SOUTHWEST POWER POOL, INC.
FINANCE COMMITTEE

RECOMMENDATION TO THE BOARD OF DIRECTORS
October 26, 2021
2022 Budget

ORGANIZATIONAL ROSTER

The following persons are members of the Finance Committee:

Susan Certoma,	Chair
Julian Brix,	Director
Darcy Ortiz,	Director
Emily Koenig,	Lincoln Electric
Mike Wise,	Golden Spread
Sarah Stafford,	OG&E
Sandra Bennett,	AEP
Al Tamimi,	Sunflower
Matt Pawlowski,	NextEra

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 2022 budget to include expenditures as follows:

	$millions
Total Expenses	$222.4
Net Revenue Requirement	$176.3
Debt Repayment	$31.0
FERC Assessments	$27.2
Capital Expenditures	$18.1
2020 Over/(Under) Recovery	($0.6)

SPP management utilized an incremental approach to prepare the 2022 budget.

Management documented an Operating Plan for 2022 outlining the significant initiatives and plans for the company during 2022. This Operating Plan was presented to the Finance Committee, Strategic Planning Committee, and SPP Board of Directors to seek input and consensus. SPP's 2022 budget was developed to accomplish the plan.

RECOMMENDATION

The Finance Committee recommends the SPP Board of Directors approve the 2022 SPP operating and capital budgets as submitted.

Approved:	Finance Committee	**October 14, 2021**
	Vote Count: **Unanimous**	
Action Requested:	Approve Recommendation	

SPP Southwest Power Pool

2022 BUDGET

PREPARED BY ACCOUNTING DEPARTMENT

TABLE OF CONTENTS

I. 2022 BUDGET EXECUTIVE SUMMARY

SPP continues to deliver exceptional value for customers operating under the SPP regional tariff by providing high quality tariff services at the lowest operating costs within the industry. SPP's conservatively calculated benefits to cost ratio remains at 14 to 1, meaning for every $1 SPP spends on its operations, the region receives $14 in benefits.

SPP's 2022 Operating Plan describes the work SPP expects to perform in 2022 and was approved by the SPP Board of Directors in July 2021. The 2022 budget outlines the financial resources necessary to accomplish that work. The 2022 gross revenue requirement of approximately $192.2 million represents a $11.0 million increase over the 2021 forecast. The additional investment will result in enhanced security around cyber systems, strategic improvements to IT architecture, more timely completion of grid planning services, as well as provide necessary resources to address corporate initiatives such as winter weather event improvements, SCRIPT implementation and the PROMOD upgrade.

The capital expenditures pipeline contains several value-added projects expected to complete in 2022. Foremost among these are the ramping product, fast-start resource product and the addition of market services for storage resources. Each of these projects are expected to ensure ongoing reliability and lower cost energy for the SPP region. More detail on these and other capital expenditures may be located in section V.

SPP plans to secure new funding in late 2021 with interest-only payments through 2026 which allows debt service for 2022 to remain relatively consistent with 2021. Debt service is expected to remain flat through 2024 and begin gradually decreasing beginning in 2025. Favorable interest rates allow the cost of any new borrowings to remain low and very economical. Debt service is discussed more fully in section VI.

SPP's 2022 net revenue requirement represents a 5.2% increase over the 2021 forecast (prior to adjustments for prior-year over/under recoveries). The increase in NRR reflects inflationary pricing for labor, consultants, software maintenance and the like, offset by an increase in anticipated revenues from engineering studies (both pass-thru consulting and staff time).

II. BUDGET SUMMARY

BACKGROUND

The SPP 2022 Operating Plan was used as a guide for development of the budget, with the strategic plan serving as the foundation for the Operating Plan.

SPP's officers met in June 2021 to review corporate and departmental objectives included in the 2022 Operating Plan and 2022-2024 budget. SPP utilized an incremental-based budget approach at the department level for operating expenses.

Operating expenses represent the largest component of SPP's NRR and consist of budgeted costs for ongoing operation. Budgets for departmental operating expenses were reviewed and approved by their respective directors and executives. Explanations for significant changes from the 2021 forecast were required. The consolidated data was provided to the executive team for final review and approval. The Resource Utilization section of this document discusses material changes from the 2021 forecast in detail.

Capital expenditures are investments in long-term assets required by SPP to meet its strategic goals and operational requirements. These capital expenditures represent costs incurred to enhance or expand current systems and services and/or to maintain existing capabilities. SPP views and tracks capital expenditures in two categories: foundation and capital projects. The foundation budget captures hardware and software to support SPP's business applications. This includes upgrades and replacements of SPP's aged hardware infrastructure and expenditures for new enterprise technologies driven by security requirements, application and architectural enhancements and legacy growth. Capital projects are generally specific initiatives to expand or meaningfully enhance SPP's product and service offerings.

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

The combined efforts of identifying required operating expenses and planning for capital projects and associated funding resulted in the recommended NRR of $176.3 million.

Major assumptions used to create the 2022 budget include, but are not limited to, the following.

Compensation expense is the largest component of the operating budget. SPP began increasing staffing levels in 2019 to accommodate both western expansion and engineering efforts to better manage generator interconnector (GI) studies. SPP diligently manages staffing levels by constantly reviewing open positions to identify efficiencies in existing staff and manage incremental headcount needs via attrition.

The SPP Human Resources Committee meets annually to determine funding required to maintain company compensation levels at the 50th percentile of a predetermined peer group. This budget assumes merit and promotion funding of 3.0 percent and 0.75 percent, respectively.

Outside services: SPP engages outside resources for professional services, staff augmentation and run-time services for areas outside SPP's normal business capabilities. Outside services costs also include software-as-a-service (SaaS) subscriptions. Growth in outside services is largely attributed to work on generator interconnection studies (which is billed to study participants and offset by income with no impact to NRR), additional consulting for various new engineering initiatives and increased legal counsel associated with the zonal placement process, Z2 and the February 2021 winter weather event that is anticipated to continue throughout 2022 and possibly beyond.

OPERATING PLAN

SPP's 2022 Operating Plan considers the changing business environment along with the many opportunities and challenges affecting SPP such as cybersecurity risks, a changing generation mix, electrification impacts, regulatory changes and SPP's expansion into the West.

The SPP board of directors approved the finance committee's recommendation to adopt the 2022 Operating Plan as the foundation for the 2022 operating and capital budgets at their July 2021 meeting. The 2022 Operating Plan is the culmination of months of work by SPP staff to document the operating environment and activities SPP anticipates for 2022. The plan identifies several corporate objectives in 2022 along with departmental objectives and specific project efforts.

Significant among the corporate objectives is a renewed focus on the advancement of SPP's diversity, equity and inclusion (DEI) strategy. SPP executives approved the charter of the DEI council who will provide oversight, guidance and leadership in the implementation and maintenance of SPP's DEI initiatives. Other corporate objectives include various other new and continued projects to improve performance and enhance member value and affordability such as, but not limited to, the PROMOD upgrade, winter weather event improvements, Regional

Cost Allocation Review (RCAR) III study, SCRIPT implementation and various Holistic Integrated Tariff Team (HITT) recommendations.

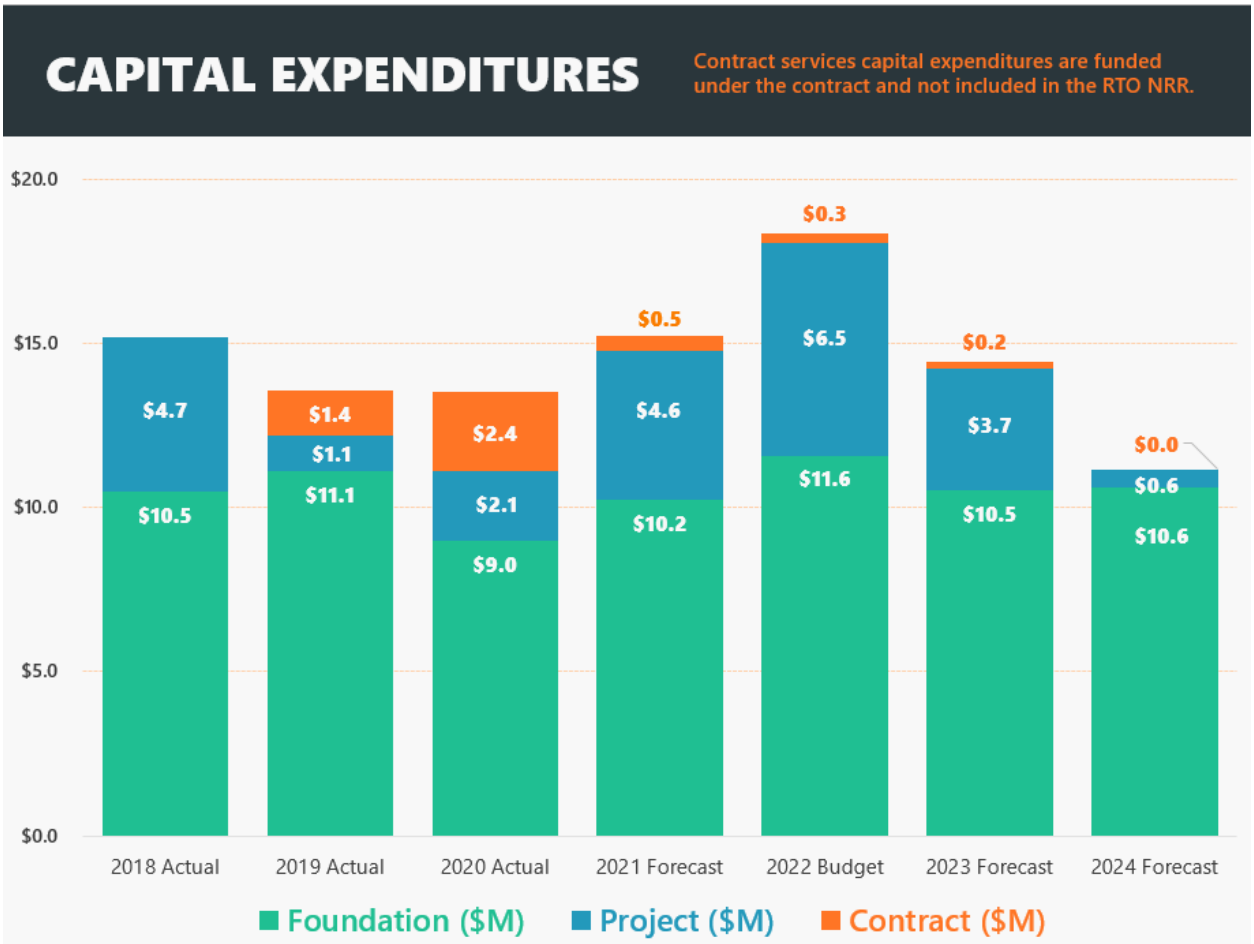
The 2022 Operating Plan documents various projects addressing both operational needs and efficiency efforts. Nine projects have been added to the work pipeline from the 2021 Operating Plan. Capital expenditures are discussed in detail in section V.

The Operating Plan document in its entirety is included following the supplementary schedules in section IX.

CAPITAL EXPENDITURES

The 2022 budget identifies capital expenditures totaling $43.5 million for 2022-2024, plus $0.5 million for contract services. The capital budget represents investments in various initiatives driven by stakeholder requests, regulatory requirements and capital spending intended to maintain and improve SPP's capabilities and services.

Projects are consistently evaluated throughout the year under oversight of SPP's internal Project Review and Prioritization Committee (PRPC). Reprioritization due to new developments and/or resource constraints throughout the rest of 2021 and into 2022 could potentially impact the project portfolio. Capital expenditures planned for 2022 could be impacted by: 1) addition of projects not currently reflected in the budget, 2) deferrals of projects into future years, 3) elimination of projects due to time constraints and/or completion of the project without incurring capital costs, or 4) costs carried forward into 2022 for projects not completed as planned during 2021.



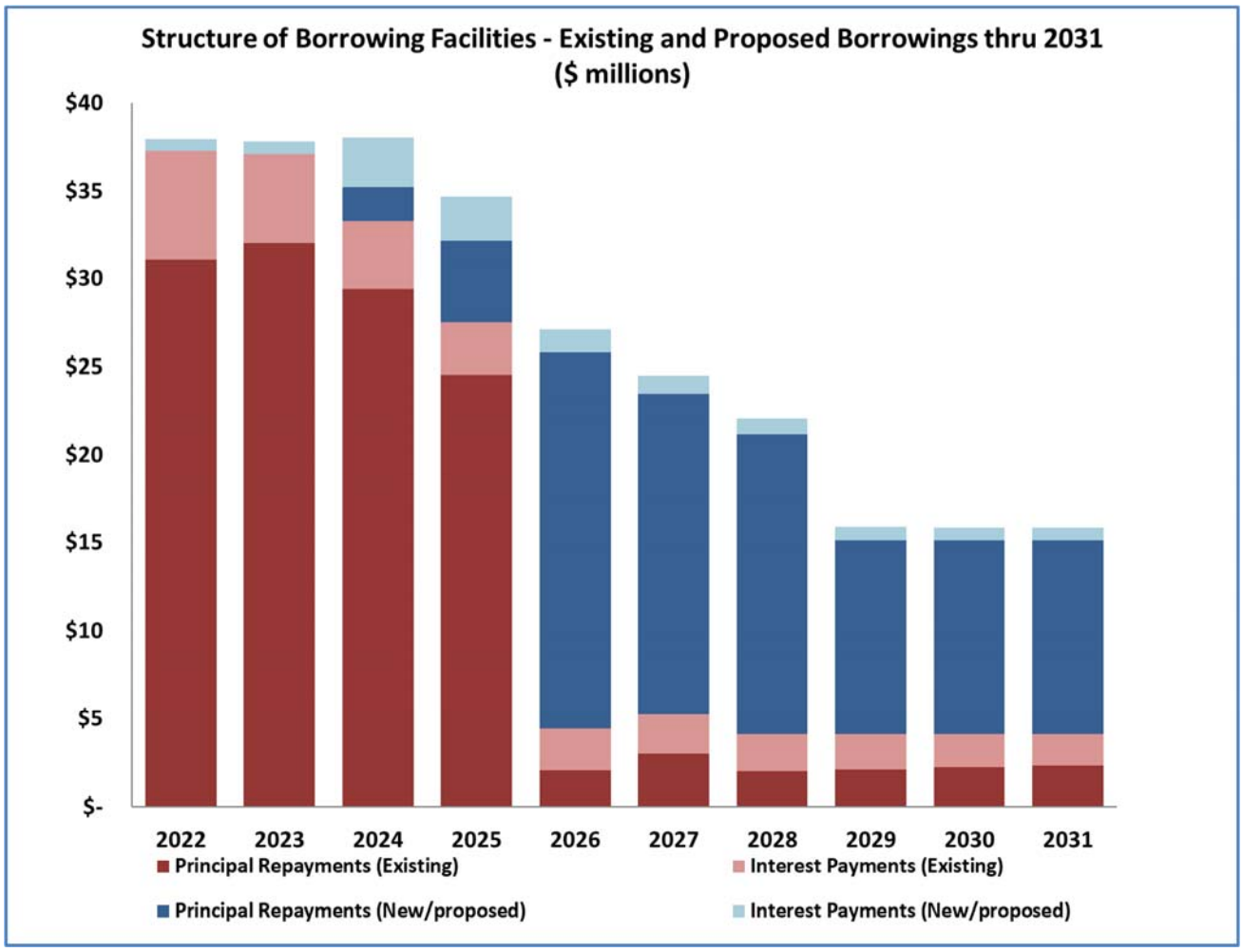
The capital projects section V. describes noteworthy projects in detail, and a complete list of initiatives and associated capital budgets appear in the supplementary schedules section VIII.

DEBT SERVICE

Debt service is the second largest component of the NRR following operating expenses.

The balance of SPP's outstanding long-term borrowings will equal $193.7 million at the beginning of 2022. Debt repayments will total $31.0 million during 2022, $27.8 million recovered within SPP's NRR, the remainder covered under contracts. In 2019, SPP began utilizing an $80 million revolving line of credit to fund capital expenditures. Draws from the line of credit are converted into four-year term notes after year-end. The first conversion took place in 2020 in the amount of $11 million for 2019 draws for capital expenditures. Subsequent draws were made in 2020 and 2021 to fund additional capital spending and implementation costs for contract services (recovered from customers of those services). SPP's debt obligations will

remain relatively flat for the next three years as SPP plans to secure a new $28 million funding with principal payments deferred until 2026. Annual debt obligations are projected to gradually decrease beginning in 2025, becoming approximately equal to SPP's annual capital expenditures on a rolling average basis starting in 2029. Except for Chenal campus mortgage, by 2026 SPP will have paid off all borrowings that were obtained to fund capital expenditures for projects prior to 2019, including the Integrated Marketplace and Project Pinnacle. As a result, based on current projections, annual debt obligations are projected to decrease to approximately $27.1 million beginning in 2026.



More details are included in the debt service section VI.

