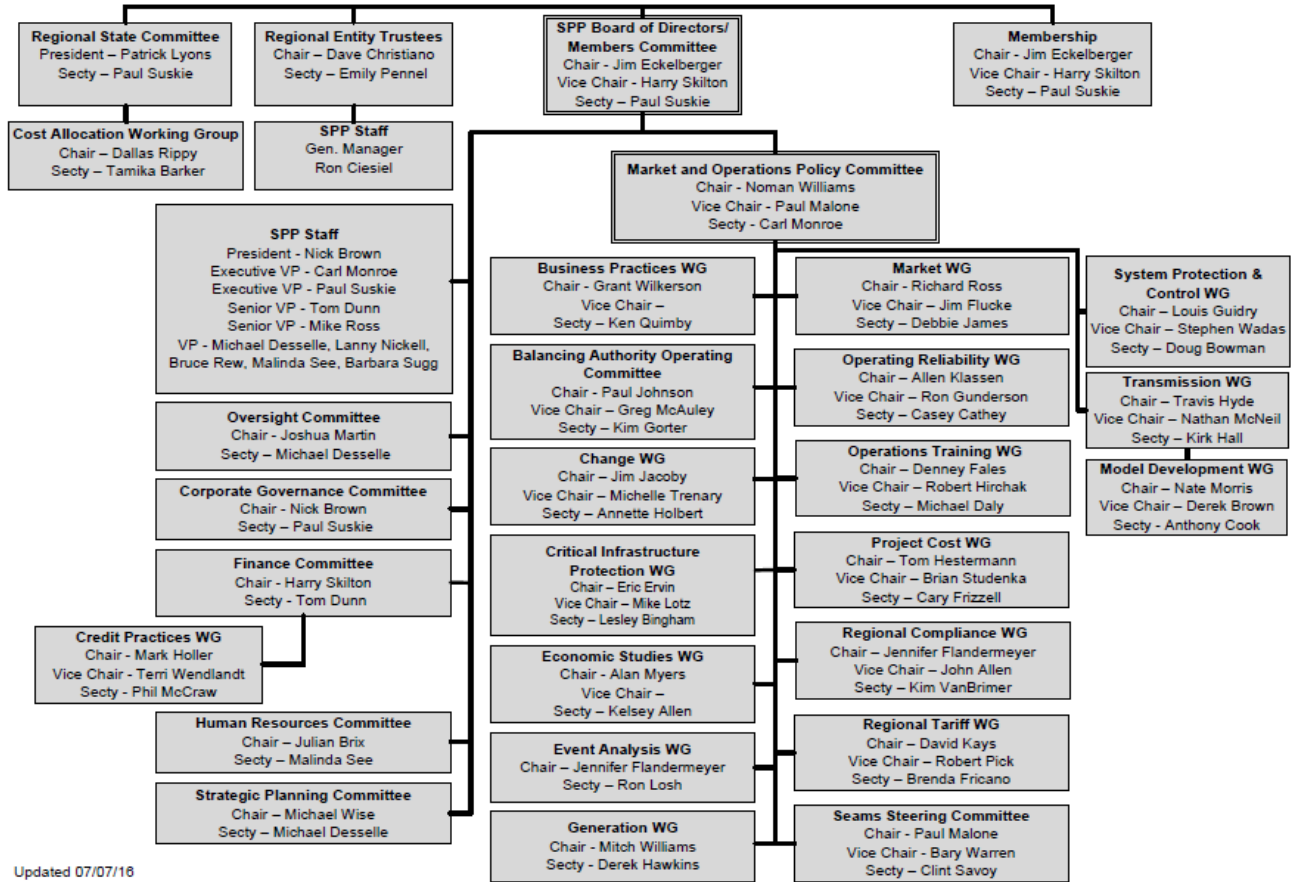
- Reliability Assurance

- cybersecurity, while ensuring an active role in development and implementation of future standards. Continue to provide support to ensure audits without unmitigated exceptions or qualifications • Enhance Member Value
- Stakeholder Project Prioritization – Mature the stakeholder process that prioritizes the project work SPP undertakes • Enhance Member Value
- Distributed Process Improvement – Mature the distributed process that empowers the Business Units and their respective staff to engage in process improvement development and implementation • Enhance Member Value
- Stakeholder Engagement – Continue to assist stakeholders in onboarding, training, problem resolution and engagement • Enhance Member Value

Appendix A

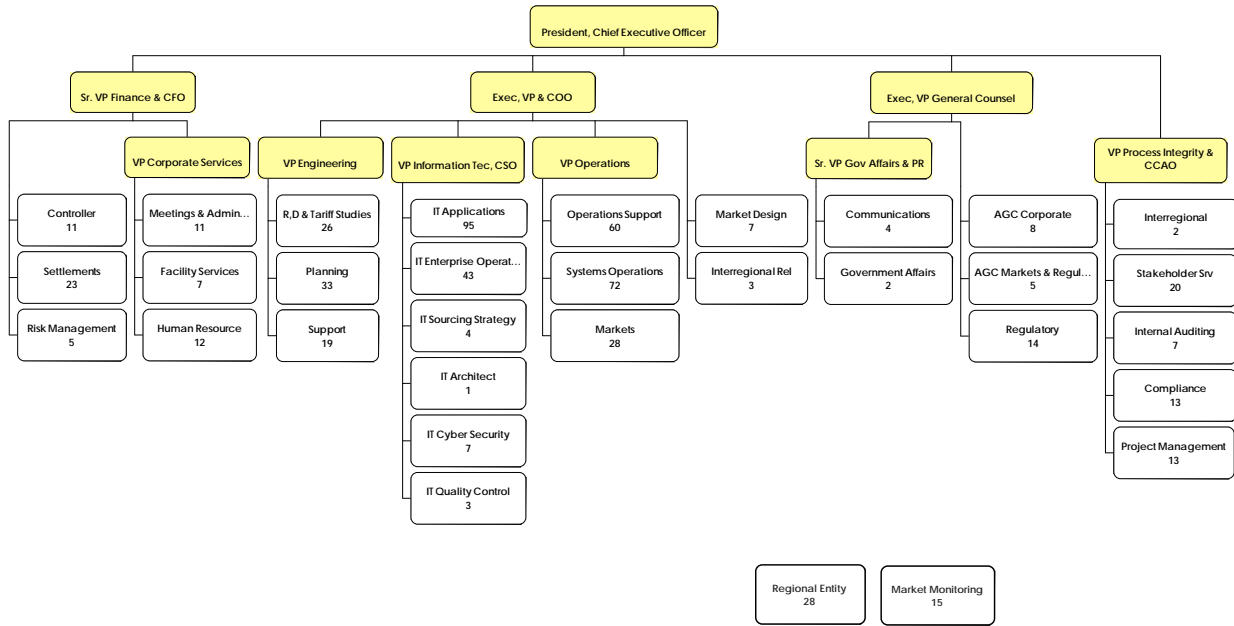


Group Organizational Chart



Updated 07/07/16

SPP Organizational Chart - September 8, 2016
Officers with detailed headcount
Full Headcount 611