NET REVENUE REQUIREMENT (NRR)

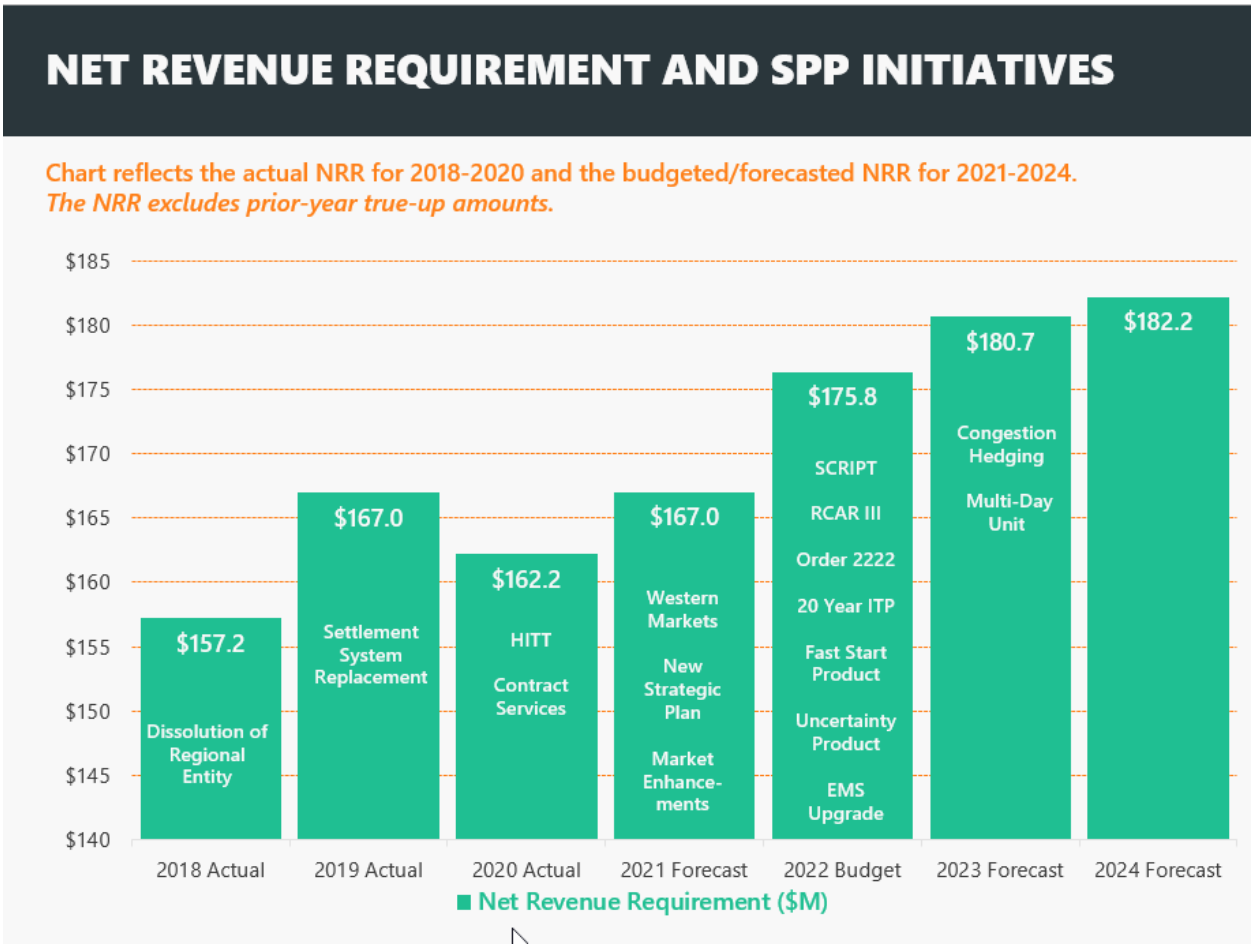
The NRR represents the funding necessary to provide services throughout the footprint. The NRR is comprised of operating expenses (excluding depreciation and Federal Energy Regulatory Commission (FERC) assessment), principal

payments on loans for capital expenditures and a capital reserve fund intended to partially offset future borrowings.

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

Revenues, in excess of associated expenses, generated from specific services provided by SPP under standalone contractual agreements also provide a reduction in the NRR.

A projected under-recovery of $0.6 million for 2021 adds to the 2022 NRR. This amount is excluded from the table below (the $17.2 million over-recovery for 2020 is also excluded from the 2021 NRR).



III. 2022 NET REVENUE REQUIREMENT

NET REVENUE REQUIREMENT

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

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

Income Statement

$ millions	2021 Budget	2021 Forecast	2022 Budget	2022 Prior
Income				
Tariff Administration Service	$151.3	$149.3	$176.3	$179.0
Fees & Assessments	23.1	20.9	26.0	23.6
Contract Services Revenue	10.6	10.7	9.8	10.4
Miscellaneous Income	11.5	16.2	19.1	11.2
Total Income	**$196.5**	**$197.1**	**$231.2**	**$224.2**
Expense				
Salary & Benefits	$107.8	$111.4	$114.4	$111.0
Communications & Maintenance	22.8	21.3	23.4	23.4
Assessments & Fees	22.5	26.5	27.2	22.9
Outside Services	19.0	20.7	26.0	18.4
Depreciation	18.1	17.4	17.8	18.5
Interest expense	7.9	7.6	7.1	7.1
Administrative	5.4	5.5	5.5	5.5
Travel & Meetings	1.4	0.3	1.7	2.4
Other (Income) / Expense	(4.0)	(1.6)	(0.7)	0.0
Total Expense	**$200.9**	**$209.2**	**$222.4**	**$209.2**
Net Income (Loss)	**($4.3)**	**($12.1)**	**$8.8**	**$14.9**
Debt Repayment	$28.9	$27.4	$27.8	$32.4
Net Revenue Requirement	$151.3	$149.9	$176.3	$179.0

Total expenses (excluding depreciation, FERC assessments and other income/expense) are expected to be $178.1 million in 2022, an increase of $11.3 million compared to the 2021 forecast.

Change in Operating Expenses
2021 Forecast vs 2021 Budget

$ millions	2021 Forecast	2022 Budget	Inc / (Dec)
Salary & benefits	$111.4	$114.4	$3.0
Maintenance & communications	21.3	23.4	2.1
Outside services *	20.7	26.0	5.4
Interest expense	7.6	7.1	(0.6)
Administrative	5.5	5.5	0.0
Travel & meetings	0.3	1.7	1.4
Total excluding depreciation, FERC, other	**$166.9**	**$178.1**	**$11.3**

** Variance offset by $2.1 million in pass-thru revenues for billable expenses*

The salary and benefits budget assumes a merit increase of 3 percent, a promotion increase of 0.75 percent and a vacancy factor of 3.5 percent (comparable to 2021 forecasted vacancy).

The increase in maintenance is primarily driven by new architecture and cybersecurity-related initiatives as well as year-over-year increases on existing technology contracts.

The increases in 2022 for outside services is primarily related to engineering studies (which are offset by pass-thru revenues) and for legal services related to anticipated ongoing litigation associated with the zonal placement process, Z2 and the 2021 winter weather event. One complaint has been filed at FERC as of this writing related to the winter weather event with claims totaling $79 million.

The travel and meetings expense increase over the 2021 forecast is attributed to higher expenses in 2022 in anticipation of returning to more normal operations post COVID-19 pandemic. The 2022 budget assumes expenses for approximately half of regularly scheduled meetings to be in-person in 2022.

The primary driver of the increase in other (income) / expense is associated with various non-cash valuation items in 2021 that do not impact the NRR and for which no amounts are assumed in the 2022 budget. Additionally, an increase in the non-service component of pension costs is expected in 2022 but it is also a non-cash item that does not impact the NRR.

Other (Income) / Expense	2021 Budget	2021 Forecast	2022 Budget	2022 Prior
Pension cost, other components	$0.0	($0.5)	($1.0)	$0.0
Retiree healthcare, other components	0.0	0.3	0.3	0.0
SWAP valuation adjustment	0.0	(0.4)	0.0	0.0
Bad debt	0.0	0.0	0.0	0.0
Unrealized gains/losses	0.0	(0.5)	0.0	0.0
Dividend/interest income	0.0	(0.4)	0.0	0.0
Other expense	(4.0)	0.0	0.0	0.0
Total Other (Income) / Expense	**($4.0)**	**($1.6)**	**($0.7)**	**$0.0**

The following tables illustrate the calculation of the NRR. The 2022 calculation includes funding of the 2022 capital reserve (20% of RTO capital expenditures) and an adjustment to NRR to account for expected under-recovery in 2021. Based on the NRR and the expected transmission usage, the 2022 calculated rate remains under the 46.5¢ cap as required by the tariff.

The main driver of the increase in the 2022 NRR is the $17.2 million 2020 over recovery that served as a reduction to the 2021 NRR.

Net Revenue Requirement

$ millions	2021 Forecast	2022 Budget	2022 Prior
Gross Revenue Requirement			
Operating expenses *	$203.2	$216.1	$202.1
Less FERC assessments (Schedule 12)	(26.5)	(27.2)	(22.9)
Less depreciation (non-cash)	(17.4)	(17.8)	(18.5)
Less retirement valuation adjustments (non-cash)	(5.1)	(5.9)	(3.7)
Less contract services expenses	(5.4)	(5.6)	(5.8)
Adjusted operating expenses	$148.6	$159.5	$151.2
Plus RTO debt service & interest	34.6	34.5	39.3
Less contract services shared overhead	(2.1)	(1.9)	(1.9)
Gross Revenue Requirement	**$181.1**	**$192.2**	**$188.7**
Other adjustments			
Less miscellaneous revenues	($17.3)	($20.0)	($12.1)
Less prior year (over)/under recovery	(17.2)	0.6	0.0
Plus capex reserve	3.2	3.6	2.4
Net Revenue Requirement	**$149.9**	**$176.3**	**$179.0**

** Operating expenses exclude interest expense and other (income) / expense accounts.*

Change in NRR
2021 Forecast vs 2022 Budget

2021 Forecast NRR	$149.9
Exclude 2020 prior-year over recovery	17.2
2021 Adjusted NRR	$167.0
Increases in outside services (excluding pass-thru) [1]	3.3
Salary & benefit increases (merit, etc)	2.1
Maintenance for new projects, year-over-year increases	1.8
Travel & meetings increases	1.3
Increase in capex reserve	0.4
Decrease in contract services revenues (NWPP)	0.2
Decrease in contract services shared OH [2]	0.2
Miscellaneous other fav/unfav changes	0.1
Increase in misc income (GI studies staff time)	(0.8)
2022 Budget NRR (excluding PY under recovery)	$175.8
Increase in 2022 NRR excluding PY recovery	$8.8

1) Increases in outside services primarily consulting for new engineering initiatives, IT cybersecurity & infrastructure and legal counsel for zonal placement, Z2 and 2021 winter weather event.

2) Contract services shared overhead for 2021 included additional recovery for partial year of implementation

TARIFF RATE CAP

The SPP tariff currently limits the annual budgeted NRR to a ratio not exceeding 0.465:1 of estimated annual transmission usage (expressed in MWh). This limitation is a legacy limit based on SPP's single bundled-rate recovery structure where costs were recovered from all transmission customers. This requires the budgeted NRR, when divided by estimated transmission billing determinants for the budget year, to be at or below a specific rate stipulated in the tariff. The specific rate cap in effect for the 2022 budget year is 46.5¢ per MWh.

Actual billing determinants from August 2020 thru July 2021 are used to estimate transmission billing determinants as prescribed in the formula rate template for rate schedule 1-A1. SPP recorded 369,978,308 MWhs of network transmission billing units and 21,914,998 MWhs of point-to-point transmission billing units for August 2020 thru July 2021 which totaled transmission usage of 391,893,306 MWhs.

SPP's budgeted NRR for 2022 is $176.3 million, as described throughout the budget document. Comparing the NRR to the estimated transmission usage yields a ratio of 0.450:1, which falls within the limitations prescribed in the tariff.

FUTURE FORECASTING

SPP constructs a three-year budget plan each year in accordance with the tariff. The basis for the five-year forecast is the 2022–2024 budget with only inflation adjustments applied to the operating expenses for 2025-2026. The transmission usage for 2025 and 2026 remain equal to the 2022 budget of 391.9 TWh.

The calculated rates for 2022-2024 falls within the tariff rate cap of $0.465; however, the rate exceeds the cap beginning in 2025, before falling below the cap again in 2026 when principal payments decline.

	2022 Budget	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast
Net Revenue Requirement	$176.3	$180.7	$182.2	$183.9	$181.4
MWh Forecast (in millions)	391.9	391.9	391.9	391.9	391.9
Calculated rate for FERC cap	$0.450	$0.461	$0.465	$0.469	$0.463

SPP Five Year Forecast

	2022 Budget	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast
Income					
Tariff Administration Service	$176.3	$180.7	$182.2	$183.9	$181.4
Fees & Assessments	26.0	26.5	27.1	27.6	28.2
Contract Services Revenue	9.8	10.0	10.3	10.5	10.8
Miscellaneous Income	19.1	19.1	16.4	16.8	17.1
Total Income	**$231.2**	**$236.4**	**$236.0**	**$238.9**	**$237.4**
Expense					
Salary & Benefits	$114.4	$118.8	$122.0	$124.4	$126.9
Communications & Maintenance	23.4	24.9	25.6	26.2	26.7
Assessments & Fees	27.2	28.6	29.5	30.1	30.7
Outside Services	26.0	25.7	21.8	22.2	22.6
Depreciation	17.8	17.6	19.4	19.8	20.2
Interest Expense	7.1	6.0	5.1	4.3	3.8
Administrative	5.5	5.7	5.8	5.9	6.0
Travel & Meetings	1.7	2.0	2.1	2.2	2.2
Other (Income) / Expense	(0.7)	(0.8)	(0.8)	(0.8)	(0.8)
Total Expense	**$222.4**	**$228.6**	**$230.4**	**$234.1**	**$238.3**
Net Income (Loss)	**$8.8**	**$7.8**	**$5.6**	**$4.7**	**($0.9)**
Debt Repayment	$31.0	$32.0	$31.3	$29.2	$23.5
Net Revenue Requirement	$176.3	$180.7	$182.2	$183.9	$181.4
Capital Expenditures	$18.1	$14.3	$11.2	$11.4	$11.6

IV. RESOURCE UTILIZATION

SPP's 2022 budget incorporates the funds necessary for SPP to provide day-to-day operations while pursuing strategic goals and organizational objectives. The chart below shows the various resource components and the corresponding 2022 budget amounts in comparison to 2021 budget and forecast, and a comparison to amounts forecasted for 2022 during the 2021 budget cycle. The following section discusses major components in detail.

Operating Expenses by Resource ($ millions)

	2021 Budget	2021 Forecast	2022 Budget	Prior 2022
Salary & Benefits	$107.8	$111.4	$114.4	$111.0
Outside Services & Consulting	19.0	20.7	26.0	18.4
Maintenance	17.9	16.3	18.2	18.3
Interest expense	7.9	7.6	7.1	7.1
Administrative	5.4	5.5	5.5	5.5
Communications	4.9	5.0	5.2	5.1
Travel & Meetings	1.4	0.3	1.7	2.4
Other (Income) / Expense	(4.0)	(1.6)	(0.7)	0.0
Total Operating Expense *	**$160.3**	**$165.2**	**$177.4**	**$167.8**

** Excludes depreciation & FERC fees.*

STAFFING

Staffing Levels

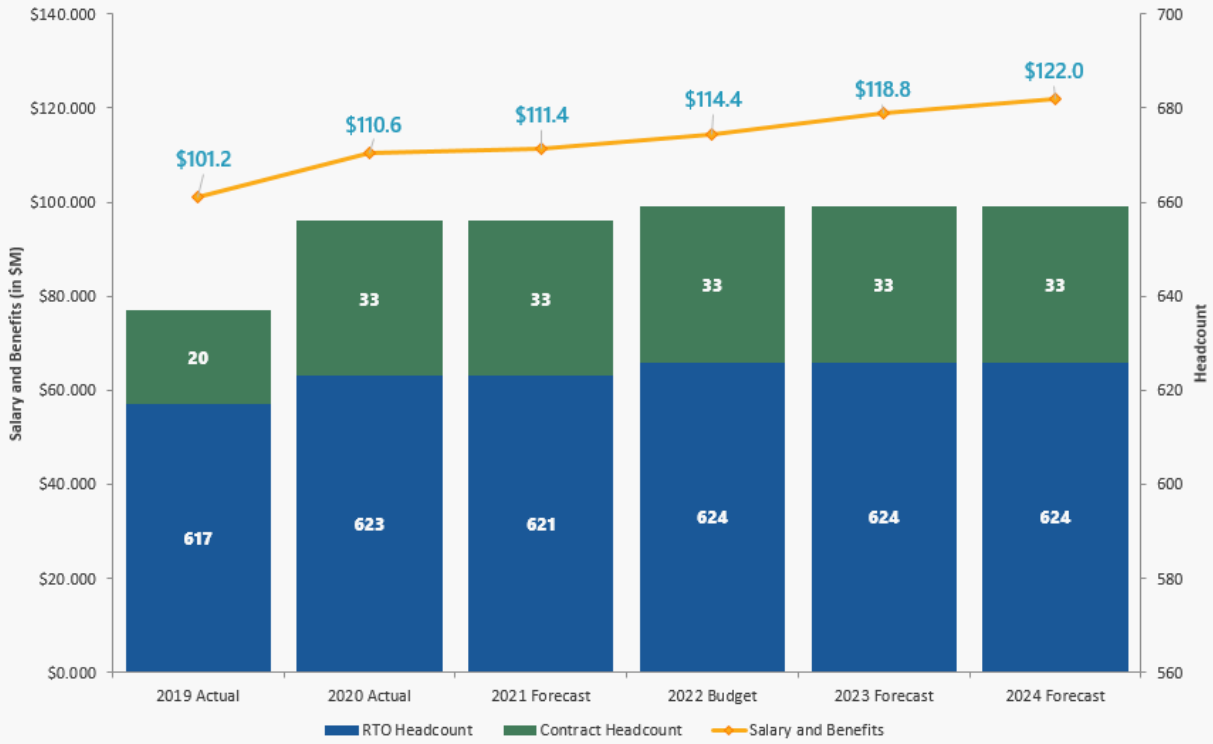
SPP's 2022 budget includes the addition of three incremental positions, increasing total approved positions to 657. There were 12 positions identified during the budgeting process which passed the justification threshold. The three approved positions passed a higher bar of being required to ensure ongoing operational effectiveness. Not adding the other nine justified positions may expose SPP to greater risk of delay or failure to implement improvements to product and services offerings and/or failure to satisfy new compliance obligations and inability to respond quickly to customer and member requests.

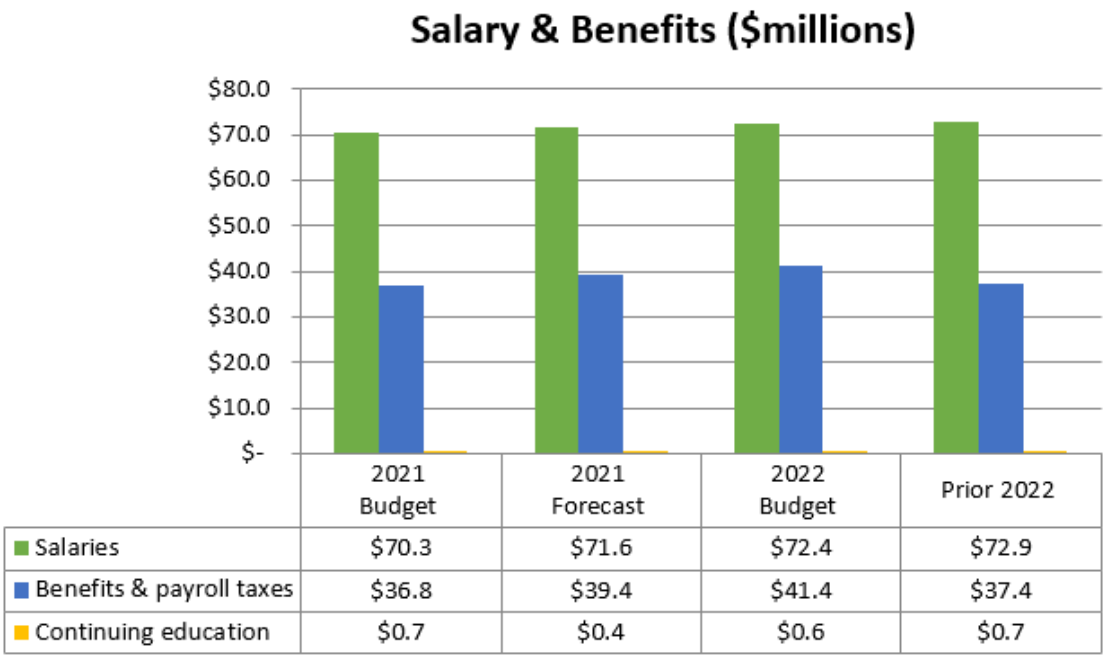
Staffing Components

The staffing budget for 2022 includes funding for salaries (including base salary and overtime pay), benefits and payroll taxes and continuing education.

HEADCOUNT, SALARY & BENEFITS

Data represents actual for 2019 - 2020; forecast for 2021 and budget/forecast for 2022-2024.





The base salary budget assumes a merit increase of 3.0%, a promotion increase of 0.75% and a vacancy factor of 3.5%.

Salary Expenses ($ millions)	**2021 Budget [1]**	**2021 Forecast**	**2022 Budget [2]**	**2022 Prior [2]**
Base salaries at beginning of year	$68.6	$68.6	$70.7	$70.8
Merit increase	1.7	1.7	2.1	1.8
Premium pay	1.2	1.3	1.3	1.3
Severance pay	0.0	1.0	0.0	0.0
Incremental staff	0.0	0.0	0.3	0.2
Promotions	0.5	0.5	0.5	0.5
Vacancy	(1.8)	(1.5)	(2.6)	(1.8)
Total Salary Expenses	**$70.3**	**$71.6**	**$72.4**	**$72.9**

(1) 2021 budget vacancy 2.5% & merit 2.5%

(2) 2022 budget vacancy 3.5% & merit 3.0%; 2022 prior vacancy 2.5% & merit 2.5%

Vacancy and Merit Assumptions

The average vacancy rate is expected to be approximately 3.2% for 2021. A vacancy rate of 3.5% was applied to the 2022 budget as SPP anticipates staff turnover in 2022 to be relatively consistent with 2021. This equates to headcount vacancy averaging 23 positions during the calendar year.

Vacancy Rate				
	2021 Budget	2021 Forecast	2022 Budget	2022 Prior
Vacancy rate	2.50%	3.20%	3.50%	2.50%

Merit and Promotion Budget					
	2018	2019	2020	2021	2022
Merit Increase	$1.8	$1.8	$2.0	$1.7	$2.1
Promotion Pool	$0.5	$0.5	$0.5	$0.5	$0.5
Merit %	3.0%	3.0%	3.0%	2.5%	3.0%
Promotion %	0.75%	0.75%	0.75%	0.75%	0.75%

Benefits and Taxes

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

Benefits & Taxes ($ millions)	2021 Budget	2021 Forecast	2022 Budget	2022 Prior
Retirement Plans (401K, pension, deferred comp)	$12.1	$14.4	$15.3	$12.3
Performance Compensation	12.0	12.1	12.7	12.1
Payroll Taxes	5.8	5.8	6.0	5.8
Medical Benefits	5.6	5.9	5.9	5.7
Other Employee Benefits	0.5	0.3	0.5	0.5
Dental Benefits	0.4	0.4	0.4	0.4
Life Insurance Benefits	0.5	0.5	0.5	0.5
Total Benefits & Taxes	**$36.8**	**$39.4**	**$41.4**	**$37.4**
Continuing Education	0.7	0.4	0.6	0.7
Total Benefits, Taxes & Con't Education	**$37.5**	**$39.8**	**$42.0**	**$38.1**

The 2021 forecast and 2022 budget amounts for pension expense are based on the most recent actuarially calculated pension costs. Pension expense was calculated assuming a long-term asset return of 7 percent (consistent with the assumed rate of return in SPP's investment policy statement). SPP will make cash contributions of $5.1 million to the pension plan during 2021, and contributions to the plan are budgeted at $5.3 million in 2022. Only the cash contribution portion of pension expense is included in the NRR.

	2021 Budget	2021 Forecast	2022 Budget	2022 Prior
Pension expense				
Cash contributions (included in NRR)	$5.0	$5.1	$5.3	$5.1
Other costs	3.7	4.1	4.9	3.7
Total expense	$8.7	$9.2	$10.2	$8.8

Performance compensation is budgeted at the target level of 17.9% of base salary and is paid in March of the following year. The performance compensation program is a key component to achieving the 50th percentile total compensation benchmark set by the human resources committee. Funding for the 401(k) matching contribution is estimated at 4.2% of base salary expense (including performance compensation) based on recent company trends.

Medical Benefits Costs

The net cost of the self-funded medical plan in the 2022 budget is $5.9 million, which is equal to the 2021 forecast and represents a 4.8% increase from the 2021 budget.

Total gross claims for 2022 are estimated to be $6.3 million, which is consistent with the 2021 forecast. Costs in 2021 exceeded budget following a significant reduction in medical costs in 2020, which is believed to have been pandemic related.

Healthcare Costs ($ millions)

	2021 Budget	2021 Forecast	2022 Budget
Gross claims	$5.9	$6.3	$6.3
Admin fees	1.2	1.1	1.1
Employee contributions	(1.5)	(1.5)	(1.5)
Net expenses	$5.6	$5.9	$5.9
Number of employee participants	616	610	624

Approximately 95% of employees use SPP medical plan as primary insurance, which is comparable with previous years. The estimated number of employee participants in 2022 is 624 (as compared to 610 in 2021), with an estimated number of insured participants of 1,680 (as compared to 1,665 in 2021).

SPP also offers a high-deductible healthcare savings account (HSA) option in the medical plan which serves to reduce SPP's exposure to claims expense. Under the HSA option, SPP contributes a fixed dollar amount to participants' accounts on a semi-annual basis. Participants utilize the accumulated savings to cover medical expenses. Deductibles under this plan are much higher, which reduces SPP's exposure. Approximately 20% of employees utilize the HSA plan.

OUTSIDE SERVICES AND CONSULTING

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

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

The following table summarizes various outside services by function:

Outside Services by Function ($ millions)

	2021 Budget	2021 Forecast	2022 Budget
Professional Services			
Outside legal counsel, FERC and regional	$2.0	$1.1	$1.7
Board of directors fees and expenses	1.3	1.3	1.3
Cybersecurity 3rd party assessments (vulnerability, cyber risk, security patch)	0.7	0.5	0.4
Campus security contract	0.9	0.8	0.9
Audits (SOC 1, financial audit, benefit plan audits)	0.5	0.5	0.6
HR benefits and compensation surveys	0.2	0.1	0.4
Human resources / corporate services (training, EAP, new hire screening, etc)	0.2	0.2	0.3
Regional State Committee	0.5	0.1	0.3
BOD search firm, special assignments	0.1	0.3	0.3
Outside legal counsel, MMU	0.2	0.3	0.2
Miscellaneous communication services	0.1	0.1	0.1
Miscellaneous other campus services	0.0	0.0	0.1
Total Professional Services	**$6.7**	**$5.2**	**$6.6**
Staff Augmentation			
Engineering Transmission Planning & Modeling (ITP, SCRIPT, PROMOD)	$0.6	$0.3	$1.5
Engineering Transmission Services & Reliability Assurance (HIIT, WWE)	0.0	0.0	0.3
Engineering Support & Resource Coordination (ITP planning/automation, DPP)	0.3	0.3	0.5
Compliance, CIP & GRC support	0.1	0.0	0.1
Training, customer service, project management	0.2	0.1	0.0
Operations market support, market design & congestion hedging (HITT, PMU)	0.4	0.8	0.4
IT, storage and backup, project implementation	0.6	0.4	0.0
Eastern Interconnection Planning Collaborative (EIPC) assessment	0.3	0.1	0.1
Engineering R&D, supplemental research	0.0	0.1	0.2
Credit and rating services	0.1	0.1	0.1
Insurance brokerage fees	0.1	0.1	0.1
Operations miscellaneous applications & training support	0.0	0.0	0.0
Total Staff Augmentation	**$2.6**	**$2.3**	**$3.4**

Outside Services by Function ($ millions)

	2021 Budget	2021 Forecast	2022 Budget
Run-Time Services			
IT ongoing services (DDOS, security assessments, etc)	$1.0	$1.0	$1.7
Operations weather forecasting analysis	0.6	0.7	0.7
Operations reliability, Interchange Distribution Calculator (IDC) tool, etc.	0.6	0.5	0.5
Total Run-Time Services	**$2.2**	**$2.1**	**$2.8**
Software-as-a-Service			
Operations, OATI service fees (reflected in IT department)	$1.6	$1.6	$1.6
Cybersecurity 3rd party subscriptions	0.3	0.3	0.4
Human resources / training	0.5	0.5	0.5
Project management, customer service, misc other	0.3	0.3	0.2
Total Software-as-a-Service	**$2.7**	**$2.6**	**$2.7**
Contract Services Offset by Shared Overhead			
WEIS (SOC audit/weather forecasting)	$0.1	$0.1	$0.1
RC West (ECC/WIT subscriptions)	0.2	0.2	0.2
Total Contract Services Offset by Shared Overhead	**$0.3**	**$0.3**	**$0.3**
Services Offset by Pass-Thru Revenues			
Engineering GI studies consultants	$3.3	$7.7	$9.8
FERC Order 1000 industry expert panel consultants	1.2	0.4	0.4
Total Services Offset by Pass-Thru Revenues	**$4.5**	**$8.1**	**$10.2**
Total Outside Services	**$19.0**	**$20.7**	**$26.0**

The majority of the outside services budget is related to engineering studies, IT initiatives, board compensation and legal counsel. Consulting for engineering studies including pass thru expenses makes up the largest component of outside services expense.

	2021 Budget	2021 Forecast	2022 Budget	Prior 2022
Information Technology	$4.1	$3.6	$4.2	$4.3
Engineering (excluding pass-thru expenses)	1.2	0.7	2.6	0.6
Finance & Corporate Services	2.0	1.9	2.3	2.3
Regulatory, Legal & RSC (excluding pass-thru expenses)	2.5	1.2	2.0	2.4
Operations	1.6	1.9	1.6	1.6
Officer & Administrative	1.5	1.7	1.6	1.5
Process Integrity	0.9	0.8	0.9	0.8
Contract Services	0.3	0.3	0.3	0.3
Market Monitoring	0.2	0.3	0.2	0.2
Corporate Comm. & Gov't Affairs	0.1	0.1	0.1	0.1
Total	**$14.5**	**$12.5**	**$15.8**	**$14.2**
Consulting Expenses Offset by Revenues				
Engineering GI/TS studies consulting	$3.3	$7.7	$9.8	$3.1
FERC Order 1000 Industry Expert Panel (IEP)	1.2	0.4	0.4	1.2
Total	$4.5	$8.1	$10.2	$4.3
Total Outside Services & Consulting (Including RSC)	**$19.0**	**$20.7**	**$26.0**	**$18.4**

The overall increase in outside services from the 2021 forecast is the result of various offsetting factors.

Outside Services 2021 Forecast vs. 2022 Budget	
($ millions)	**Fav/(Unfav)**
Engineering studies (offset by revenue)	($2.1)
Engineering planning (RCAR, ITP/CSP studies, SCRIPT, PROMOD)	(1.6)
Ongoing litigation anticipated for 2021 winter event, zonal placement, Z2	(0.6)
Increases associated with IT ongoing/new initiatives	(0.6)
HR compensation surveys (every three year rotation)	(0.3)
Miscellaneous other	(0.2)
Total	**($5.4)**

Engineering

The engineering organization engages consultants primarily for planning and tariff services processes associated with 1) SPP tariff or NERC required engineering studies, 2) support of reliability and economic planning processes during peak periods associated with the ITP process, and 3) administering the detailed project proposal (DPP) process and transmission project cost estimation related to FERC Order 1000. Engineering also engages consultants to assess new approaches and tools to refine performance objectives that align with future planning needs.

The largest component of consulting in engineering is attributed to work on generator interconnection (GI) studies, whose costs are billed to study participants and offset by income.

Outside Services and Consulting ($ millions)	2021 Budget	2021 Forecast	2022 Budget	Prior 2022
Engineering GI and Transmission Service	$3.3	$7.7	$10.0	$3.1
Engineering Transmission planning	0.9	0.4	2.0	0.3
Engineering Support	0.3	0.3	0.5	0.2
Engineering	$4.5	$8.4	$12.4	$3.7
Revenue from pass-thru GI/TS consulting	(3.3)	(7.7)	(9.8)	(3.1)
Total excluding pass-thru expenses	$1.2	$0.7	$2.6	$0.6

Growth of renewable generation in the SPP footprint continues to drive increases in volume and complexity of GI study requests and engineering engages contractors to assist with completing these studies. SPP bills contractor costs as well as costs for SPP staff time to the study participants as part of overall study charges.

One of the top priorities for SPP and engineering is the reduction of the backlog of GI studies, some of which have remained pending since 2017. In addition to the backlogged Definitive Interconnection System Impact Studies (DISIS), SPP's tariff provides for a number of ad hoc, customer requested study types to meet various needs of generator developers. The volume of these ad hoc studies has increased significantly in recent years. Contractor engagement to augment current staff is critical to address the volume of studies in the GI backlog.

Adoption of efficiencies in the GI study process, application of stakeholder driven policy improvements and growth in proficiency of recent staff additions will allow a greater volume of GI studies to be completed by SPP staff. These actions will eventually reduce reliance on outside contractors and will allow SPP staff to process the annual GI studies with minimal contractor cost for DISIS studies when the GI backlog is complete. The nature of ad hoc, customer requested studies are likely to lend themselves to the use of contractors for the foreseeable future.

Of the $17.8 million studies revenue in the 2022 budget, $9.8 million is for pass-through contractor costs and $8.0 million is for SPP engineering staff time. SPP engineering staff time revenue is expected to be $1.0 million higher in 2022, which is a direct positive impact to the NRR.

SPP engineering staff time revenue is expected to be $1.0 million higher in 2022, which is a direct positive impact to the NRR.

Net Studies Income/(Expense) ($ millions)	2021 Budget	2021 Forecast	2022 Budget	Prior 2022
Engineering staff time income	$6.2	$7.0	$8.0	$6.2
Pass-thru consulting income	3.3	7.7	9.8	3.1
Pass-thru consulting expense	(3.3)	(7.7)	(9.8)	(3.1)
Net Studies Income/(Expense)	$6.2	$7.0	$8.0	$6.2

In addition to the increase in GI studies pass-thru consulting, various other new initiatives contribute to the overall increase in the 2022 budget over the 2021 forecast.

Outside Services and Consulting ($ millions)	2021 Budget	2021 Forecast	2022 Budget	Prior 2022
Pass-thru studies consulting (ongoing increases)	$3.3	$7.7	$9.8	$3.1
ITP Planning (ongoing); RCAR, SCRIPT, PROMOD, WWE (new)	0.6	0.3	1.7	0.3
Order 1000/DPP (ongoing), SCRIPT (new)	0.3	0.3	0.5	0.2
FERC Order 2222 (new), R&D, EIPC, EI-WI seams (new)	0.3	0.1	0.3	0.1
HITT initiatives T3 phase II & T1 for Z2 (new)	0.0	0.0	0.2	0.0
Engineering Outside Services and Consulting	$4.5	$8.4	$12.4	$3.7

Additional support is budgeted for the planning processes during peak periods in managing RCAR, the 20-Year Assessment, Integrated Transmission Planning (ITP) and Coordinated System Plan (CSP) studies. This also includes managing all engineering PRPC projects and stakeholder/staff driven initiative expectations during 2022.

The 2022 budget includes consulting for day-to-day operations so essential SPP staff can engage in the SCRIPT project. The SCRIPT project is a multi-team effort to successfully develop and implement new processes to lower costs and create more equitable cost sharing, increase economic benefits, open new markets for energy, create more timely processes and enhance reliability and grid resiliency. The SCRIPT consolidation effort specifically targets combining, modifying or eliminating transmission planning and study processes to develop more optimal solutions that meet a broader set of customer needs; synergize analysis so that beneficiaries and cost-causers can be identified in a holistic, uniform fashion; improve planning efficiency, effectiveness and timeliness; reduce the number of model sets needed; and reduce reliance on customer-requested, queue-driven studies.

A critical part of SCRIPT Consolidation implementation is a new architecture and automation refresh to support the new innovative planning processes. Incremental support is needed for requirement building plus issue resolution and design control for the new architecture and automation refresh necessary additions, updates and redesign of the base software. This additional consulting was added in lieu of the permanent addition of incremental SPP staff for these responsibilities.

PROMOD is the software utilized to simulate the electricity grid by using production cost modeling technology. Economic studies and planning performed by engineering staff is a critical process for identifying the most cost effective transmission solutions for SPP members and their customers, and PROMOD is one of the main tools used in that process. The decision to delay the project schedule from 2021 to 2022 was the result of additional analysis by staff and stakeholders to determine the best product and implementation process. The 2022 budget includes re-development of processes, automation, staff training and the new software implementation.

The 2022 budget also includes consulting in order to research, analyze and develop a “Grid of the Future” report specific to SPP’s footprint with inputs from the industry, staff and membership. These efforts take into consideration FERC Order 2222 compliance requirements and the Notice of Proposed Rulemaking (NOPR) on ambient adjusted line ratings as well as resource mix projections, resource attributes required for reliability and technology advancements and capabilities.

Information Technology (IT)

IT utilizes outside services for a variety of functions including hosted services, data storage, consulting for key projects and initiatives, etc. The largest component of the IT budget consists of ongoing services that continue year to year.

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

Outside Services and Consulting ($ millions)	2021 Budget	2021 Forecast	2022 Budget	Prior 2022
Information Technology	$4.1	$3.6	$4.2	$4.3

The primary IT initiatives are centered on critical infrastructure protection (CIP) security, automation and infrastructure consolidation activities. Management continually analyzes options and seeks opportunities to leverage existing staff, but in many cases, the utilization of external entities is more cost-efficient based on the required skill sets or longevity of the project. SPP staff will continue to analyze options and recommend alternatives as appropriate.

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

The growth in new services is driven by further maturation of SPP's cybersecurity practices, upgrading key application areas to current levels and architecture improvements to accommodate more secure and efficient use of internal and external applications.

IT Outside Services and Consulting Expense ($ millions)

	2021 Budget	2021 Forecast	2022 Budget
Ongoing / existing services			
OATI, CRISP, CIS, 3rd DC, DDOS, security assessments, etc.	$3.0	$2.8	$2.9
Consulting services for KTLO upgrades and new projects	0.5	0.5	1.3
Staff agumentation	0.6	0.4	0.0
Total	**$4.1**	**$3.6**	**$4.2**

Further details on the increase associated with keeping the lights on (KTLO) upgrades and new projects are outlined below. No outside consulting for staff augmentation is anticipated since additional headcount was approved in the 2022 budget.