Appendix B

2017 Projects	Capital	Investment	Operating	Total	Project Source	Owner	Strategic Plan Linkage
	2017	Total	Expense	Investment			
APPROVED							
Settlement Systems Replacement Project	2.1	5.1	0.0	5.1	Staff	Staff	
GRC Tool	1.0	1.0	0.4	1.4	Staff	Staff	Reliability Assurance
Online VSAT	0.8	1.5	0.2	1.7	Staff	Staff	Reliability Assurance
PMU Data Exchange - Phase 1	0.7	2.0	0.1	2.1	Staff	Staff	Reliability Assurance
Enhanced Combined Cycle - Gas Day	0.6	7.0	-	7.0	FERC/MOPC	GECTF/MWG	Enhance & Optimize Interdependent Systems
Engineering Hub	0.4	0.6	-	0.6	Staff	Staff	
Identity and Access Management System	0.4	0.7	-	0.7	IT Mandatory	Staff	Reliability Assurance
TTSE Dispatcher Training Simulator - DTS Upgrade	0.4	3.6	0.2	3.8	Staff	Staff	Reliability Assurance
EMS, CMT, and Markets Software & OS Upgrades	0.2	0.2	0.0	0.2	IT Mandatory	Staff	Reliability Assurance
Enhanced Public Data (2019)	0.0	0.1	0.0	0.1	Staff	Staff	Enhance and Optimize Interdependent Systems
Shadow Allocation Calculator	0.1	0.1	0.0	0.1	Staff	Staff	Enhance and Optimize Interdependent Systems
ZZ Crediting P2 and P3	0.1	0.5	-	0.5	FERC	Staff	Economical, Optimized Transmission System; Enhance Member Value and Affordability
Circuit Redesign	0.0	0.1	0.0	0.1	Staff	Staff	Enhance Member Value and Affordability
ICCP Software & OS Upgrade	0.1	0.1	0.0	0.1	IT Mandatory	Staff	Reliability Assurance
Interface Pricing	0.1	0.1	0.0	0.1	Mandatory	Staff	Enhance and Optimize Interdependent Systems
Liferay Portal Replacement	0.0	0.1	-	0.1	Staff	Staff	Enhance Member Value and Affordability
ZZ Crediting P1	-	1.8	-	1.8	FERC	Staff	Economical, Optimized Transmission System; Enhance Member Value and Affordability
Day Ahead FFE Data Exchange	-	0.3	0.1	0.4	FERC	Staff	Enhance and Optimize Interdependent Systems
2-Factor Authentication (Part 2 of 2 - SW Dev)	-	0.2	-	0.2	Staff	Staff	Reliability Assurance, Optimize Interdependent Systems
TOTAL	7.0	25.2	1.0	26.2			
DEFERRED/DELAYED							
PMU Data Exchange - Phase 3	-	1.1	0.1	1.2	Staff	Staff	Reliability Assurance
PMU Data Exchange - Phase 2	-	0.3	0.0	0.0	Staff	Staff	Reliability Assurance
Reliability Communications Tool	-	1.0	0.0	1.0	Staff	Staff	Reliability Assurance; Enhance and Optimize Interdependent Systems
Online TSAT	-	0.6	0.1	0.7	Staff	Staff	Reliability Assurance
Freeze Date Replacement Allocation Calculator	-	0.3	0.1	0.4	CMPWG	Staff	
Coordinated Transaction Scheduling (2017)	0.4	0.4	-	0.4	Staff	Staff	Enhance and Optimize Interdependent Systems



Southwest Power Pool, Inc.
FINANCE COMMITTEE
Recommendation to the Board of Directors
December 6, 2016

2017 Budget

Organizational Roster

The following persons are members of the Finance Committee:

Harry Skilton	Director
Larry Altenbaumer	Director
Mike Wise	Golden Spread Electric Coop
Sandra Bennett	American Electric Power
Kelly Harrison	Westar Energy
Laura Kapustka	Lincoln Electric

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 2017 budget to include expenditures as follows:

	<u>\$millions</u>
Total Expenses	\$196.6
Debt Repayment	\$23.2
FERC Assessments	\$18.6
Capital Expenditures	\$19.5

SPP management utilized an incremental approach to prepare the 2017 budget.

Management documented an Operating Plan for 2017 outlining the significant initiatives and plans for the company during 2017. This Operating Plan was presented to the Finance Committee, Strategic Planning Committee, and SPP Board of Directors to seek input and consensus. SPP's 2017 budget was developed to accomplish the plan.

Recommendation

The Finance Committee recommends the SPP Board of Directors approve the 2017 SPP operating and capital budgets as submitted.

Approved: Finance Committee November 10, 2016

Action Requested: Approve Recommendation



Southwest Power Pool, Inc.
FINANCE COMMITTEE
Recommendation to the Board of Directors
December 6, 2016

2017 Administrative and Assessment Fee Rate

Organizational Roster

The following persons are members of the Finance Committee:

Harry Skilton	Director
Larry Altenbaumer	Director
Mike Wise	Golden Spread Electric Coop
Sandra Bennett	American Electric Power
Kelly Harrison	Westar Energy
Laura Kapustka	Lincoln Electric

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 2017 SPP operating budget indicates a net revenue requirement ("NRR") for the year of \$160.5 million (inclusive of expected under-recovery of \$5.9 million in 2016) and estimated billing determinants of 383,000,000 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 September 2016, SPP has realized year-over-year reduction in average monthly peaks of 2.1%, though peaks through the summer months were generally higher than those experienced in 2015.

Recommendation

The Finance Committee recommends the SPP Board of Directors establish an assessment rate and tariff administrative fee (schedule 1-A) of 41.9¢/MWh beginning on January 1, 2017.