IT Outside Services Expense 2021 Forecast vs. 2022 Budget ($ millions)		
2021 IT Outside Services Forecast		**$3.6**
KTLO upgrades and new projects Architectural services (multi-factor authentication, container orchestration, etc.) Platform upgrades (database platform, data warehouse, markets MUI, etc.) PRPC corporate projects (data loss protection, data aging/archival) Cybersecurity (assessments/health check, cloud services, security upgrades)	21%	0.9
Ongoing services OATI hosted services, cybersecurity services & subscriptions	2%	0.1
Staff augmentation	(10%)	(0.4)
2022 IT Outside Services Budget	**13%**	**$4.2**

Legal, Regulatory and Regional State Committee (RSC)

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

Outside Services and Consulting ($ millions)	2021 Budget	2021 Forecast	2022 Budget	Prior 2022
Legal	$2.0	$1.1	$1.7	$1.9
Regulatory (FERC Order 1000, IEP)	1.2	0.4	0.4	1.2
Regional State Committee	0.5	0.1	0.3	0.5
Regulatory, Legal & RSC	$3.7	$1.6	$2.4	$3.6

The largest driver of outside services legal costs is related to FERC litigation. The increase in 2022 is driven by potential litigation associated with the zonal placement process and Z2, plus anticipated litigation related to the winter weather event of February 2021.

The 2022 regulatory department budget includes costs for an industry expert panel (IEP) to oversee the bidding process of two competitive projects in 2022 for FERC Order 1000. These costs are offset by revenue to be collected from the competitive process participants with no impact to the NRR.

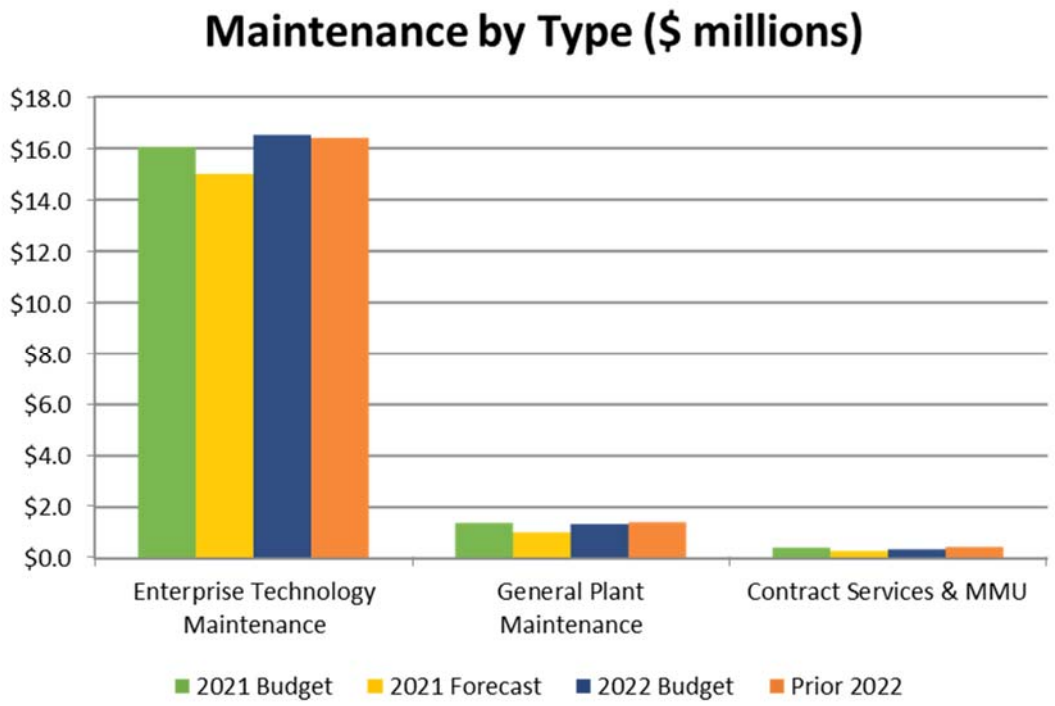
Outside Services and Consulting ($ millions)	2021 Budget	2021 Forecast	2022 Budget	Prior 2022
Regulatory (FERC Order 1000, IEP)	$1.2	$0.4	$0.4	$1.2
IEP Revenue from participants	($1.2)	($0.4)	($0.4)	($1.2)

The Regional State Committee (RSC) provides collective state regulatory agency input on matters of regional importance related to the development and operation of bulk electric transmission. The budget is created and submitted to SPP by the RSC each year and includes all costs associated with RSC travel, meetings and consulting. The 2022 budget assumes the committee will conduct meetings concurrent with SPP board meetings (half in-person, half virtual) and therefore represents an increase over the 2021 forecast, which reflects no face-to-face meetings due to the pandemic.

Outside Services and Consulting ($ millions)	2021 Budget	2021 Forecast	2022 Budget	Prior 2022
Regional State Committee	$0.5	$0.1	$0.3	$0.5

MAINTENANCE

Maintenance expense is primarily related to contractual agreements covering technology hardware and software assets and expenses for general upkeep of physical facilities. The increase in the 2022 budget is primarily related to new architecture and cybersecurity-related initiatives as well as year-over-year increases on existing technology contracts.

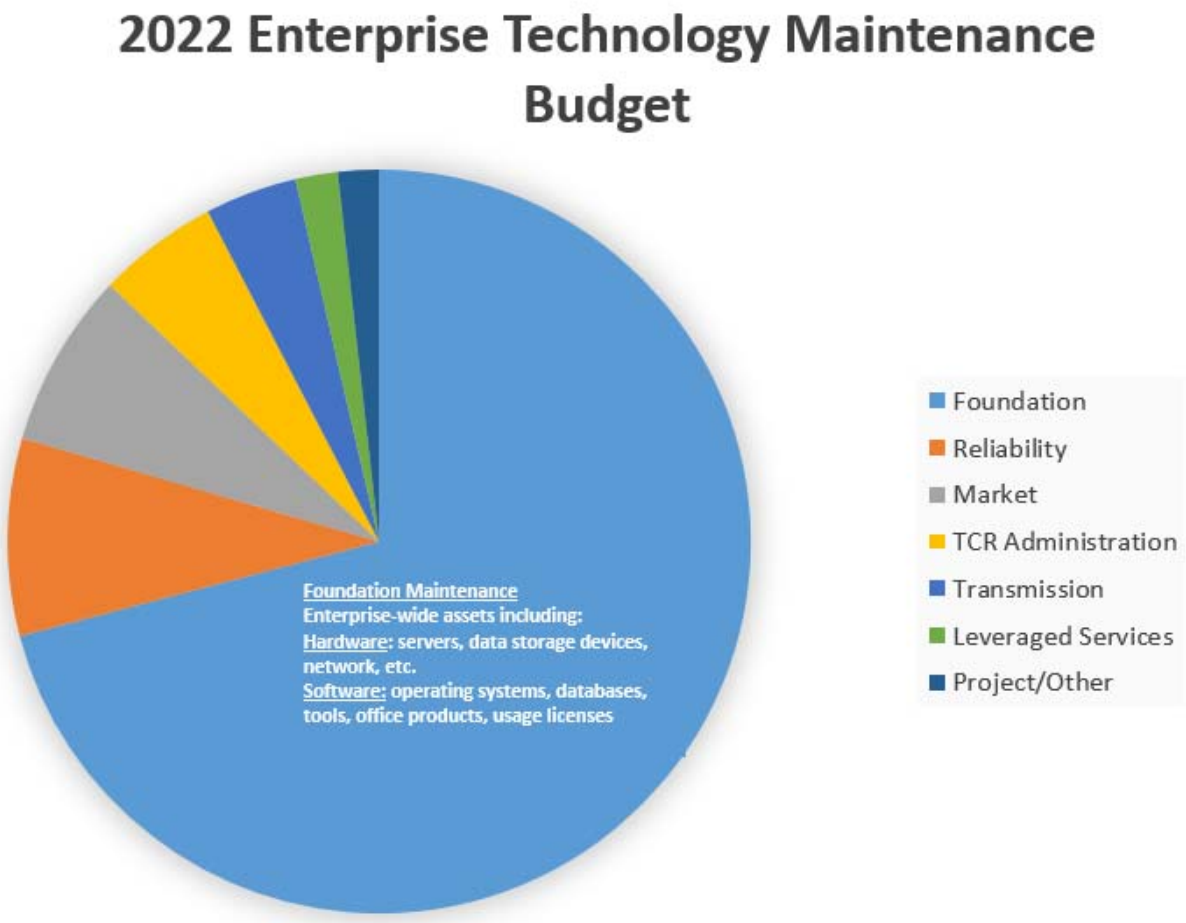


Maintenance Expense ($ millions)	2021 Budget	2021 Forecast	2022 Budget	Prior 2022
Enterprise Technology Maintenance	$16.1	$15.0	$16.5	$16.4
General Plant Maintenance	1.4	1.0	1.3	1.4
Contract Services & MMU	0.4	0.3	0.4	0.5
Total	**$17.9**	**$16.3**	**$18.2**	**$18.3**

Enterprise Technology Maintenance

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

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



Maintenance Expense ($ millions)	2021 Budget	2021 Forecast	2022 Budget	Prior 2022
Total Enterprise Technology Maintenance	$16.1	$15.0	$16.5	$16.4

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

Components within each maintenance category include:

- Maintenance/support agreements for hardware (servers, storage, network, etc.)

The scope of the maintenance budget encompasses over 1,500 hardware products and over 32,000 software entitlements. Multi-year contracts in support of the existing environment make up over 80% of the budget.

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

The scope of this budget encompasses over 1,500 hardware products and over 32,000 software entitlements. Approximately 84% of the maintenance budget is under a multi-year contract in support of the existing environment. The remaining 16% is attributed to variable time-and-material contracts (expensed throughout the year as services are rendered) and one-time maintenance costs that are expensed at the time of product purchase (e.g., server warranties).

The approximate 9% increase over the 2021 forecast is driven by new project and initiatives (64% of the overall increase) and increases on existing products (36% of the overall increase).

IT Maintenance Expense 2021 Forecast vs. 2022 Budget		
($ millions)		
2021 IT Maintenance Forecast		**$15.0**
Year-over-year increases for existing products	3%	0.5
New security and automation products Multi-factor authentication, centralized key mgmt, containerization SW	2%	0.3
New corporate projects IAM, Freeze Date, Electric Storage, SCRIPT, Data Loss Prevention, etc.	2%	0.3
New / incremental subscription products Automation, security & SIEM, cloud services, CIP supply chain, etc.	1%	0.2
New engineering / operations software PowerFlow and feasibility analysis, PMU	1%	0.1
2022 IT Maintenance Budget	**9%**	**$16.5**
Total new projects and initiatives	64%	1.0
Total increases on existing products	36%	0.5
Total increase over 2021 Forecast	**100%**	**$1.5**

General Plant Maintenance

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

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

Deferment of certain repair and maintenance initiatives from 2021 to 2022 results in an increase in general plant maintenance expense year over year.

Maintenance Expense ($ millions)	2021 Budget	2021 Forecast	2022 Budget	Prior 2022
General Plant Maintenance	$1.4	$1.0	$1.3	$1.4

Contract Services and MMU

The WEIS maintenance budget is driven by the IT hardware, software and market system applications used to support the WEIS service. The increase in the 2022 budget represents a marginal year-over-year increase based on estimated annual vendor cost increases.

The RC West maintenance budget includes various subscriptions and support specific to RC West and remains relatively consistent year-over-year.

The MMU budget includes maintenance on various tools utilized within the MMU. The numbers are less than $0.1 million and remain relatively consistent year-over-year.

Maintenance Expense ($ millions)	2021 Budget	2021 Forecast	2022 Budget	Prior 2022
WEIS	$0.3	$0.1	$0.2	$0.3
RC West	0.1	0.1	0.1	0.1
MMU	0.0	0.0	0.0	0.0
Total	**$0.4**	**$0.3**	**$0.4**	**$0.5**

OTHER OPERATING EXPENSES

Administrative Expenses

Administrative ($ millions)	2021 Budget	2021 Forecast	2022 Budget	Prior 2022
Insurance	$1.7	$1.8	$2.0	$1.7
Dues and donations	1.0	0.9	0.9	1.0
Equipment	0.7	0.9	0.7	0.7
Property tax	0.7	0.7	0.6	0.7
Office	0.7	0.7	0.6	0.7
Utilities	0.7	0.6	0.7	0.7
Total Administrative	**$5.4**	**$5.5**	**$5.5**	**$5.5**

The largest component of administrative expenses is related to insurance costs, but also includes items such as small equipment purchases, property taxes, professional dues, charitable donations and utility and office expenses.

Communications Infrastructure

Communications ($ millions)	2021 Budget	2021 Forecast	2022 Budget	Prior 2022
Network	$4.7	$4.8	$5.0	$4.9
Cellular, satellite, long distance	0.2	0.2	0.2	0.2
Total	**$4.9**	**$5.0**	**$5.2**	**$5.1**

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

Travel and Meetings

Travel & Meetings ($ millions)	2021 Budget	2021 Forecast	2022 Budget	2019 Actual
Travel	$1.0	$0.2	$1.1	$1.9
Meetings	0.4	0.1	0.6	0.9
Total	**$1.4**	**$0.3**	**$1.7**	**$2.8**

Travel and meetings were essentially eliminated beginning in March 2020 as a result of proactive measures related to the pandemic. The 2022 budget assumes that half of the regularly scheduled meetings will be conducted in-person. The 2022 travel and meetings

budget is equal to roughly 61% of the actual spend in 2019, the most recent full year of normal operations.

V. CAPITAL PROJECTS

SPP expects 2022-2024 capital expenditures to be approximately $43.5 million.

Beginning in early 2021, SPP compiled a comprehensive list of projects in consideration for the 2022-2024 budget under the direction of the PRPC and in collaboration with staff from the project management office (PMO), accounting and IT departments. These projects are in addition to the foundation capital expenditures for IT, operations, engineering, settlements and facilities for routine refresh and upkeep.

SPP directors on the PRPC review enterprise project requests and approve those that align with and support SPP value propositions and strategic objectives. Generally, business cases are developed by the business owner of the effort, with the support of the PMO and the sponsoring director. In some cases, the PRPC recognizes that while it is too early to submit a detailed business case, there is awareness of looming enterprise efforts that will require coordinated planning and accordingly will have an impact on resources available for project work. In those cases, the PRPC has included such efforts even when a business case has not yet been submitted for consideration. There were four projects included in the portfolio for which no budget was submitted due to the high degree of uncertainty as to scope and timing. An overview of these efforts is provided later in this section.

For the 2022-2024 budget planning cycle, the PRPC recommended a portfolio of 21 projects to the SPP officer team. There were no incremental headcount requests for any of the projects submitted.

The PRPC recommended projects as a portfolio of projects, in various stages of implementation, consistent with the project pipeline and portfolio management principles adopted by the PRPC. It specifically included 13 newly proposed efforts and eight projects and programs evaluated and prioritized in previous years. The officers approved the portfolio as recommended by the PRPC to be considered in the 2022-2024 capital budget.

The following table summarizes the **capital** impact of projects for the 2022-2024 budget cycle, including projects approved in previous years not expected to be completed in 2021. There were projects in the portfolio for which there are only operating expense impacts. An overview of those projects is provided later in this section, but are not included in the table below.

2022 - 2024 Capital Expenditures ($ millions)

	Prior Year(s)	2022 Budget	2023 Forecast	2024 Forecast	Total Capital
Capital Projects					
EMS, CMT & Markets Upgrade	$ 2.0	$ 1.2	$ -	$ -	$ 3.2
SCRIPT	-	1.7	1.0	0.2	2.8
HITT M1 Improve Congestion Hedging	-	1.0	0.8	-	1.8
IAM - User Lifecycle	-	-	1.2	-	1.2
Identity Access Management Deployment (IAM)	0.2	0.5	-	-	0.7
Ramp Product	0.6	0.2	-	-	0.8
HITT Multi-Day Unit Commit	-	-	0.4	0.4	0.8
HITT Uncertainty Product Development	-	0.6	0.1	-	0.7
Data Aging and Archiving	-	0.6	-	-	0.6
Electric Storage and Hybrid	-	0.3	-	-	0.3
Freeze Date Replacement	0.1	0.2	-	-	0.2
Interface Pricing & Pseudo Tie Modeling	-	-	0.2	-	0.2
ICCP Upgrade	-	0.1	0.1	-	0.1
Data Loss Prevention	-	0.1	-	-	0.1
Fast Source Resource Logic	0.1	0.1	-	-	0.2
Total Capital Projects	**$ 2.8**	**$ 6.5**	**$ 3.7**	**$ 0.6**	**$ 13.6**
Foundation					
Information Technology		$ 8.4	$ 7.8	$ 8.0	$ 24.2
Operations		2.8	2.5	2.5	7.7
Engineering		0.2	0.1	0.1	0.4
Facilities		0.2	0.1	0.1	0.5
Settlements		0.1	-	-	0.1
Total Foundation *		**$ 11.6**	**$ 10.5**	**$ 10.6**	**$ 32.8**
2022 - 2024 Capital Budget Before Contract Services	**$ 2.8**	**$ 18.1**	**$ 14.3**	**$ 11.2**	**$ 46.3**
2022-2024 SPP Capital Budget					**$ 43.5**
Contract Services					
RC West - EMS Upgrade	$ 0.2	$ 0.1	$ -	$ -	$ 0.4
WEIS Ongoing WEIS Market Enhancements		0.2	0.2	-	0.4
Total Contract Services (funded thru contract revenues)	**$ 0.2**	**$ 0.3**	**$ 0.2**	**$ -**	**$ 0.8**
2022 - 2024 Capital Budget Including Contract Services		**$ 18.4**	**$ 14.5**	**$ 11.2**	**$ 44.0**

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

CARRYOVER PROJECTS

Certain projects were approved to start in previous years and have capital spend associated with the completion of those projects in the 2022-2024 budget cycle. A brief overview and the current status of each project is presented below.

EMS CMT Markets Software Upgrade

This project addresses the hardware refresh and software upgrade required to continue operations of the EMS, CMT and Markets applications. Both the system software and the hardware used for the systems are due for refresh by December 2022. In addition, a time frequency device must be replaced in conjunction with this project no later than September 2022, which is the timeline for this project. The EMS and Markets systems are critical CIP applications that require continual patch source and vendor support to operate reliability and market functions.

The project requirements were completed in Q1'21. During 2Q'21, the vendor delivered a final statement of work and development work commenced. Implementation is expected in 3Q'22.