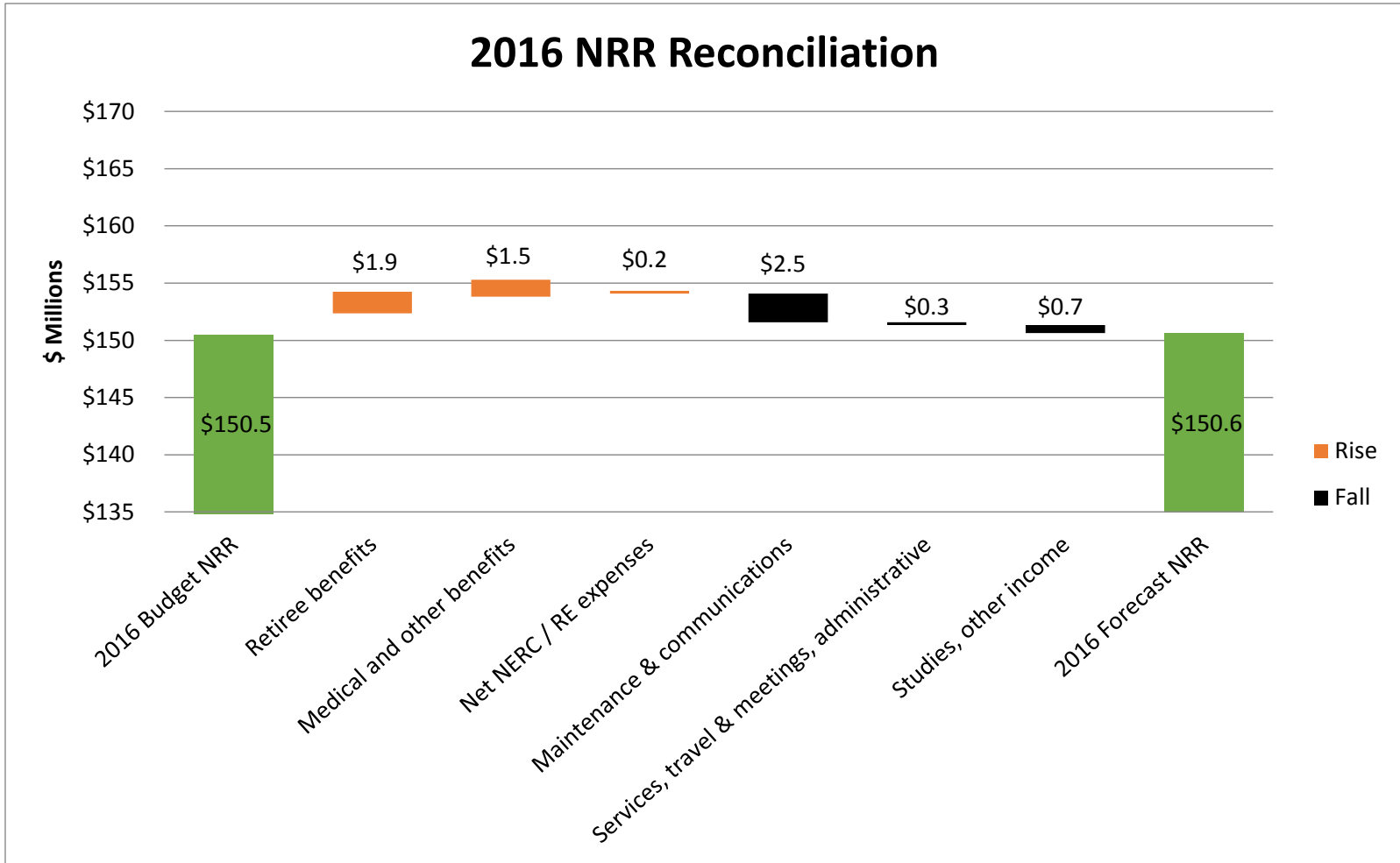
Approved: Finance Committee November 10, 2016

Action Requested: Approve Recommendation



2017 Budget Review

2016 NRR Reconciliation

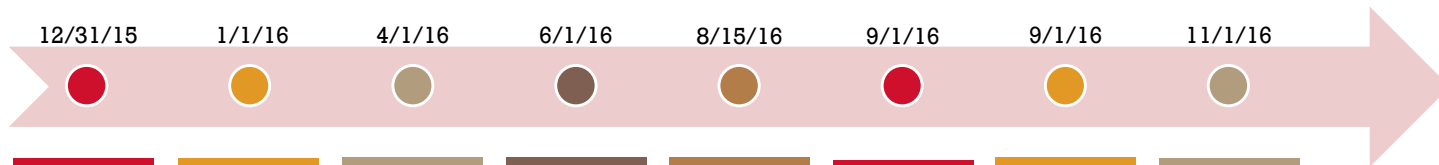
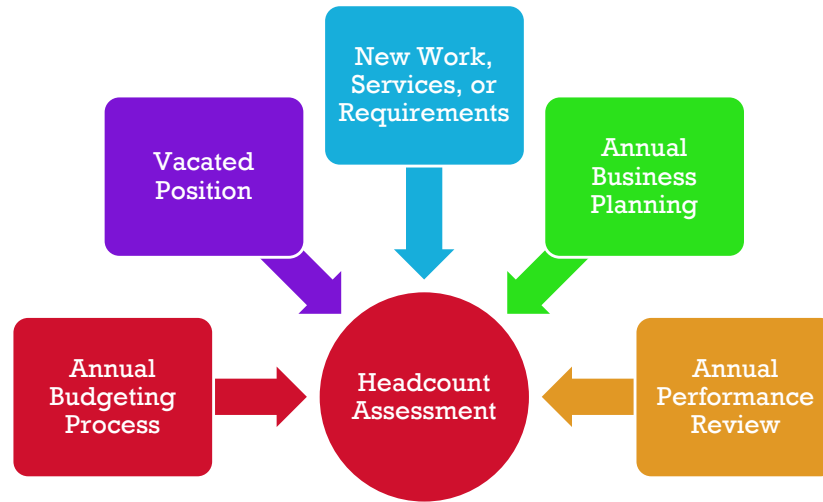


Salaries and Benefits

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
2011 Budget - Headcount	598	621						
2012 Budget - Headcount	590	613	620					
2013 Budget - Headcount		603	618	622				
2014 Budget - Headcount			598	603	605			
2015 Budget - Headcount				598	598	596		
2016 Budget - Headcount					599	598	599	
2017 Budget - Headcount						610	616	617
<i>Approved Headcount</i>	<i>580</i>	<i>596</i>	<i>594</i>	<i>596</i>	<i>609</i>			
Beginning Headcount	540	580	596	594	596	609	610	616
Incremental budgeted positions	50	23	2	4	3	1	6	1
Positions eliminated/added out-of budget	(10)	(7)	(4)	(2)	10			
Ending Headcount	580	596	594	596	609	610	616	617
Net change in headcount	40	16	(2)	2	13	1	6	1
Average month-end headcount	540	569	570	571	569			

Positions eliminated/added out-of budget:	<u>ICT:</u>	RE 1	Eng 3	IT 1	Inc for
	Eng 7	Eng 3	Sttl 1	Reg 1	CIP +10
	Ops 2	Sttl 2	HR 1	RE 2	
	IT 2	MMU 1	RE 1	Inc in	
	Inc in		Inc in	Comm	
	HR +1		IT +2	+2	