EMS, CMT & Markets Upgrade	Prior Year(s)	2022 Budget	2023 Forecast	2024 Forecast	Total
Project Capital	$ 2.0	$ 1.2	$ -	$ -	$ 3.2
IT Capital	-	-	-	-	-
Department Operating	-	-	-	-	-
IT Operating	-	-	-	-	-
Total Cost	$ 2.0	$ 1.2	$ -	$ -	$ 3.2

Identity and Access Management (IAM) Deployment

The project was initially launched in 2017 and an industry-leading IAM tool was acquired. It became apparent in 2018 that the initial scope of the implementation phase was not sufficient and the project was paused. A consultant was engaged in 2020 to perform an analysis of the current state of the program through the review of business procedures and performance of various assessments. Through SPP's initial efforts in the project, lessons learned, expanded internal knowledge and understanding, and consultation with IAM and regulatory experts, a dedicated and expanded effort was initiated to develop a successful IAM program that would focus on overall security and compliance related to identity and access management with the appropriate overarching framework, processes, procedures, tools and personnel.

In 4Q'20, the SPP Oversight Committee approved the scope for a multi-phased approach to establish and support a comprehensive IAM program. During 1Q'21, the Finance Committee approved $0.4 million out of budget spend for 2021 in addition to the $0.5 million that was included in the 2021 budget prior to re-scoping of the project as explained above. The additional costs to complete all remaining phases is submitted under the IAMS User Lifecyle project as described under the 2022-2024 Capital Project section.

The approved spend for 2021 included the installation of the IAM solution into production to run user access certification campaigns and support provisioning and de-provisioning of access for a defined set of targets in a phased approach and to identify and integrate additional

applications into the solution. Discovery work commenced in April 2021 with the expectation that a formal set of requirements and technical design for installation would be completed by the end of 2Q'21. The discovery phase is now not expected to be completed until the end of 3Q'21 primarily due to resource constraints. At that time, the project will be paused until resource issues are resolved. Tentatively, it is anticipated that the next phase (deployment and configuration) will not commence until 1Q'22. The full impact to the timing and cost of remaining phases is currently being assessed.

Identity Access Management Deployment (IAM)	Prior Year(s)	2022 Budget	2023 Forecast	2024 Forecast	Total
Project Capital	$ 0.2	$ 0.5	$ -	$ -	$ 0.7
IT Capital	-	-	-	-	-
Department Operating	0.2	0.1	-	-	0.3
IT Operating	-	-	-	-	-
Total Cost	$ 0.4	$ 0.6	$ -	$ -	$ 1.0

Ramp Product

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

This project addresses the impact that resource ramp shortages in the market cause with respect to short-term spikes in market prices by designing methods to better anticipate the need for responsive resources in the market.

The project requirements were finalized during Q1'21 and development began in early Q3'21. Due to vendor resource constraints, the target implementation has been pushed out from 4Q'21 to 1Q'22.

Ramp Product	Prior Year(s)	2022 Budget	2023 Forecast	2024 Forecast	Total
Project Capital	$ 0.6	$ 0.2	$ -	$ -	$ 0.8
IT Capital	-	-	-	-	-
Department Operating	-	-	-	-	-
IT Operating	-	-	-	-	-
Total Cost	$ 0.6	$ 0.2	$ -	$ -	$ 0.8

Freeze Date Replacement

SPP's congestion management process details the method used to allocate rights for transmission service on flow gates with shared impacts between one or more parties of the

Congestion Management Process (CMP) membership (Midcontinent Independent System Operator (MISO), SPP, PJM Interconnection, LG&E and KU Energy, Tennessee Valley Authority (TVA) and Manitoba Hydro (MHEB)). The process is based on a methodology that employs a baseline of transmission reservations set in 2004, known as the freeze date.

The overarching objective of the project will be to update the process that calculates firm flow entitlements (FFE) on reciprocal constraints used in the real-time congestion processes in accordance with new rules and requirements agreed upon by CMP members.

The project was broken into two phases. Phase I of the project allows new designated network resources (DNR) to participate in the allocation process, and was implemented in June of 2018 with no vendor software changes required.

SPP is currently working with other CMP members to develop and implement Phase II. The Phase II design is intended to better align the allocation process with the CMP members' respective planning processes. Phase II will require vendor system changes and is tentatively scheduled to start later in 2021 with an implementation date targeted for 2022.

Freeze Date Replacement	Prior Year(s)	2022 Budget	2023 Forecast	2024 Forecast	Total
Project Capital	$ 0.1	$ 0.2	$ -	$ -	$ 0.2
IT Capital	-	0.1	-	-	0.1
Department Operating	-	-	-	-	-
IT Operating	0.0	0.0	0.0	0.0	0.0
Total Cost	$ 0.1	$ 0.3	$ 0.0	$ 0.0	$ 0.4

Fast-Start Resource Logic

FERC opened a proceeding to examine price formation in organized markets in 2014. The proceeding aimed to ensure that pricing rules established in RTO/ISO markets would satisfy four objectives: 1) maximize market surplus for consumers and suppliers, 2) provide correct incentives for market participants to follow commitment and dispatch instructions, make efficient investments in facilities and equipment, and maintain reliability, 3) provide transparency so that market participants understand how prices reflect the actual marginal cost of serving load and the operational constraints of reliably operating the system and 4) ensure that all suppliers have an opportunity to recover their costs. This led to an issuance of a NOPR in December 2016. FERC later withdrew this NOPR and issued 206 filings to 3 RTO's. SPP was one of the recipients of the 206 filings from FERC. SPP's Fast Start Resource design needed to change in order to meet the requirements from FERC.

In 2Q'21, staff was engaged in requirements development. The vendor will use this documentation as a basis to provide a statement of work which is expected to be finalized during 3Q'21. Implementation is expected in 2Q'22.

Fast Source Resource Logic	Prior Year(s)	2022 Budget	2023 Forecast	2024 Forecast	Total
Project Capital	$ 0.1	$ 0.1	$ -	$ -	$ 0.2
IT Capital	-	-	-	-	-
Department Operating	-	-	-	-	-
IT Operating	-	-	-	-	-
Total Cost	$ 0.1	$ 0.1	$ -	$ -	$ 0.2

2022-2024 CAPITAL PROJECTS

A discussion for all projects commencing in 2022-2024 is presented below. Costs presented for each project include all capital and operating costs expected during 2022-2024 associated with the implementation and ongoing maintenance of these projects. The IT Capital portion of these projects is included in the IT Foundation budget as discussed in a later section while the operating expenses associated with these projects are included in the operating expense budgets for the respective departments.

Strategic and Creative Re-engineering of Integrated Planning Team (SCRIPT)

SCRIPT was established August 31, 2020, to holistically evaluate all transmission planning and applicable cost allocation processes, consider and evaluate options to strategically reengineer those processes, and finalize a report with high-level recommendations to the Board and Members Committee for improvements. The SCRIPT is expected to complete its work by October 2021.

Following approval of SCRIPT recommendations and new or updated policies, the SCRIPT Program (SPRGM) will implement the processes, tools, study, strategic initiatives and resource plans necessary to achieve the improvements.

Given the current status of this project as it relates to the stakeholder approval process, it is reasonably possible that scope, resource estimates, and budget could change materially from the information presented below.

SCRIPT	Prior Year(s)	2022 Budget	2023 Forecast	2024 Forecast	Total
Project Capital	$ -	$ 1.7	$ 1.0	$ 0.2	$ 2.8
IT Capital	-	-	-	-	-
Department Operating	-	0.2	0.2	0.2	0.5
IT Operating	-	0.2	0.2	0.3	0.7
Total Cost	$ -	$ 2.1	$ 1.3	$ 0.6	$ 4.0

HITT M1 Improve Congestion Hedging

SPP BOD approved HITT M1 Improve Congestion Hedging in July 2019 and directed the Market Working Group (MWG) to write a policy paper to use Counterflow Optimization (CFO) in the ARR Allocation. The MWG and the MWG provided a recommendation to keep the current market rules in congestion hedging. The MWG sent the recommendation to the Strategic Planning Committee (SPC) for additional consideration.

The SPC directed the vendor of the congestion hedging system to provide a root cause analysis of the policy and rules for SPP's Congestion Hedging market and make a recommendation to the SPC. The vendor is expected to present their analysis and recommendation to the SPC at their October 2021 meeting. If the SPC decides to take action and change the rules of the ARR Allocation, SPP will need to work on this project. The SPC will then make a recommendation to the MOPC, RSC and BOD. If the SPC recommendation is approved by the BOD, then SPP will draft an RR for the approved recommendation.

NOTE: Given the current status of this project as it relates to the stakeholder approval process, it is reasonably possible that scope, resource estimates, and budget could change materially from the information presented below.

HITT M1 Improve Congestion Hedging	Prior Year(s)	2022 Budget	2023 Forecast	2024 Forecast	Total
Project Capital	$ -	$ 1.0	$ 0.8	$ -	$ 1.8
IT Capital	-	-	-	-	-
Department Operating	-	-	-	-	-
IT Operating	-	-	0.1	0.1	0.2
Total Cost	$ -	$ 1.0	$ 0.9	$ 0.1	$ 2.0

Identity Access Management (IAM) User Lifecycle

This project complements and expands the functionality of the 2021 IAM Deployment Project to address SPP's long-term IAM needs. This additional functionality will allow SPP to fully utilize the automated capabilities of the IAM solution and reduce both compliance and security risk surrounding access management. The additional functionality is to be implemented in the

following phases of the overall IAM Program. (Note: Phases 1 and 2 are currently underway.)

- Phase 3 Self-Service Password Management
- Phase 4a User Lifecycle Management
- Phase 4b Advanced User Lifecycle Management
- Phase 4c Access Requests
- Phase 5 Next Generation Ticketing Integration
- Phase 6 Iterative Integration of Additional Applications

The comprehensive IAM program was presented to both the Oversight Committee and the Finance Committee in late 2020/early 2021. Both committees supported the completion of the IAM program including the additional funding needed for phases 3-6 as presented in this project. Given that the IAM Deployment project is scheduled to be paused at the end of 3Q'21 due to resource constraints, the impact to the User Lifecycle project is unknown at this time as management is currently assessing the future course of the overall program.

IAM - User Lifecycle	Prior Year(s)	2022 Budget	2023 Forecast	2024 Forecast	Total
Project Capital	$ -	$ -	$ 1.2	$ -	$ 1.2
IT Capital	-	0.1	-	-	0.1
Department Operating	-	-	-	-	-
IT Operating	-	0.0	0.0	0.0	0.1
Total Cost	$ -	$ 0.1	$ 1.3	$ 0.0	$ 1.4

HITT Multi-Day Unit Commit

The Market Working Group, SPP Market Monitoring Unit (MMU), Strategic Planning Committee and Export Pricing Task Force have all expressed concerns with the frequency of negative prices in SPP. Additionally, the SPP MMU and MWG have expressed concerns with the amount of self-committed resources in the SPP Integrated Marketplace. A significant portion of that self-commitment can be attributed to market rules and current limitations that prevent longer lead resources from being evaluated by the market clearing engine (MCE). Additionally, as more analysis and discussion have occurred on this topic, it has been noted that with our current and future projected fuel mix, fuel assurance is becoming increasingly important for grid reliability and resilience.

This work would seek to address the sub-optimal market options for long lead resources as well as a more forward look at resource availability and needs by creating a Multi-Day Economic Commitment Product. This project is to focus on the creation of a longer term Multi-Day product or market that provides price assurance, fuel assurance and addresses the changing needs of the grid.

Given the current status of this project as it relates to the stakeholder approval process, it is reasonably possible that scope, resource estimates, and budget could change materially from the information presented below.

HITT Multi-Day Unit Commit	Prior Year(s)	2022 Budget	2023 Forecast	2024 Forecast	Total
Project Capital	$ -	$ -	$ 0.4	$ 0.4	$ 0.8
IT Capital	-	-	-	-	-
Department Operating	-	-	-	-	-
IT Operating	-	-	-	-	-
Total Cost	$ -	$ -	$ 0.4	$ 0.4	$ 0.8

HITT Uncertainty Product Development

SPP wind generation capacity continues to rise. We currently have 26 GW of wind capacity in our BA footprint and we already had an 81.85% wind penetration. It is our experience over last few years that weather forecast vendors and in particular wind forecast vendors are not always able to accurately forecast the weather and wind generation on a day ahead basis. Besides uncertainty resulting from wind forecast errors we also experience uncertainty resulting from load forecasting and forecasting of the unscheduled generation outages on day ahead and multi day ahead basis. A market uncertainty product will help with mitigating this concern.

At the direction of the HITT and the Markets Strategic Roadmap, SPP completed a study that provided the value of an uncertainty product and our system vendor delivered a functional prototype. SPP staff completed a Market Revision Request (RR449) incorporating the changes needed for the uncertainty product in the Integrated Marketplace Protocols and SPP Tariff. RR449 was approved by the MOPC in July 2021. The next step will be the development of the tariff filing to be submitted to FERC and upon approval, SPP will begin detailed development discussions with our vendor. This process will move at a faster pace than typical due to the aforementioned functional prototype that was developed.

HITT Uncertainty Product Development	Prior Year(s)	2022 Budget	2023 Forecast	2024 Forecast	Total
Project Capital	$ -	$ 0.6	$ 0.1	$ -	$ 0.7
IT Capital	-	-	-	-	-
Department Operating	-	-	-	-	-
IT Operating	-	0.0	0.0	0.0	0.0
Total Cost	$ -	$ 0.6	$ 0.1	$ 0.0	$ 0.7

Data Aging and Archiving

SPP data from 2007 to 2018 grew from 190 TB to 4870 TB, an increase of 2,400%. In addition to growth, industry experts state that of all the data created and consumed, a surprising 99.5% of that collected data is never used or analyzed. Excessive data retention can pose a risk to SPP in the event that personally identifiable information (PII), outdated document drafts, etc., are not removed in a timely fashion and could be damaging to SPP if disclosed or if the data is breached. Lastly, excessive or outdated data retentions cause operational and manual bottlenecks.

Archiving is the process of moving data that is no longer actively used to a separate low-cost storage device for long-term retention. ***Aging*** is the process of permanently removing data that is no longer actively used, redundant, obsolete (outdated) or trivial.

This project will implement tools that will help SPP:

- Reduce the cost of primary storage.
- Better manage data retention standards set by the tariff.
- Reduce operational requirements for user read/write activity on large volume sets.
- Decrease exposure to risk associated with data leakage or breaches.

Data Aging and Archiving	Prior Year(s)	2022 Budget	2023 Forecast	2024 Forecast	Total
Project Capital	$ -	$ 0.6	$ -	$ -	$ 0.6
IT Capital	-	0.0	-	-	0.0
Department Operating	-	0.0	0.0	-	0.0
IT Operating	-	0.1	0.1	0.1	0.4
Total Cost	$ -	$ 0.7	$ 0.1	$ 0.1	$ 1.0

Electric Storage and Hybrid

The need to accommodate the deployment of electric storage resources (ESRs) and hybrid resources (one or more ESRs paired with one or more conventional or other renewable resources) has been increasing in recent years and is expected to continue to do so in the future due to requirements of FERC Order 841.

As the MOPC's ESR Steering Committee (ESRSC) and the SPC's ESR Task Force (ESRTF) complete their efforts and provide recommendations and guidance on ESR policies and procedures as well as multi-use capability, the information developed will be used as reference, guidance and input for this project. The outputs of the ESRSC and ESRTF efforts will be used in addition to other information gathered as part of this project to help determine the best methods of integration to interconnect and incorporate these resources into SPP's processes.

Ultimately, this project will scope and implement a solution that can model and study ESRs and hybrid resources as generation or as load, or as both generation and load. Policy additions and changes as well as tariff and other governing document modifications determined and implemented by the ESRSC, ESRTF and other groups will require that SPP be in a position to enforce issuance of NTCs for qualifying ESR solutions that address needs on the SPP transmission system. This will require process and application changes to be mapped, verified or enhanced to ensure ESRs can be modeled and simulations can be run with the additional ESR and hybrid resource data. Impacted systems will include PSS/E, MOD, SERVM and PROMOD. Changes will also need to be coordinated with any other related projects identified based on tariff changes and associated business practice and process changes.

Electric Storage and Hybrid	Prior Year(s)	2022 Budget	2023 Forecast	2024 Forecast	Total
Project Capital	$ -	$ 0.3	$ -	$ -	$ 0.3
IT Capital	-	0.0	-	-	0.0
Department Operating	-	-	-	-	-
IT Operating	-	0.0	0.0	0.0	0.0
Total Cost	$ -	$ 0.3	$ 0.0	$ 0.0	$ 0.3

Interface Pricing & Pseudo Tie Modeling

SPP will collaborate with MISO to design a common methodology for modeling pricing interfaces and treating pseudo-tie-congesting charges. Once SPP and MISO agree on a methodology, they will begin designing, testing and implementing the changes. Multiple vendor changes may be required to properly model the new interfaces. Settlement changes will be required to remove pseudo-tie overlapping congestion charges.

The project was originally scheduled to begin in 2021, but based on the progression of SPP and MISO reaching an agreement, the timeline for this project was pushed to January 2023 with completion by the end of that year.

Interface Pricing & Pseudo Tie Modeling	Prior Year(s)	2022 Budget	2023 Forecast	2024 Forecast	Total
Project Capital	$ -	$ -	$ 0.2	$ -	$ 0.2
IT Capital	-	-	-	-	-
Department Operating	-	-	-	-	-
IT Operating	-	-	0.0	0.0	0.0
Total Cost	$ -	$ -	$ 0.2	$ 0.0	$ 0.2

ICCP Upgrade

This project addresses the software upgrades required to continue operations of the ICCP system. The ICCP system is a critical CIP application that requires continual patch source and vendor support to operate reliably. ICCP currently operates on software that is projected to lose vendor support in October 2023. To maintain reliable operations and remain up-to-date with supported versions of both vendor and infrastructure software, the systems must be updated to the latest standard version no later than May 2023.

The work included in this project impacts the ICCP and EMS systems and potentially some utility applications owned by the Modeling & Data Integrity and IT Reliability teams. The transition to the new system will be done as seamlessly as possible, to cause minimal interruption of ICCP service to stakeholders.

ICCP Upgrade	Prior Year(s)	2022 Budget	2023 Forecast	2024 Forecast	Total
Project Capital	$ -	$ 0.1	$ 0.1	$ -	$ 0.1
IT Capital	-	-	-	-	-
Department Operating	-	-	-	-	-
IT Operating	-	0.0	0.0	0.0	0.0
Total Cost	$ -	$ 0.1	$ 0.1	$ 0.0	$ 0.1

Data Loss Prevention

Data breaches and security incidents are increasing and the dynamics are changing as insider threats are growing. Employees can make innocent mistakes that put data security at risk. The landscape of where data lives is changing as SPP purchases more cloud services and places data in physical locations outside of SPP's complete control and visibility. In addition, these cloud services don’t always restrict access from the SPP corporate network and can bypass the current data loss prevention tools in place. The costs of data breaches are increasing and heavier fines are being implemented. The importance of data security and compliance is becoming more evident.

Data loss prevention (DLP) technologies identify, monitor and protect data in use or in motion on the network whether on premise or in cloud services and data at rest whether on storage, desktops, laptops and/or mobile devices.

This project will implement tools that will help SPP:

- Identify, monitor and protect data regardless of the physical location.
- Mitigate the risk of data loss by preventing outbound flow of sensitive information.