Salaries and Benefits



Headcount

	12/31/15	1/1/16	4/1/16	6/1/16	8/15/16	9/1/16	9/1/16	11/1/16
Headcount	596	602	613	611	624	619	617	610
	2015 end of year headcount	Requested 6 incremental FTE's, committed to repurpose 3 positions (Net +3)	Added 10 Cyber Security positions and 1 PR position; repurposed 3 existing positions (Net + 9)	Eliminated 1 Operations position; Eliminated 1 Settlements position; 2 Remaining eliminations Total s/b 609	Request to add 15 FTE for 2017 (609+15)	Repurposed 5 positions for 2017 headcount (3 - P.I. 2 - I.T.)	Plan to eliminate 2 additional positions (1 - Ops 1 - TBD)	Removed 7 positions from 2017 Headcount Request (4 - I.T. 1- Eng. 1 - P.I. 1- Ops 1- Ops)



75

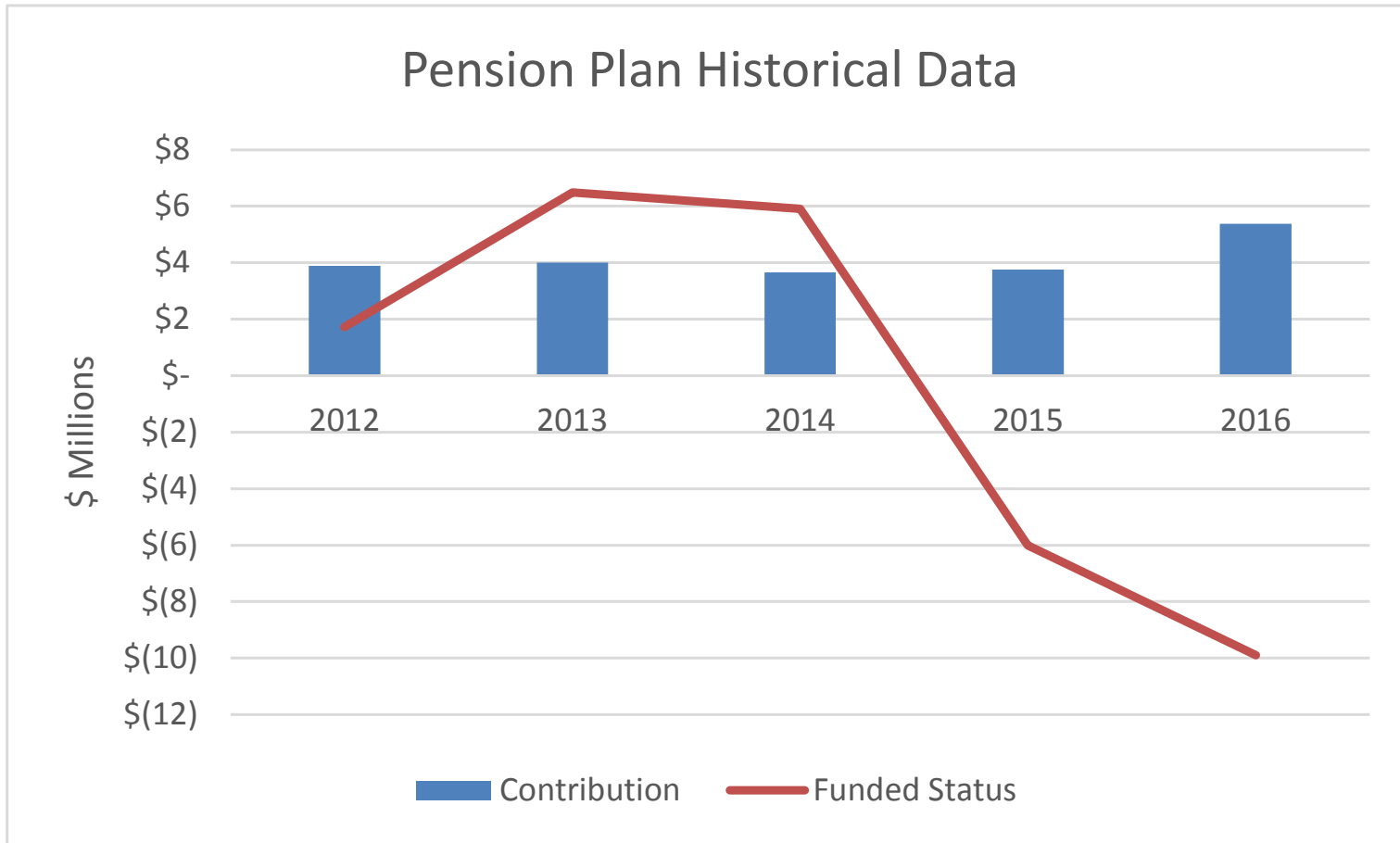
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Salaries and Benefits

Where are the post-Integrated Market staffing reductions?

- Increased modeling, congestion management, outage coordination, market-2-market research, etc. associated with Integrated System addition, variable generation additions, and new transmission.
- Increased tariff required studies for generation interconnection, ITP
- Out of tariff studies for CIP-014, MISO settlement, CPP
- Build out of member facing ICCP environment
- Numerous architecture challenges within IT to ensure compliance with changing CIP standards
- Developed and support schedule data API which is used by customers for near real time shadow settlements
- Implemented and facilitate new stakeholder prioritization process

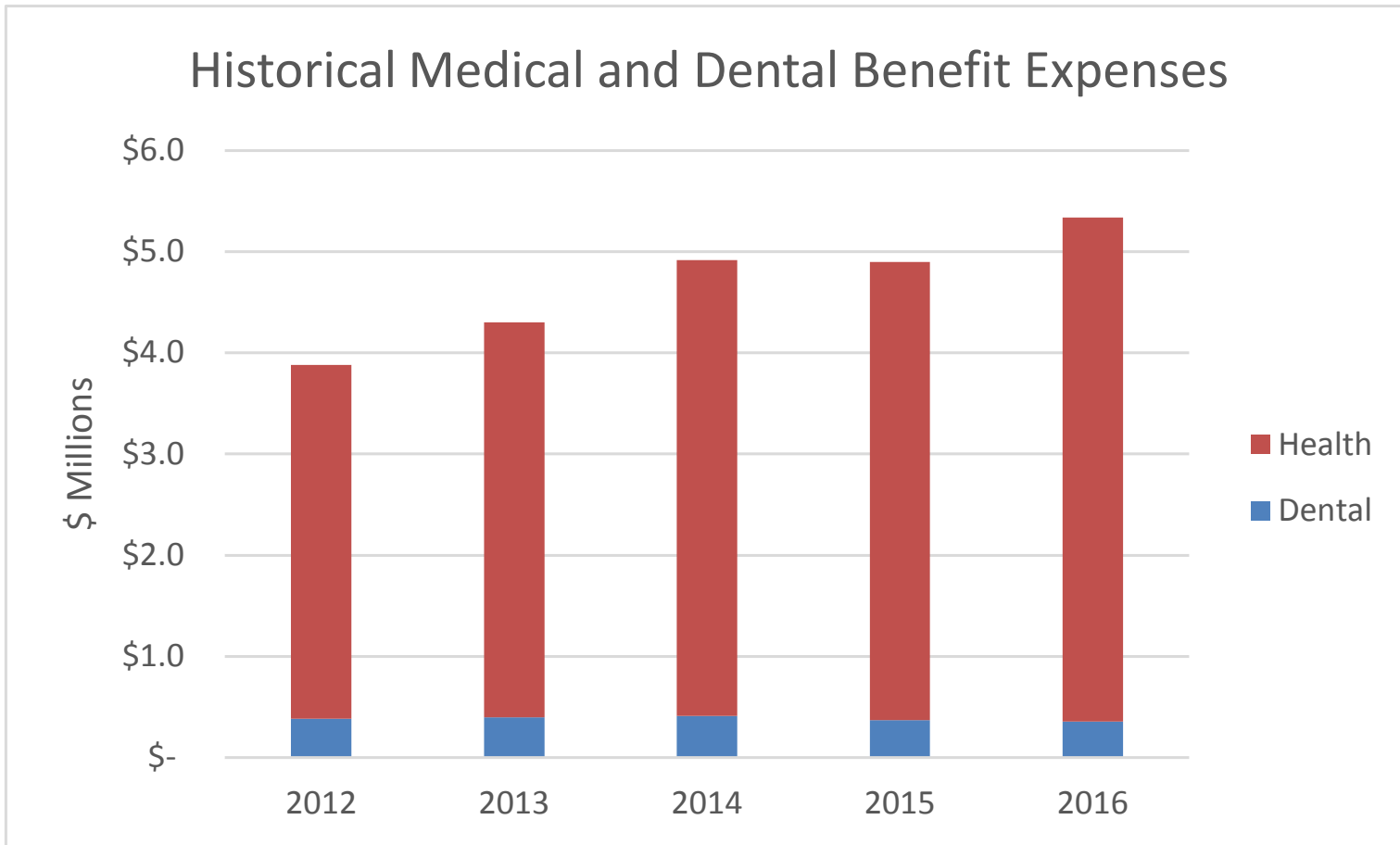
Salaries and Benefits



Pension contributions increased and funded status decreased following change in mortality and discount rate assumptions

PBGC funding increased significantly based on funded status change

Salaries and Benefits



Medical rate increases impacting 2016 expenses

Moved to self-funded dental in 2016

CapEx - Projects

PROJECT NAME *	EXPECTED COSTS				ROI%**	DRIVERS				
	2016	2017	2018	2019		COST	RISK	EFFICIY	NEEDS	OTHER
Settlement System		\$5.1MM + \$1.9MM Int			15.48%	X				
Training Simulator		\$3.6MM + \$0.5MM Int			NA				X	
PMU		\$3.4MM + \$1MM Int			NA					X
Voltage Stability Analysis Tool		\$1.5MM + \$0.5MM Int			NA				X	
Gov., Risk and Comp.Tool		\$1MM + \$0.1MM Int			-6.45%			X		
Reliability Communications Tool			\$1MM + \$0.4MM Int		NA				X	
Engineering HUB		\$0.8MM + \$0.2MM Int			12.04%				X	
Identity and Access Mgmt Tool		\$0.7MM + \$0.2MM Int			1.18%			X		
Transient Security Assessment Tool			\$0.6MM + \$0.5MM Int		NA				X	

* Does not include projects with insignificant carryover (i.e substantially completed in 2016)

** Projects with and ROI of "NA" did not have any quantifiable benefits presented in the business case

Outside Services

DESCRIPTION OF SERVICES	2016	2017	Inc / (Dec)
	Forecast	Budget	
Staff Augmentation			
Legal	\$2.8	\$2.1	(\$0.7)
Information Technology	0.6	0.5	(0.1)
Market Monitoring	0.2	0.3	0.0
Process Integrity (Compliance, PMO)	0.5	0.0	(0.5)
Total Staff Augmentation	\$4.2	\$2.8	(\$1.3)
Information Technology & Operations			
Transmission service (Ops) - OATI service fees	1.4	1.5	0.1
Reliability (Ops) Wind forecasting and studies	0.8	0.8	0.0
Reliability (Ops) IDC Tool (Interchange Distribution Calculator)	0.6	0.6	0.1
Cyber Security	0.3	0.3	(0.0)
Misc. IT services (cabling, storage, asset disposal)	0.5	0.6	0.1
Total Information Technology & Operations	\$3.5	\$3.8	\$0.2
Other			
Planning (Eng studies and R&D, FERC Order 1000, RSC, RCAR)	3.6	3.2	(0.3)
Board of Directors fees and expenses	1.1	1.2	0.0
Regional Entity (trustees and consulting)	1.1	1.2	0.2
Corporate services, campus and employee services	1.0	1.2	0.1
Audits, special engagements (SSAE 16/other audits)	0.5	0.5	0.0
Communications and training	0.1	0.1	(0.1)
Other	0.7	0.5	(0.2)
Total Outside Services	\$15.8	\$14.5	(\$1.3)

Engagements are primarily

- augmentation of engineering staff to perform studies;
- industry expert panel to advise BOD on Order 1000 projects; and
- regional state committee reimbursements

Planning (Eng studies and R&D, FERC Order 1000, RSC, RCAR)