- Enforce data security policies and provide a centralized management framework.
- Provide data discovery and classification.

Data Loss Prevention	Prior Year(s)	2022 Budget	2023 Forecast	2024 Forecast	Total
Project Capital	$ -	$ 0.1	$ -	$ -	$ 0.1
IT Capital	-	0.0	-	-	0.0
Department Operating	-	0.2	-	-	0.2
IT Operating	-	0.1	0.2	0.2	0.5
Total Cost	$ -	$ 0.3	$ 0.2	$ 0.2	$ 0.7

Neteeza Replacement

SPP currently utilizes a data warehousing platform known as "Neteeza" to provide historical data analysis for a variety of SPP business users including Market Monitoring Unit (MMU), Scheduling, Reliability, Credit, Settlements and Markets.

These appliances (consisting of hardware and proprietary software) were acquired in November 2018, and were expected to have an approximate five-year useful life based on SPP's data growth and availability of vendor support. Based on recent research by the IT support team, SPP's data growth has aligned with expectations, and vendor support has been confirmed to expire as of April 2023.

In consideration of these milestones, planning activities are underway for the evaluation and replacement of the existing Netezza environment. The effort will be divided into two phases:

- Phase 1 Evaluation of requirements and replacement options
- Phase 2 Recommendation and implementation of the replacement solution

NOTE: The project team is evaluating two replacement solutions. One solution (new Neteeza hardware) would entail a traditional upfront capital investment with ongoing maintenance costs. The second option would be structured as an annual services offering, and therefore treated as an operating expense. For planning purposes, the $2.8M for the replacement solution is being included as an IT Foundation Capital expenditure.

Neteeza Replacement	Prior Year(s)	2022 Budget	2023 Forecast	2024 Forecast	Total
Project Capital	$ -	$ -	$ -	$ -	$ -
IT Capital	-	2.8	-	-	2.8
Department Operating	-	-	-	-	-
IT Operating	-	0.5	0.5	0.5	1.5
Total Cost	$ -	$ 3.3	$ 0.5	$ 0.5	$ 4.3

PROMOD Upgrade

Implementation of the PROMOD upgrade will include procurement, benchmarking with the new and old software, installation, integrations, substantial automation updates required for compatibility and process improvements, testing, and process documentation. The automation updates tied to this upgrade are critical to successful implementation.

The upgrade will be to a software as a service (SaaS) option and will provide improved performance, member value and affordability. Staff will have a better toolset to help maintain an economical and optimized transmission system. This upgrade is also tied to two recommendations from the Holistic Integrated Tariff Team (HITT). They are S1 to add technological advances and S2 to keep seams as a priority, both in support of SPP's strategic plan. The Economic Studies Working Group (ESWG) has also been actively involved with the evaluation process and the ultimate decision to upgrade the PROMOD application.

ProMod Upgrade	Prior Year(s)	2022 Budget	2023 Forecast	2024 Forecast	Total
Project Capital	$ -	$ -	$ -	$ -	$ -
IT Capital	-	-	-	-	-
Department Operating	-	0.4	0.1	0.1	0.6
IT Operating	-	-	-	-	-
Total Cost	$ -	$ 0.4	$ 0.1	$ 0.1	$ 0.6

The following projects were not financially considered in the 2022-2024 budget other than to acknowledge their potential impacts on future work once definitive information becomes known relative to scope, resource requirements, and timing. They are mentioned here for informational purposes only.

FERC Order 2222

SPP staff, working with the FERC Order 2222 Task Force, is currently updating tariff language to accommodate the ten requirements outlined in the order. SPP submitted a request for a filing

extension and FERC approved the request. Once the working groups and task force approve the language, SPP will submit the FERC filing on April 28, 2022. The filing is expected to result in multiple project submissions into the project pipeline. The scope and extent of the implementation projects is pending approved changes to the SPP Tariff. As more information is solidified, budget and resource estimates will be compiled and schedules will be developed.

West RTO

The West RTO effort is currently in the scoping phase where system changes, resource needs, budget estimates and schedules are being defined. Once estimates for budget, resources, and schedule have been defined, the project/program will be submitted into the project pipeline and the PRPC will revisit the staging of this project into the portfolio of existing.

Z2 FERC Remand Order

SPP & OG&E appealed the Z2 issue to the DC circuit court. Oral arguments were held on the case in April of this year and issuance of a court order is pending. The expectation is to receive the court's order by late summer, but there is no specific timeframe identified for issuing the order. Depending on the language in the order, additional filings/actions at FERC may be warranted.

As more information solidifies, the project/program will be submitted into the SPP project pipeline and resource and budget estimates will be developed along with the schedule. Once estimates for budget, resources, and schedule have been defined, the PRPC will revisit the staging of this project into the portfolio of existing.

Winter Weather Event Improvements

This project/program is a place holder for future projects resulting from the Winter Weather Comprehensive Review team's recommendations. Additional requirements may be forthcoming from FERC, NERC, and MRO's investigation of the event. As more information solidifies, the project/program will be scoped, and resource and budget estimates will be developed along with the schedule. Once estimates for budget, resources, and schedule has been defined, the PRPC will revisit the staging of this effort into the portfolio of existing work.

FOUNDATION CAPITAL EXPENDITURES

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

IT Foundation

The IT Foundation budget captures corporate-wide hardware and software requirements to support SPP's business applications and systems. This budget is used for ongoing upgrades and replacements of SPP's aged hardware infrastructure, as well as incremental hardware, software, and application requirements driven by new corporate initiatives. The 2022 budget and 2023-2024 forecast by category for IT Foundation is illustrated below.

	2022 Budget	2023 Forecast	2024 Forecast	Total Capital
IT Foundation				
IT Infrastructure Refresh	$ 7.1	$ 6.9	$ 7.2	$ 21.3
New Initiatives	1.2	0.9	0.7	2.9
Total IT Foundation	$ 8.4	$ 7.8	$ 8.0	$ 24.2

IT Foundation – IT Infrastructure Refresh

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

	2022 Budget	2023 Forecast	2024 Forecast	Total Capital
IT Foundation				
IT Infrastructure Refresh				
Servers	$ 2.8	$ 2.1	$ 2.4	$ 7.3
Storage	1.9	1.7	1.7	5.3
Network	1.5	1.9	1.9	5.3
Software licenses and upgrades	0.9	1.2	1.2	3.4
Total IT Infrastructure Refresh	$ 7.1	$ 6.9	$ 7.2	$ 21.3

The major initiatives in the 2022 budget include the following:

- Servers: SPP has approximately 115 servers targeted for replacement during 2022. The cost per server ranges from $10,000 to $55,000 (capital expense portion), contributing to a total budget of $2.8 million and roughly 40% of the IT Foundation budget. The server replacements include larger host machines that support SPP's virtualized environment, along with dedicated servers to support a particular application.

- Storage: SPP's primary targeted investments include:

    - Replacement and new capacity growth for data warehouse
    - Elastic Cloud Storage (ECS) growth for long-term storage retention
    - Data domain upgrade/replacement

- Network: The following key areas are planned to be addressed in 2022:

    - Core Switch Upgrades/Replacements: The current switch technology within SPP's ESP and non-production environments require a tech refresh to accommodate 40G and 100G technology in support of SPP's blade server technology as well as standalone physical servers that all require 10G uplinks to the cabinet switches. This refresh will then allow the ODC cabinet switch fiber uplinks to go from 10G to 40G uplinks allowing for greater server throughput. An example of performance that will be enhanced by 40G/100G technology refresh is any application that synchronize data between databases for high availability purposes, such as SPP's Market systems. Backups of servers will also perform much better and complete quicker, which will avoid server backups from running during normal business hours and slowing business traffic.

    - Firewall replacement and upgraded capacity between data centers: This item is specific to line cards/modules within existing 64k chassis at the Corporate layer of the network. These line cards will allow for greater throughput between the datacenters in support of server backups and database synchronization of highly available applications. The more firewall modules/line cards added to the 64k the greater throughput and processing can be achieved. Firewalls are very process intensive since they inspect each packet for allowed access as well as malicious communications. Adding additional capacity to the firewalls allows all firewall-processed traffic to reach it's destination quicker. Additionally, there are cases where long-running file transfers and database syncronzations fail and have to be re-run for the job to complete successfully. Faster processing of the packets through the firewalls will allow for a better end-user experience and more efficient use of time and resources.

    - VPN upgrade/replacement: The work from home effort during the pandemic has necessitated a robust and reliable VPN system. The current service provider is a small company that has not improved upon their technical support model or invested in more secure software for their concentrators or endpoint clients. SPP will be moving to a new VPN vendor to address issues with lack of technical support and expertise from the current provider. The need for a reliable VPN solution will continue to be essential given SPP's move to a hybrid work environment post pandemic.

    - 802.11ax Wireless LAN: This hardware will replace the existing 802.11g WLAN (54Mb) throughout the SPP Chenal Campus with a focus on the larger

conference rooms where video conferencing via WLAN has become increasingly more popular. The newer 802.11ax WLAN technology (3.5Gb) will allow for greater wireless bandwidth to stream voice and video services to multiple endpoints in a conference room.

- Software Licenses and Upgrades: SPP plans to perform upgrades to several applications in 2022 and acquire incremental licenses for a number of existing products. A summary of major activities by area is included below:

    - Service Administration Team: As part of hardware growth within the storage hardware platform(s), SPP must maintain associated software licensing for these environments. Additionally, SPP currently uses several tools to monitor the storage infrastructure, and these will need to be upgraded in accordance with the hardware growth.
    - Service Management Team: The software utilized to provide baseline inventories of CIP assets will be upgraded in 2022 to ensure SPP is running on a current supported version. SPP will utilize the software vendor to perform the upgrade. Additionally, it is anticipated that additional licenses of the software utilized for discovery of hardware and software assets will be needed in 2022 to address growth within lower level environments. At a physical server level, SPP has almost 700 servers with 475 in production and roughly 225 in non-production. Plans are to extend licensing to these non- production environments (physical and virtual).
    - Cyber Security and Quality Control: To comply with CIP13 Supply Chain requirements, SPP acquired a software product in 2020 to assist with vendor risk assessments. The team expects to renew/acquire additional licenses (aka tokens) in 2022 based on increased vendor scope that falls within the CIP standard, particularly in the area of physical security assets. Specifically, SPP anticipates buying tokens to cover 12 risk assessments, 20 continuous monitoring vendors, 5 data driven assessments and 120 file integrity assurance (FIAs).
    - IT Applications, Database Administration, Architecture, and Data Services:
        - Market software upgrades: The current versions of the database management software within the current Market system will go unsupported during 2022, and will require an upgrade from the custom vendor to maintain currency.
        - Data Visualization: SPP utilizes software to collect, integrate, analyze and provide data visualizations to support better SPP business decision

making. The current data visualization tool continues to be adopted by more business users/teams within SPP, driving the need for 15 additional server and viewer licenses.

IT Foundation - New Initiatives

The new initiatives category consists of both software purchases related to new technology /functionality as well as incremental hardware and software associated with capital projects. A summary of projects that is expected to drive additional spend is provided below.

IT Foundation	2022 Budget	2023 Forecast	2024 Forecast	Total Capital
New Initiatives				
IT Software and architectural tools/enhancements	$ 1.0	$ 0.7	$ 0.5	$ 2.2
Enterprise projects and other departmental initiatives	0.2	0.2	0.2	0.7
Total New Initiatives	$ 1.2	$ 0.9	$ 0.7	$ 2.9

Enterprise PRPC Projects

The PRPC and officer team approved a large portfolio of projects to begin over the next two years, starting in 2022. Several of these projects require shared IT server and storage infrastructure, including Freeze Date, Electric Storage and Hybrid, IAM-User Lifecycle, Data Loss Prevention, and Data Aging and Archiving. Given these projects are slated to be implemented in a shared infrastructure, the incremental costs are captured in IT's Foundation budget.

IT Projects and New Initiatives

SPP recently developed a five-year strategic plan for technology, which included a number of architectural enhancements to better position SPP for security, automation, and cloud service activities.

These enhancements will be layered and implemented over the five-year period, and will begin in 2022 with the following primary initiatives:

- Architectural ($0.3 million)
    - Multi Factor Authentication: Logging into systems with a username and password is no longer secure due to the increase in sophisticated social engineering and phishing attacks that compromise this information. An

enterprise multi-factor authentication solution will help in securing data and data access for applications, network access, and cloud services.

- Container Orchestration: Container orchestration is the automation of much of the operational effort required to run containerized workloads and services. This includes a wide range of things needed to manage a container's lifecycle, including provisioning, deployment, scaling (up and down), networking, load balancing and more. Container orchestration will provide benefits in the following areas:

  - Reduce server footprint (reduce costs)
  - Speed up deploying applications (speed to market)
  - Reduce time/resources to deploy security patches (reduce risk exposure)
  - Provide a platform that can take advantage of the cloud in the future

- Centralized Key Management: Encryption solutions are a core tool for SPPs data protection. As SPP deploys an increasing number of encryption solutions, we will find ourselves managing inconsistent policies, different levels of protection, and experience escalating costs. A centralized key management system will provide benefits in the following areas:

  - Consolidate data encryption policies
  - Meet regulatory and compliance requirements for encrypting data
  - Separate encrypted data from keys allowing data to be stored in the cloud

- IT Quality Control ($0.2 million)
  - Process Automation: Manual process are currently utilized to capture baseline ports and services per CIP requirements. Efforts to develop an automated software solution that will streamline and automate the current processes are planned in 2022. These efforts will immediately lead to heightened security of our most critical assets, a reduction in compliance risks and NERC CIP self-reports by eliminating errors currently resulting from manual and complex processes, and ultimately reducing fines related to instances of non-compliance.

- Network ($0.4 million)
  - Router/Firewall for ICCP Re-Architecture: This hardware will re-architect the way ICCP communications enter into SPP's network. The goal is to isolate the ICCP traffic onto dedicated hardware that has the ability to route and secure the traffic. This allows for greater redundancy and reduced risk of other environments impacting ICCP traffic flows. The software/perpetual cost is related to encryption/IPS licenses for the hardware.

- Encryption/line card hardware for cloud services: Modules for our external routers will allow us to encrypt links/traffic to cloud services or 3rd party hosted data centers for secure data communications to those remote facilities. The software/perpetual fees are associated with encryption and packet inspection licenses.

- Applications ($0.2 million)
  - Markets MUI Rewrite: The Market User Interface (MUI) is part of the vendor developed market system and was written in a framework that is no longer supported, resulting in minimal updates and SPP exposure to security updates. An effort to develop a replacement interface using a modern, secure, and supported platform is expected to commence in 2022.

Operations Marketplace and Other System Enhancements

The operations foundation budget primarily consists of planned enhancements to the market operations system (MOS). This includes modifications to the market operator interface (MOI), market user interface (MUI) and market clearing engine (MCE) applications as well as the market database (MDB). MOS enhancements drive over 85 percent of the operations foundation budget. Numerous enhancements in 2022 are planned for the EMS in conjunction with the larger system upgrade project that is currently underway. The remainder includes enhancements for numerous other systems and tools as summarized in the table below.

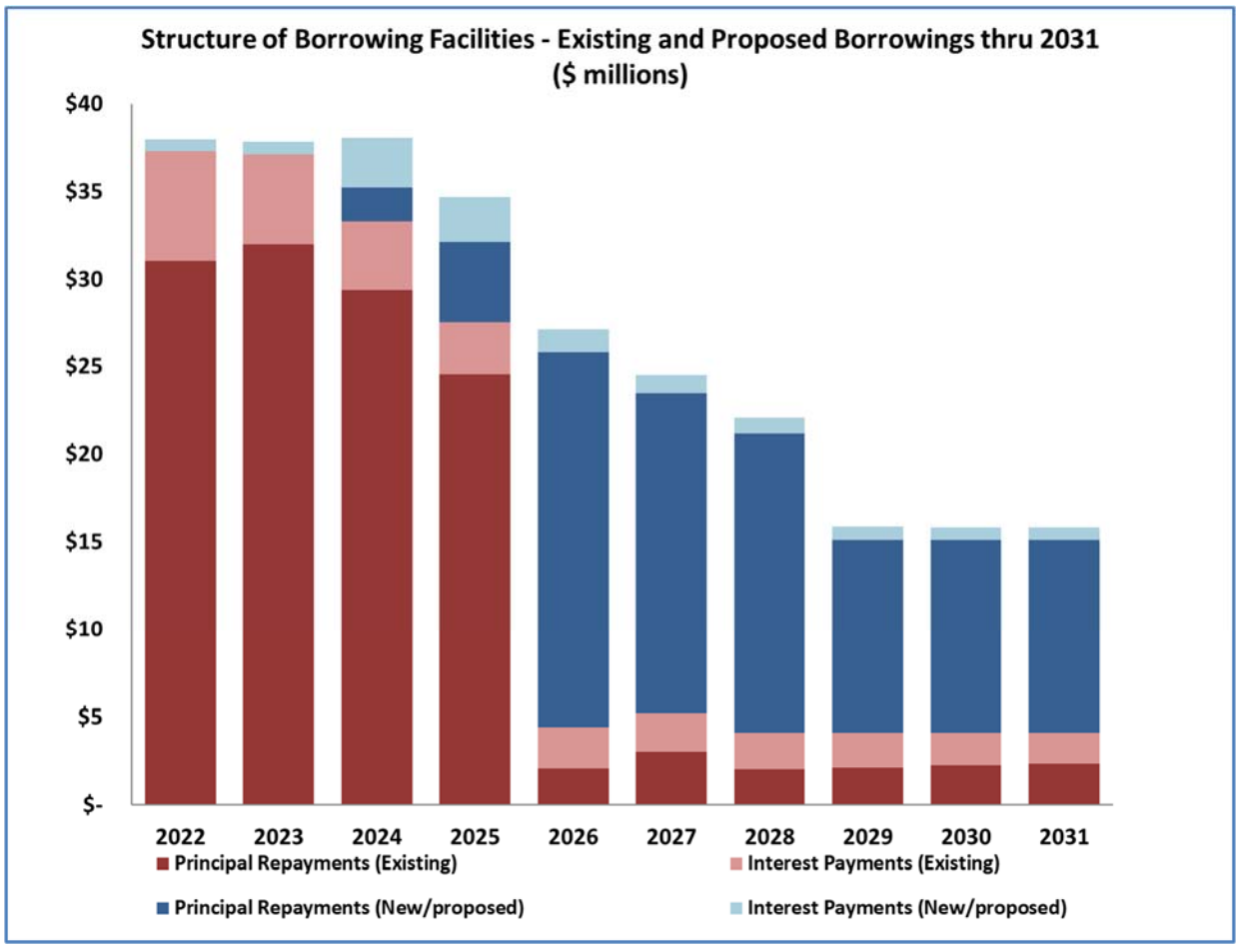
	2022 Budget	2023 Forecast	2024 Forecast	Total Capital
Operations Marketplace and Other System Enhancements				
Market Operation System (MOS)	$ 2.2	$ 2.2	$ 2.2	$ 6.6
Energy Management System (EMS)	0.4	0.1	0.1	0.7
Dispatch Training Simulator (DTS)	0.1	0.1	0.1	0.2
Centralized Modeling Tool (CMT)	0.0	0.0	0.0	0.1
DSA Tools (PSAT, VSAT, TSAT)	0.0	0.0	0.0	0.1
Phaser Measurement Unit (PMU)	0.0	0.0	0.0	0.1
Control Room Operations Window (CROW)	0.0	0.0	0.0	0.0
Total Operations Marketplace and Other System Enhancements	$ 2.8	$ 2.5	$ 2.5	$ 7.7

VI. DEBT SERVICE

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

SPP's capital projects are funded from borrowings under medium and long-term credit agreements, primarily with institutional investors. SPP generally aims to match the duration of these borrowings to the useful life of the acquired assets. The capital project costs are not included in the NRR calculation; however annual principal and interest payments for borrowings (net of capitalized interest) are included. SPP's outstanding borrowings (excluding contract services implementation borrowings) are projected to equal $184.5 million as of Jan. 1, 2022, with principal payments of $27.8 million, $28.7 million and $29.1 million in 2022, 2023 and 2024, respectively. Principal payments associated with contract services are excluded from the NRR calculation, as those costs are recovered through funding outlined in the respective contracts.