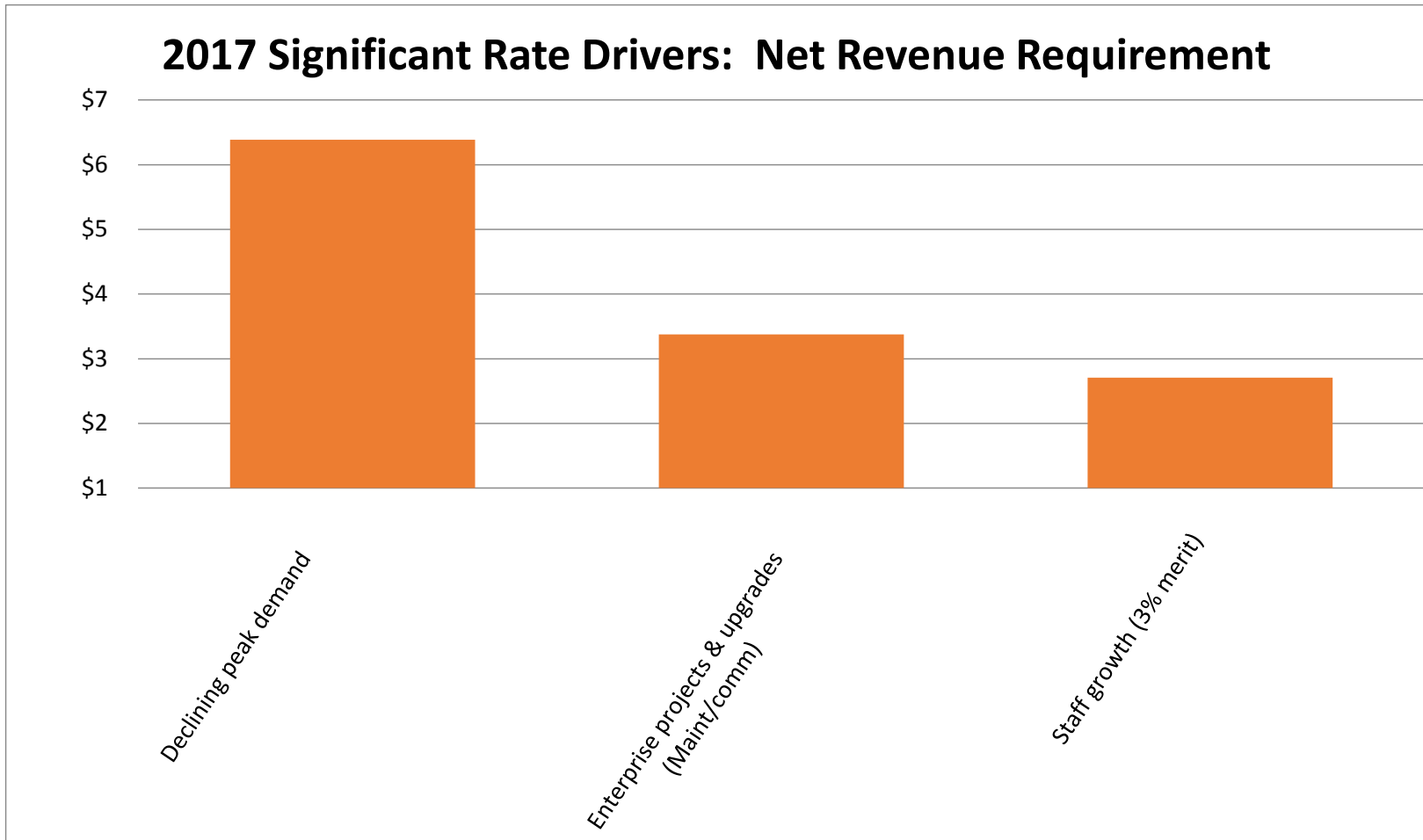
Engineering Studies (partially offset by revenues)
FERC Order 1000 (partially offset by revenues)
Engineering R&D
Regional State Committee (RSC)
Regional Cost Allocation Review (RCAR)
Total Planning Outside Services

	2016	2017	
	Forecast	Budget	Inc / (Dec)
Engineering Studies (partially offset by revenues)	\$1.9	\$1.5	(\$0.4)
FERC Order 1000 (partially offset by revenues)	0.7	1.3	0.6
Engineering R&D	0.1	0.2	0.1
Regional State Committee (RSC)	0.2	0.3	0.0
Regional Cost Allocation Review (RCAR)	0.5	0.0	(0.5)
Total Planning Outside Services	\$3.6	\$3.2	(\$0.3)

FERC/NERC Required

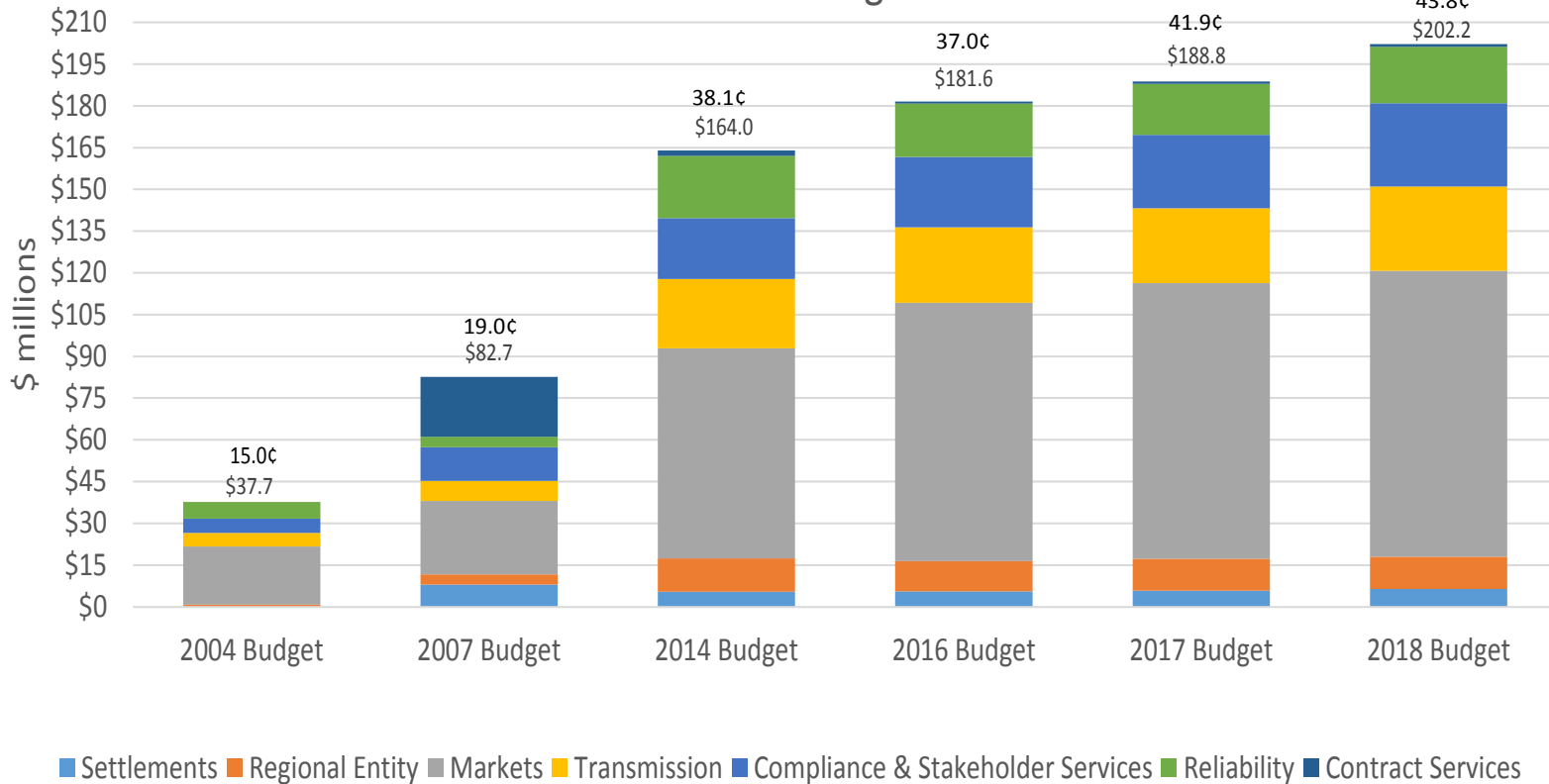
<u>2017 NERC / FERC Required Expense (NRR)</u>	<u>2017 Budget</u>
Operations	\$21.9
Regional reliability coordination	
Tariff administration	
Transmission service	
Real-time and day-ahead market operations	
Model maintenance for state estimator and commercial modeling tools	
Training and balancing authority operations	
Engineering	12.8
Planning SPP's transmission system	
Tracking progress and costs of transmission projects	
Performing long-term studies for generation interconnection, transmission service, and transmission congestion rights	
Settlements	2.9
Market Monitoring	2.7
Information Technology (90%)	41.1
Development, deployment, integration and support of operational and support systems infrastructure	
Risk mitigation and compliance with FERC approved NERC Cyber Security Standards	
Debt payments and capital reserve (90%)	24.6
NERC / FERC Required Expense	\$106.1
Other Expenses	54.4
Net Revenue Requirement	\$160.5

2017 Rate Drivers



SPP Budget Evolution

SPP Budget Evolution at a Glance
GRR & Admin Fee Budget Activities



Budget Changes From Oct 25

NRR October 25, 2016	\$ 160.4		
Add Pension Funding	\$ 0.3	actuary estimate	
PBGC Premium	\$ 0.3	actuary estimate	
Less: 2016 Under-recovery	\$ (0.5)	lower maint, lower staff aug	
NRR November 10, 2016	\$ 160.5		

- Requested actuary perform preliminary estimate of 2017 pension funding and expense, as well as estimate of PBGC premium.
 - 2016 return on assets of 5%
 - Updated to 2017 IRS mortality
- 0% return increases funding by \$0.5MM, PBGC increases by \$0.09MM

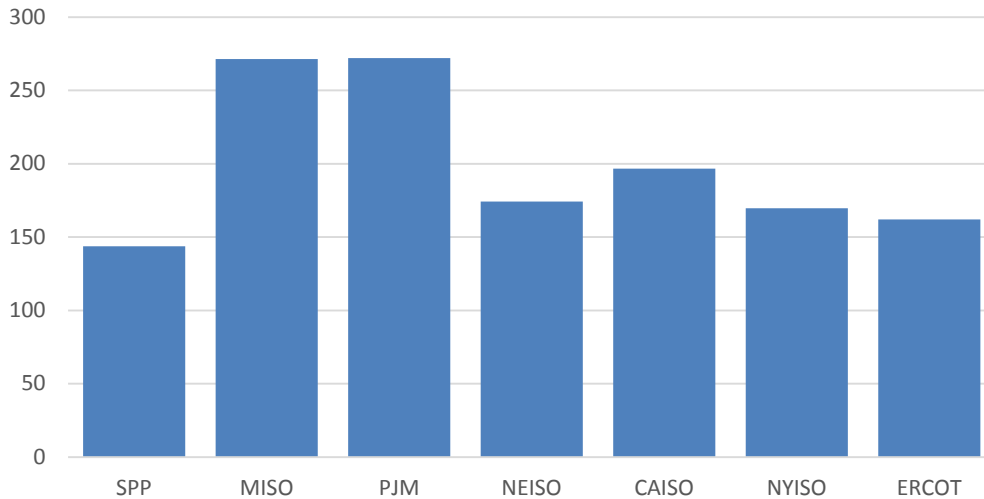
Load Forecast

<u>2016</u>	<u>NCP</u>	<u>YTD trend</u>	<u>Flat'15</u>	<u>1% Inc</u>	<u>2% Inc</u>	<u>3% Inc</u>	<u>14% Inc</u>
January	38,345	38,345	38,345	38,345	38,345	38,345	38,345
February	36,197	36,197	36,197	36,197	36,197	36,197	36,197
March	33,054	33,054	33,054	33,054	33,054	33,054	33,054
April	32,775	32,775	32,775	32,775	32,775	32,775	32,775
May	37,007	37,007	37,007	37,007	37,007	37,007	37,007
June	48,856	48,856	48,856	48,856	48,856	48,856	48,856
July	51,063	51,063	51,063	51,063	51,063	51,063	51,063
August	50,910	50,910	50,910	50,910	50,910	50,910	50,910
September	44,899	44,899	44,899	44,899	44,899	44,899	44,899
October		35,665	36,423	36,788	37,152	37,516	41,523
November		32,435	33,125	33,456	33,787	34,118	37,762
December		35,000	35,744	36,102	36,459	36,816	40,748
Average		39,684	39,867	39,954	40,042	40,130	41,095
NITS Estimated Billing Units (GWh)		348	349	350	351	352	360
Other Billing Units (GWh)		34	34	34	34	34	34
Total 2017 Billing Units (GWh)		382	384	384	385	386	394

- September peak down 4% from prior year
- Require 14% growth in peak demand each month in 4Q'16 to maintain billing units equal to 2016 billing units

RTO Comparisons

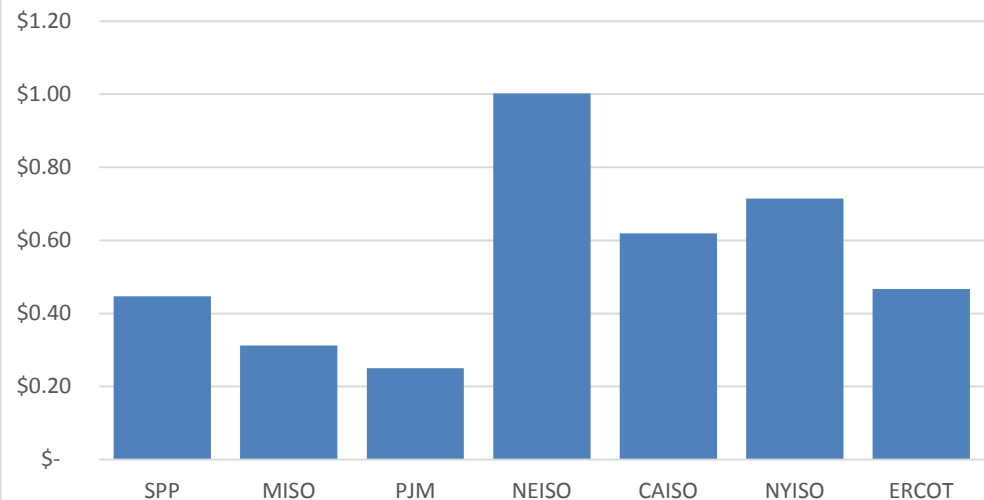
Administrative Revenue (\$million)



- SPP 2015 NRR lowest of peers
- Only 1 RTO has had a lower NRR over the last 5 years