SPP utilized funds from an unsecured five-year $80.0 million revolving line of credit to fund capital expenditures in 2019 and 2020. Lenders convert advances from the credit line to four-year term notes at the end of each year. SPP is expected to receive funds in late 2021 from a new $28 million loan to fund 2021 and 2022 capital expenditures. SPP will resume utilizing the line of credit to fund capital expenditures starting in 2023. The following chart illustrates SPP's principal and interest payment obligations including projected new borrowings through 2031.



The schedule below shows the principal amounts outstanding for each borrowing at the beginning and end of the 2022-2024 budget periods and annual principal payments (excluding principal payments associated with contract services).

Future Debt Repayments ($ millions)								
	Issue Date	Issue Amount	Due Date	Balance 1/1/2022	2022 Prin. Pmts.	2023 Prin. Pmts.	2024 Prin. Pmts.	Balance 12/31/2024
5.51% notes due 2027	3/23/2007	$5.1	Feb-2027	$2.1	($0.2)	($0.2)	($0.2)	$1.5
4.82% construction notes due 2042 (2010A, 2010B)	10/31 & 12/28/2010	$65.0	Dec-2042	$54.1	($1.5)	($1.6)	($1.7)	$49.3
3.55% integrated markets notes due 2024 (2010C)	3/30/2011	$70.0	Mar-2024	$15.8	($7.0)	($7.0)	($1.8)	$0.0
3.00% capital funding notes due 2024 (2012D-1)	5/30/2012	$50.0	Mar-2024	$11.3	($5.0)	($5.0)	($1.3)	$0.0
3.25% capital funding notes due 2024 (2012D-2)	11/30/2012	$50.0	Sep-2024	$13.8	($5.0)	($5.0)	($3.8)	$0.0
3.8% capital funding notes due 2025 (2014-E)	3/21/2014	$37.0	Dec-2025	$37.0	$0.0	$0.0	($15.0)	$22.0
4.95% senior notes due 2024	3/10/2014	$33.0	Mar-2024	$12.3	($5.0)	($5.8)	($1.5)	$0.0
2.88% term note due 2024 (2019 capex)	4/15/2020	$11.0	Mar-2024	$6.3	($2.8)	($2.8)	($0.7)	$0.0
2.88% term note due 2024 (2020 capex)	1/7/2021	$5.2	Dec-2024	$4.0	($1.3)	($1.3)	($1.4)	$0.0
New term note $28M (2021 & 2022 capex)	12/31/2021	$28.0	Sep-2028	$28.0	$0.0	$0.0	$0.0	$28.0
New term note due 2026 (2023 capex)	1/1/2024	$8.0	Dec-2027	$0.0	$0.0	$0.0	($1.9)	$6.1
Total		**$362.4**		**$184.5**	**($27.8)**	**($28.7)**	**($29.1)**	**$106.9**

Western Services

SPP utilized its unsecured revolving line of credit to fund implementation costs for western contract services. Total draws were converted into four-year term notes at the end of implementation. Principal and interest obligations are being recovered from contract customers as part of annual contract billing during the initial term of each contract. Implementation draws during 2019 of $4.7 million were converted into term notes for the reliability coordination services contract. Term note conversion for implementation of the energy imbalance market was $8.4 million.

Future Debt Repayments - Contract Services ($ millions)								
	Issue Date	Issue Amount	Due Date	Balance 1/1/2022	2022 Prin. Pmts.	2023 Prin. Pmts.	2024 Prin. Pmts.	Balance 12/31/2024
2.88% term note due 2023	4/1/2020	$4.7	Dec-2023	$2.3	($1.2)	($1.1)	$0.0	$0.0
2.88% term note due 2025	3/16/2021	$8.4	Mar-2025	$6.9	($2.0)	($2.1)	($2.2)	$0.6
Total		**$13.1**		**$9.2**	**($3.2)**	**($3.3)**	**($2.2)**	**$0.6**

VII. CONTRACT SERVICES

SPP provides services to several utility customers in the western region under stand-alone contracts separate from the SPP regional tariff.

WESTERN INTERCONNECTION UNSCHEDULED FLOW MITIGATION PLAN (WIUFMP)

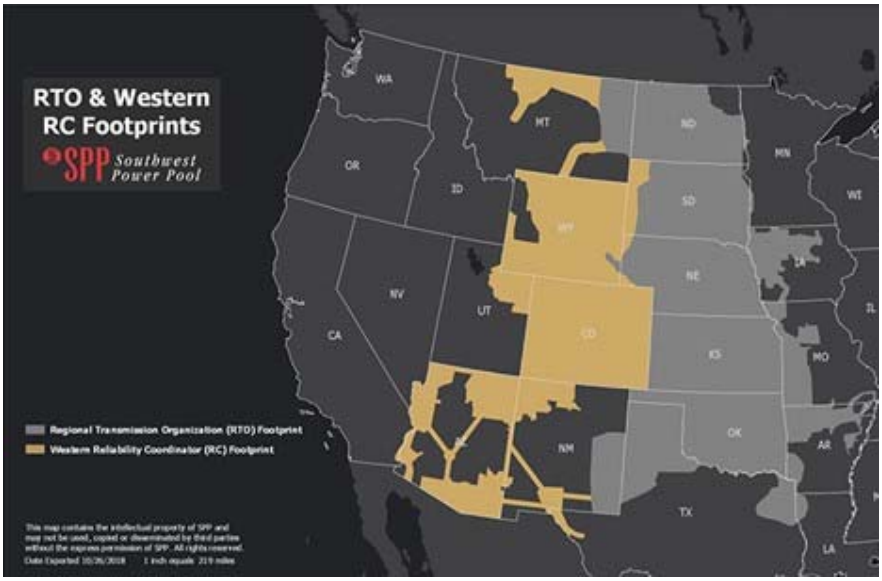
SPP administers the WIUFMP on behalf of SPP members (or affiliates of members) Northwestern Energy, Tri-State Generation and Transmission, and Western Area Power Administration as well as three entities unaffiliated with SPP which are California Independent System Operator, NV Energy and PacifiCorp. SPP's role as administrator is the collection of fees from users of phase-shifting transformers and other qualified devices on particular transmission lines in the western interconnection and distribution of those collections to the WIUFMP device owners.

Southwest Power Pool WESTERN ENERGY SERVICES

The contract began in 2018 and automatically renews for one year terms on December 31 unless terminated by either SPP or the device owners. The contract specifies a fixed charge for this service which is recovered from collections prior to distributions to WIUFMP device owners.

WESTERN RELIABILITY COORDINATION (RC WEST) SERVICE

SPP serves as the reliability coordinator for 16 entities operating in the western interconnection, including the following SPP members (or affiliates of members): Western Area Power Administration-DSW, Western Area Power Administration-RMR, Tri-State Generation and Transmission and



Basin Electric Power Cooperative. Services under the contract began in December 2019, and the contract's initial term ends in 2024.

WESTERN ENERGY IMBALANCE SERVICE

SPP began operation of the western energy imbalance service market on February 1, 2021. The market includes the entities under the western joint dispatch agreement, including the following SPP members (or affiliates of members): Western Area Power Administration-UGP, Western Area Power Administration-RMR, Municipal Energy Agency of Nebraska, Tri-State Generation and Transmission and Basin Electric Power Cooperative. Colorado Springs Utilities will join WEIS in 2022. The initial four-year term of the contract term runs through 2024.

SUMMARY OF CONTRACT SERVICES IMPACT ON 2022 NRR

The contracts are administered to provide recovery of all direct costs incurred by SPP under the contracts which includes recovery for debt and interest obtained to fund implementation costs and an allocation of shared overhead. It is this shared overhead that serves to reduce the NRR for SPP. The contracts are expected to generate revenues of $9.7 million in 2022. The budget assumes $1.9 million for shared overhead recovery under the contracts which translate 1 for 1 in reducing SPP's NRR in 2022. The rate of the contracts are adjusted annually based on costs of service, true up from prior years, changes in NEL, etc. and also reflect recovery for debt obtained to fund implementation costs plus interest.

VIII. SUPPLEMENTAL ANALYSIS AND SCHEDULES

INCOME STATEMENT 2021-2022 COMPARISON

($ millions)	2021 Budget	2021 Forecast	2022 Budget
Income			
Tariff Administration Service	$151.3	$149.3	$176.3
Fees & Assessments	23.1	20.9	26.0
Contract Services Revenue	10.6	10.7	9.8
Miscellaneous Income	11.5	16.2	19.1
Total Income	**$196.5**	**$197.1**	**$231.2**
Expense			
Salary & Benefits	$107.8	$111.4	$114.4
Employee Travel	1.0	0.2	1.1
Administrative	5.4	5.5	5.5
Assessments & Fees	22.5	26.5	27.2
Meetings	0.4	0.1	0.6
Communications	4.9	5.0	5.2
Maintenance	17.9	16.3	18.2
Services	18.5	20.6	25.7
Regional State Committee	0.5	0.1	0.3
Depreciation	18.1	17.4	17.8
Interest Expense	7.9	7.6	7.1
Other (Income) / Expense	(4.0)	(1.6)	(0.7)
Total Expense	**$200.9**	**$209.2**	**$222.4**
Net Income (Loss)	**($4.3)**	**($12.1)**	**$8.8**
Debt Repayment	$31.2	$30.0	$31.0
Net Revenue Requirement	$151.3	$149.9	$176.3
Capital Expense	$16.5	$15.7	$18.4
Headcount	653	654	657

INCOME STATEMENT 2022-2024

($ millions)	2022 Budget	2023 Forecast	2024 Forecast
Income			
Tariff Administration Service	$176.3	$180.7	$182.2
Fees & Assessments	26.0	26.5	27.1
Contract Services Revenue	9.8	10.0	10.3
Miscellaneous Income	19.1	19.1	16.4
Total Income	**$231.2**	**$236.4**	**$236.0**
Expense			
Salary & Benefits	$114.4	$118.8	$122.0
Employee Travel	1.1	1.4	1.5
Administrative	5.5	5.7	5.8
Assessments & Fees	27.2	28.6	29.5
Meetings	0.6	0.6	0.6
Communications	5.2	5.3	5.5
Maintenance	18.2	19.6	20.2
Services	25.7	25.4	21.4
Regional State Committee	0.3	0.3	0.3
Depreciation	17.8	17.6	19.4
Interest Expense	7.1	6.0	5.1
Other (Income) / Expense	(0.7)	(0.8)	(0.8)
Total Expense	**$222.4**	**$228.6**	**$230.4**
Net Income (Loss)	**$8.8**	**$7.8**	**$5.6**
Debt Repayment	$31.0	$32.0	$31.3
Net Revenue Requirement	$176.3	$180.7	$182.2
Capital Expense	$18.4	$14.5	$11.2
Headcount	657	657	657

2022 CONSOLIDATING INCOME STATEMENT

($ millions)	SPP RTO	Contracts	Total SPP
Income			
Tariff Administration Service	$176.3	$0.0	$176.3
Fees & Assessments	26.0	0.0	26.0
Contract Services Revenue	0.1	9.7	9.8
Miscellaneous Income	19.1	0.0	19.1
Total Income	**$221.5**	**$9.7**	**$231.2**
Expense			
Salary & Benefits	$109.9	$4.5	$114.4
Employee Travel	1.1	0.0	1.1
Administrative	5.5	0.0	5.5
Assessments & Fees	27.2	0.0	27.2
Meetings	0.6	0.0	0.6
Communications	4.7	0.5	5.2
Maintenance	17.9	0.3	18.2
Services	25.4	0.3	25.7
Regional State Committee	0.3	0.0	0.3
Depreciation	16.5	1.3	17.8
Interest Expense	6.8	0.2	7.1
Other (Income) / Expense	(0.7)	0.0	(0.7)
Total Expense	**$215.3**	**$7.2**	**$222.4**
Net Income (Loss)	**$6.3**	**$2.5**	**$8.8**
Debt Repayment	$27.8	$3.2	$31.0
Capital Expense	$18.1	$0.3	$18.4
Headcount	624	33	657

FINANCIAL STATEMENT RECONCILIATION TO NRR

($ millions)	2022 Budget
Total expense per Income Statement	$216.1
Less FERC fees & assesments	(27.2)
Less depreciation	(17.8)
Less retirement valuation adjustments (non-cash)	(5.9)
Total expense excluding deprec, FERC & interest expense	$165.1
Less contract services operating expenses	($5.6)
Total expense excluding contract services	$159.5
RTO Debt service - principal & interest	34.5
Contract services shared overhead	(1.9)
Gross revenue requirement	$192.2
Other RTO revenues (engineering studies, membership dues, etc)	(20.0)
NRR adjustment RTO capital expenditure reserve [(1)]	3.6
NRR adjustment PY under-recovery	0.6
Net Revenue Requirement	$176.3

1) Capital expenditure reserve is equal to 20% of total RTO capital expenditures

BALANCE SHEET

($ millions)	12/31/2021	12/31/2022
ASSETS		
Current Assets		
Cash & Equivalents	$102.3	$86.8
Restricted Cash Deposits	622.4	750.0
Accounts Receivable (net)	100.8	101.3
Other Current Assets	13.1	13.1
Total Current Assets	838.7	951.3
Total Fixed Assets	67.3	68.6
Total Other Assets	9.0	9.2
Investments	35.3	36.7
TOTAL ASSETS	**$950.3**	**$1,065.8**
LIABILITIES & EQUITY		
Liabilities		
Current Liabilities		
Accounts Payable (net)	$133.9	$134.9
Customer Deposits	622.4	750.0
Current Maturities of LT Debt	31.0	32.0
Other Current Liabilities	86.1	90.0
Line of Credit	0.0	0.0
Deferred Revenue	8.6	8.6
Total Current Liabilities	882.0	1,015.4
Long Term Liabilities		
Long-Term Debt	162.3	130.2
Other Long Term Liabilities	51.3	56.6
Total Long Term Liabilities	213.5	186.8
Net Income	(12.1)	8.8
Members' Equity	(133.1)	(145.2)
Total Members' Equity	(145.2)	(136.4)
TOTAL LIABILITIES & EQUITY	**$950.3**	**$1,065.8**

CASH FLOW FORECAST

($ millions)	2022 Budget	2023 Forecast	2024 Forecast
Operating Activities			
Net income/(loss)	$8.8	$7.8	$5.6
Add: Depreciation	17.8	17.6	19.4
Add: Fees & Assessments adjustment *	1.9	2.8	3.2
Changes in current assets and liabilities	6.2	-	-
Net cash provided by operating activities	**34.7**	**28.2**	**28.2**
Investing activities			
Acquisition of property and equipment	(19.1)	(13.5)	(11.2)
Net cash used in investing activities	**(19.1)**	**(13.5)**	**(11.2)**
Financing activities			
Repayments of long-term debt	(31.0)	(32.0)	(31.3)
Draws from line of credit	-	8.0	8.0
Repayments from line of credit	-	-	(8.0)
Issuance of long-term debt	-	-	8.0
Net cash provided/(used) in financing activities	**(31.0)**	**(24.0)**	**(23.3)**
Increase/(Decrease) in Cash and Cash Equivalents	(15.4)	(9.3)	(6.3)
Cash and Cash Equivalents, Beginning of Year **	**24.5**	**9.1**	**(0.2)**
Cash and Cash Equivalents, End of Year **	**$9.1**	**($0.2)**	**($6.5)**