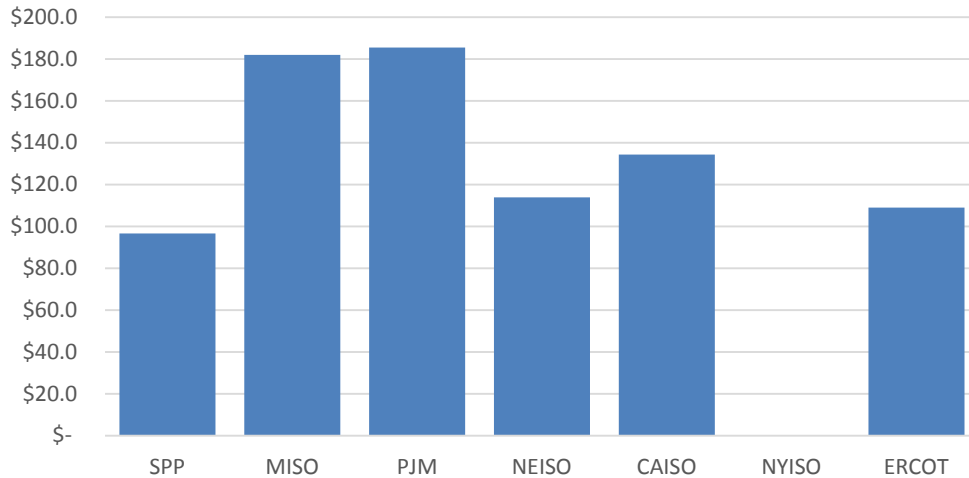
- Other than ERCOT, peers experiencing flat to declining average monthly transmission peaks

NRR / Load (\$/MWh)



RTO Comparisons

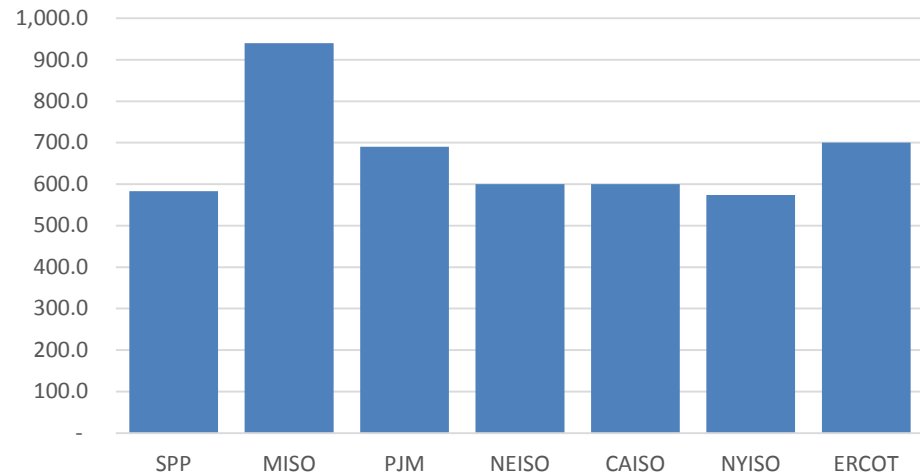
Salaries, Benefits, and Services Expenses (\$million)



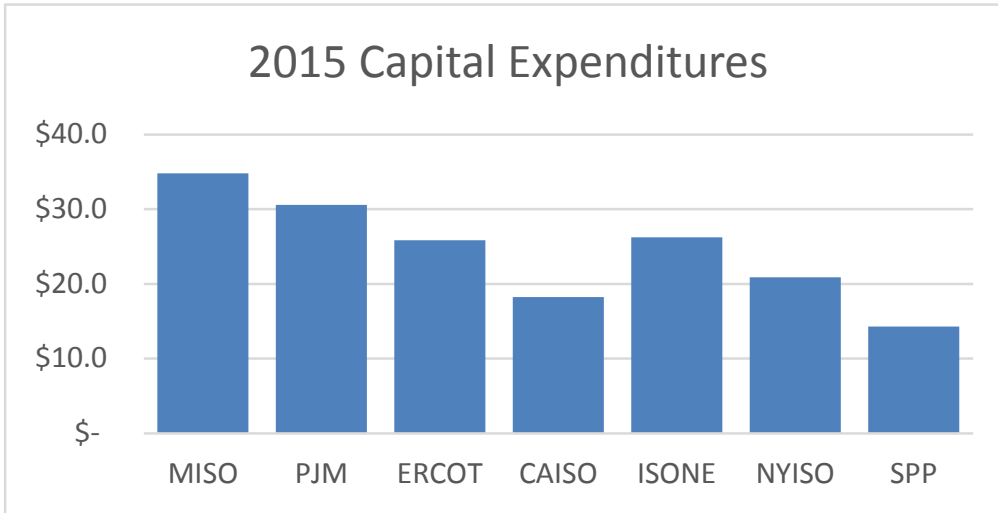
- NYISO 2015 data not publicly available
- SPP has lowest spend on personnel and services of peer group

- SPP staffing excludes RE staff
- Most staffing levels are approximately the same

Approved 2016 Staffing Levels



RTO Comparisons



- Lowest average CapEx spend is \$31MM over past 5 years
- Only SPP, ERCOT, CAISO have had CapEx of less than \$20MM in any of past five years

ISO/RTO Historical Capital Expenditures (\$million)

	MISO	PJM	ERCOT	CAISO	ISONE	NYISO	SPP
2010	\$ 32.0	\$ 59.0	\$ 102.5	\$ 125.2	\$ 23.0	\$ 26.1	\$ 21.7
2011	\$ 77.5	\$ 55.3	\$ 35.9	\$ 30.4	\$ 25.2	\$ 33.7	\$ 79.4
2012	\$ 42.9	\$ 24.7	\$ 16.2	\$ 22.0	\$ 27.0	\$ 40.2	\$ 78.3
2013	\$ 34.1	\$ 35.5	\$ 15.0	\$ 15.7	\$ 51.8	\$ 45.6	\$ 49.8
2014	\$ 46.5	\$ 31.1	\$ 23.9	\$ 26.0	\$ 33.5	\$ 24.6	\$ 23.6
2015	\$ 34.8	\$ 30.6	\$ 25.8	\$ 18.2	\$ 26.3	\$ 20.9	\$ 14.3
Average	\$ 44.6	\$ 39.4	\$ 36.6	\$ 39.6	\$ 31.1	\$ 31.8	\$ 44.5

\$4MM Reduction in Spending

Reduction Opportunity		Why Implementation Not Recommended
Reduce On-site Security	\$ 200	Security is highest corporate risk
Eliminate Wind Study	\$ 250	Lower understanding of system stability
Eliminate Member Routers	\$ 100	Ensure replacement and compatability
Reduce BOD	\$ 250	BOD succession planning and work allocation
Meetings In Little Rock	\$ 364	Potential for lower engagement
Reduce Liability Insurance	\$ 317	Current limits requested by BOD
Reduce Consultants	\$ 200	Results in deferred work in IT
Defer CapEx Spend	\$ 781	Defer PMU, DTS, GRC, Market Enhancements
Eliminate Community Involvement	\$ 147	Valuable corporate exposure
Reduce Ad Hoc Engineering Work	\$ 700	Often member or regionally requested
Reduce Maintenance	\$ 520	Risk of downtime, security breaches
	<u>\$ 3,829</u>	