* Schedule 12 FERC fee revenues and expenses do not impact operating cash

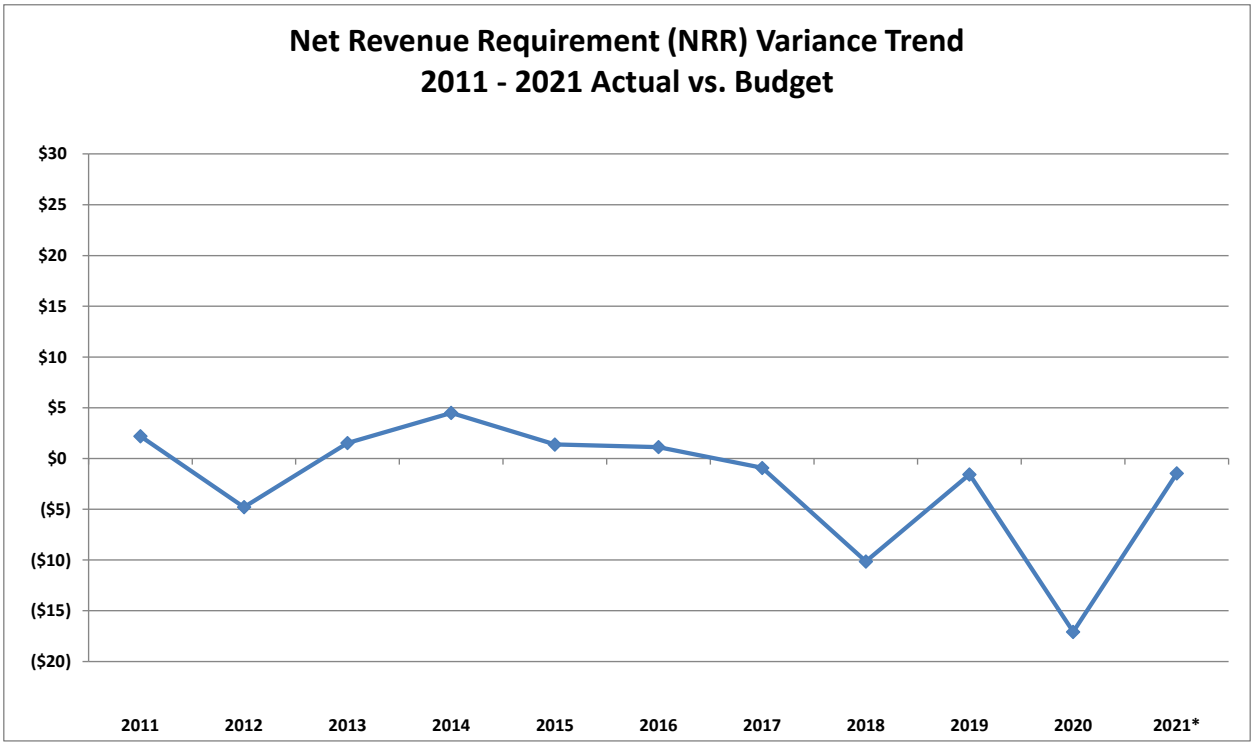
** Operating account only

CAPITAL PROJECTS LIST

$ millions	Prior Year(s)	2022 Budget	2023 Forecast	2024 Forecast	Total Capital
Capital Projects					
EMS, CMT & Markets Upgrade	$ 2.0	$ 1.2	$ -	$ -	$ 3.2
SCRIPT	-	1.7	1.0	0.2	2.8
HITT M1 Improve Congestion Hedging	-	1.0	0.8	-	1.8
IAM - User Lifecycle	-	-	1.2	-	1.2
Identity Access Management Deployment (IAM)	0.2	0.5	-	-	0.7
Ramp Product	0.6	0.2	-	-	0.8
HITT Multi-Day Unit Commit	-	-	0.4	0.4	0.8
HITT Uncertainty Product Development	-	0.6	0.1	-	0.7
Data Aging and Archiving	-	0.6	-	-	0.6
Electric Storage and Hybrid	-	0.3	-	-	0.3
Freeze Date Replacement	0.1	0.2	-	-	0.2
Interface Pricing & Pseudo Tie Modeling	-	-	0.2	-	0.2
ICCP Upgrade	-	0.1	0.1	-	0.1
Data Loss Prevention	-	0.1	-	-	0.1
Fast Source Resource Logic	0.1	0.1	-	-	0.2
Total Capital Projects	$ 2.8	$ 6.5	$ 3.7	$ 0.6	$ 13.6
Foundation					
Information Technology		$ 8.4	$ 7.8	$ 8.0	$ 24.2
Operations		2.8	2.5	2.5	7.7
Engineering		0.2	0.1	0.1	0.4
Facilities		0.2	0.1	0.1	0.5
Settlements		0.1	-	-	0.1
Total Foundation *		$ 11.6	$ 10.5	$ 10.6	$ 32.8
Total Capital Budget Before Contract Services	**$ 2.8**	**$ 18.1**	**$ 14.3**	**$ 11.2**	**$ 46.3**
2022 - 2024 Capital Budget Before Contract Services					**$ 43.5**
Contract Services					
RC West - EMS Upgrade	$ 0.2	$ 0.1	-	-	$ 0.4
WEIS Ongoing WEIS Market Enhancements		0.2	0.2	-	0.4
Total Contract Services (funded thru contract revenues)	**$ 0.2**	**$ 0.3**	**$ 0.2**	**$ -**	**$ 0.8**
2022 - 2024 Capital Budget		**$ 18.4**	**$ 14.5**	**$ 11.2**	**$ 44.0**

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

NRR VARIANCE HISTORY



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021*
Actual NRR	$80.8	$84.8	$123.3	$137.0	$142.6	$151.6	$159.6	$153.9	$155.9	$155.2	$149.9
Budget NRR	$78.6	$89.6	$121.8	$132.5	$141.2	$150.5	$160.5	$164.0	$157.5	$172.3	$151.3
Over/(Under) Budget	$2.2	($4.8)	$1.5	$4.5	$1.4	$1.1	($0.9)	($10.1)	($1.6)	($17.1)	($1.5)
	3%	(5%)	1%	3%	1%	1%	(1%)	(6%)	(1%)	(10%)	(1%)

The graph and table above highlight the range of variance between SPP's actual and budgeted Net Revenue Requirement (NRR) by year.

** The 2021 NRR represents the forecast as of July 31, 2021.*

SCHEDULE 1A RATES

(Internal Note: Rate schedule still under review, numbers below remain preliminary at this time)

Rates are calculated based on amounts presented in this budget document and are not considered final until published in the formula rate template.

Schedule 1A Rate Allocation

Rate Schedule	NRR	MWh	Rate/MWh
1-A1 Transmission Service	$ 75.45	391.9	$ 0.193
1-A2 TCR Service	$ 6.12	727.1	$ 0.008
1-A3 IM Clearing	$ 17.41	601.7	$ 0.029
1-A4 IM Facilitation	$ 77.37	545.9	$ 0.142

Note: NRR and MWh represented in millions

IX. SPP OPERATING PLAN

2022 OPERATING PLAN

By the SPP Finance Department

Published on July, 8 2021

CONTENTS

APPROACH

SPP's 2022 Operating Plan includes descriptions of the major work SPP will undertake to achieve its strategic plan, operate the organization and implement its mission. To carry out SPP's mission and the obligations set forth in its governing documents, SPP must plan and allocate its resources properly and thoroughly. SPP utilizes its robust stakeholder process to ensure accountability, transparency, fiscal responsibility and continuous improvement.

The 2022 Operating Plan outlines both corporate and departmental objectives to inform budget decisions for the coming fiscal year while acknowledging current business, financial, legislative and regulatory environments, which could impact ultimate delivery.

SPP reviews enterprise project requests and approves those that align with and support SPP's value propositions and strategic objectives. For the 2022-2024 budget planning cycle, SPP recommends a portfolio of 21 enterprise efforts for 2022.

SPP OVERVIEW

The SPP mission: Working together to responsibly and economically keep the lights on today and in the future.

SPP oversees the bulk electric grid and wholesale power market in the central United States on behalf of a diverse group of utilities and transmission companies in 17 states.

As a regional transmission organization (RTO), SPP ensures the reliable supply of power, adequate transmission infrastructure and competitive wholesale electricity prices for a 552,000-square-mile region, including more than 70,000 miles of high-voltage transmission lines in the Eastern Interconnection. SPP's services are independently provided on a regional basis, focused on electric reliability, cost-effectiveness and bringing value to SPP members and their customers.

Through SPP's portfolio of Western Energy Services, it also provides contract-based services such as reliability coordination and administration of a real-time balancing market to entities in the Western Interconnection.

SPP's staff of more than 650 professionals works proudly and diligently to ensure almost 19 million people across its service territories have electricity when they need it.

GOVERNING DOCUMENTS

TARIFF

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

The tariff defines the majority of the required workload for SPP's operations and engineering departments. Changes to the tariff are primarily within the oversight of the Market Operations Policy Committee (MOPC).

MEMBERSHIP AGREEMENT

The membership agreement is an agreement between SPP and each of its members that obligates SPP to perform outlined services, including those in the tariff. Changes to the scope of responsibilities are primarily within the purview of the MOPC and SPP's board of directors and Members Committee.

BYLAWS

The bylaws describe SPP's organizational operation, specifically outlining duties of the board and its advisory committees. Changes to the bylaws are under the oversight of the Corporate Governance Committee and board of directors.

PROTOCOLS AND BUSINESS PRACTICES

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

ORGANIZATIONAL STRUCTURE

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

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

FUNDING

SPP funds its ongoing operating costs through charges to its customers under the tariff and customers of specific nontariff services. SPP's operating costs include scheduled principal and interest payments on its outstanding debt but exclude depreciation and amortization expenses. SPP's tariff allows the company to collect up to 100% of its operating costs from a combination of four unique rate schedules charged to its customers.

Under SPP's FERC-filed and approved formula rate design, transmission customers are charged for system dispatch and control costs; auction revenue rights and transmission congestion rights holders are charged for costs to operate the congestion rights markets; generation, load and financial-only participants are charged the common costs to administer the energy markets; and generation and load participants are charged the costs to operate the physical energy markets.

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

SPP's A rating from Fitch Ratings was last affirmed November 2020. SPP issued notes in August 2018 to fund capital expenditures incurred through 2023. The SPP board authorized the issuance of additional notes in April 2021. It expects these notes to fund in the fourth quarter of 2021.

Managing SPP's cash flow provides short-term liquidity. SPP has a committed $30 million revolving credit facility with a commercial bank to provide additional liquidity support.

2022 EXPECTED BUSINESS ENVIRONMENT

Some of the opportunities and challenges affecting SPP are related to continued electrification, changing generation mix, transmission planning and cost allocation, evolving energy markets, expansion of SPP services to the west, regulatory issues and cybersecurity risks. The full impact of the February 2021 Winter Weather Event on SPP is the subject of a comprehensive review commissioned by the SPP board of directors. This review is anticipated to identify several opportunities to improve SPP systems and processes.

ELECTRIFICATION

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

While load in the SPP region has been flat overall for the last several years, there are pockets of load growth. Commercial and industrial customers seeking low-cost, renewable service options are increasingly attracted to the SPP region. Companies such as Google, T-Mobile USA and Facebook have contracted with renewable generators in the SPP footprint to power their data centers or meet carbon emission reduction goals.

CHANGING GENERATION MIX

The generation fleet at SPP's disposal — more than 800 generators participating in its markets — has changed dramatically in the last 10 years. SPP's current generation fuel mix is primarily wind, coal and gas. Coal has been on a continual decline in production and capacity since 2014. No new coal generation is planned, and older plants are being or projected to be retired.

The SPP region has seen a significant increase in renewable energy. In 2008, wind energy made up just 3% and solar a fraction of a percent of SPP's annual energy production. In 2020, wind comprised 31.3% and solar 0.2%. At a given moment, SPP has reliably met as much as 84% of its load with wind. SPP's primary operational challenge is maintaining grid reliability as it becomes increasingly dependent on energy delivered from intermittent resources. The generator interconnection (GI) queue represents new generators "waiting in line" to be analyzed and

connected to the transmission system. Of the more than 84 gigawatts (GW) of pending generator interconnection requests, over 80% is renewable resources.

TRANSMISSION PLANNING AND COST ALLOCATION

Every year SPP works with its members to determine the region's new transmission needs. These projects benefit the region by connecting new generators and demand sources to the transmission system, ensuring low-cost electricity is delivered to consumers and solving power grid issues that, if not addressed, could impact the reliable delivery of electricity.

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

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

EVOLVING ENERGY MARKETS

Wind — which has zero fuel cost and enjoys significant federal tax incentives — coupled with low natural gas prices continues to enable an economic dispatch of SPP's changing generating fleet that reduces wholesale energy prices and shifts the region away from traditional generation. This economic dispatch is feasible due to SPP's robust transmission system investment and Integrated Marketplace. The Integrated Marketplace has provided more than $3.5 billion in savings since it launched in 2014.

In 2020, SPP's spot wholesale energy prices remained the lowest in any organized market. SPP's primary financial challenge is ensuring that, given declining wholesale energy prices, resources capable of providing reliability are appropriately compensated and incentivized to offer and deliver these services to the grid. SPP continuously works with stakeholders to enhance the Integrated Marketplace's ability to cost effectively utilize its diverse generation mix, manage grid congestion and reliably respond to changes in load and generation.

WESTERN ENERGY SERVICES

SPP began operating in the Western Interconnection as a North American Electric Reliability Corporation (NERC)-certified reliability coordinator in December 2019, working with customers to keep the lights on and mitigate operational contingencies that threaten reliability. In February 2021, SPP launched its Western Energy Imbalance Service market and administers it on a

contract basis. The market centrally dispatches energy from participating resources every five minutes, enhancing reliability and affordability for western consumers.

In November 2020, SPP announced several utilities would evaluate the benefits of placing western facilities under the terms and conditions of SPP's Open Access Transmission Tariff. An SPP-commissioned study found the move would be mutually beneficial and produce annual savings for both eastern and western members. Additionally, SPP anticipates its wholesale electricity market, resource adequacy program and other regionalized services can help western members achieve renewable-energy goals, reinforce system reliability and leverage new opportunities to buy, sell and trade power.

The interested utilities are working with SPP to evaluate the terms, costs and benefits of putting western facilities under the RTO's tariff. Membership agreements are projected to be executed in 2022.

FEDERAL AND STATE ENERGY POLICIES

SPP regularly monitors and analyzes proposed federal and state legislative actions and determines the potential impact on SPP and its members and stakeholders. At the federal level, SPP has observed broad energy policy trends toward increased renewables, storage development, grid and cybersecurity and electric infrastructure development. Historically, comprehensive federal energy legislation has been slow to become law. The pace at which regulatory rulemakings have been issued also appears to have slowed, with finalized actions often facing lengthy subsequent court challenges.

At the state level, legislative changes happen more quickly. Hundreds of energy-related bills become law each year across the country. These state-level changes both reflect and drive energy development and investment trends. SPP has seen state energy policy trends similar to that at the federal level, as well as continued interest in renewable portfolio standards, retail choice, RTO participation and right of first refusal laws.

Federal and state energy policy trends toward increased renewables, storage development, cybersecurity and grid security and modernization are likely to continue in the coming years. Additionally, as states continue to increase their renewable energy goals and reduce their greenhouse gas emissions, interest in advanced transmission systems, RTOs and possibly even retail choice could continue to grow. The public utilities and large private corporations are also likely to advance policy through independent actions.

REGULATORY

The regulatory department has four main priorities: tariff administration, outreach (federal and state), education and monitoring of regulatory agencies (federal and state). Due to SPP's anticipated growth, the increasing number of new FERC initiatives, required changes to SPP's Open Access Transmission Tariff and tariff administration responsibilities have been steadily

increasing. SPP combines outreach, education and monitoring efforts with FERC, state commissions and other interested stakeholders.

In addition to facilitating the important work of the Regional State Committee and the Cost Allocation Working Group, SPP provides presentations to state commissions within the footprint to ensure they are aware of current SPP activities. The turnover on state commissions is high, requiring SPP to be constantly engaged in education efforts of new members. In addition, SPP's proposed expansion to the Western Interconnection has increased the number of states to monitor. SPP is engaged in outreach to the four states where expansion is currently proposed (Montana, Utah, Colorado and Wyoming) while educating interested entities and other western state commissions on SPP's Western Energy Services.

SPP's responsibilities for outreach, education and monitoring on the federal level are focused on FERC. The election of the Biden administration has brought leadership and priority changes to FERC. In the past six months, the commission has two new members (Commissioner Christie and Commissioner Clements), a new chair (Chairman Glick) and another open seat possible in 2021. FERC Chair Glick has acknowledged that, while FERC operates outside the direction of the president and the other offices of the executive branch, the administration has made a high priority of addressing greenhouse gas emissions and climate change. Glick stated his goal is "to carry out [FERC] responsibilities, which … leads to reducing greenhouse gas emissions." He stated he would accomplish this goal by focusing on the efficiency of electricity markets and eliminating barriers for newer technologies, such as wind, solar, energy storage and other clean energy technologies. Glick also noted that through FERC's "significant control" over the interstate electric transmission system, another of his goals is "simply to facilitate greater investment in electric transmission." He is looking at how FERC could help improve the interregional transmission planning process and allow for more regional cost allocation of long-distance transmission lines.

CYBERSECURITY RISKS

The threat of ransomware attacks will continue to pose the greatest cyber-related risk to both SPP and all critical infrastructure. SPP will remain focused on advancing its cybersecurity maturity by becoming more secure, vigilant and resilient. The expanding number of threats and threat actors dictates SPP take a proactive view of the advanced threat landscape.

SPP will seek to incorporate threat intelligence that highlights not only technical vulnerabilities but also economic, legal and geopolitical factors as well. SPP will continue to manage cyber risk across the enterprise and up through the supply chain by enhancing its procurement practices with specific vendor cyber risk assessments. SPP will remain committed to identifying and deploying new technologies that will assist in monitoring and detecting anomalies on networks, thereby reducing SPP's overall corporate cyber risk.

CORPORATE AND DEPARTMENTAL 2022 OBJECTIVES

CORPORATE OBJECTIVES

DIVERSITY, EQUITY & INCLUSION (DEI) ADVANCEMENT

A more diverse, equitable and inclusive SPP is about doing the right thing, for the right reason, in the right way. It is also about enhancing SPP's competitive edge in the marketplace for human capital. With these values in mind, SPP made significant steps in advancing its diversity, equity and inclusion (DEI) strategy in 2021. SPP executives approved the charter of the DEI council who will provide oversight, guidance and leadership in the implementation and maintenance of SPP's DEI initiatives.

Another milestone in this initiative is the establishment of business resource groups (BRG). These voluntary, employee-led organizations are composed of employees who share common characteristics and interests with the purpose of fostering a diverse, inclusive workplace aligned with SPP's mission, values, goals, business practices and objectives.

PROMOD REPLACEMENT/UPGRADE

The PROMOD replacement project upgrades the transmission planning adjust production cost software to PROMOD IV. This software upgrade will improve performance, member value and affordability. Staff will have a better toolset to help maintain an economical and optimized transmission system. This upgrade to the PROMOD application is tied to two recommendations from the holistic integrated tariff team (HITT). They are S1 to add technological advances and S2 to include seams, both in support of SPP's strategic plan.

Implementation of the PROMOD upgrade will include procurement, benchmarking with the new and old software, installation, integrations, substantial automation updates required for compatibility and process improvements, testing and process documentation. Automation updates tied to this upgrade are critical to successful implementation.

WINTER WEATHER EVENT IMPROVEMENTS

SPP experienced the most operationally challenging week in its 80-year history the week of Feb. 14-20, 2021. SPP's board of directors approved a plan to assess SPP's performance and that of its member utilities during the February 2021 winter weather event. SPP will evaluate operational, financial, communications and other factors related to the events of the February

winter storm. SPP will present its assessment and recommendations at the July 27, 2021, meeting of the SPP board of directors and members committee. Upon the board's approval, recommendations for improvement will be completed, beginning with the 2022 SPP comprehensive roadmap.

SCRIPT IMPLEMENTATION/DEVELOPMENT

SPP established the strategic and creative re-engineering of integrated planning team (SCRIPT) Aug. 31, 2020, to holistically evaluate all transmission planning and applicable cost allocation processes used in SPP, consider and evaluate options to strategically reengineer those processes and finalize a report with high-level recommendations to the board and members committee for improvements. At its May 2021 meeting, the SCRIPT approved a set of policy recommendations designed to help address SPP's multiyear backlog of generator interconnection requests. Once approved by SPP's Board and FERC, it is expected these policies will be implemented beginning in 2022 with the backlog expected to be cleared by the end of 2024. SPP expects the SCRIPT to complete its work by October 2021, with a number of policy recommendations that will be implemented over the next three-year budget cycle.

REGIONAL COST ALLOCATION REVIEW (RCAR) III

In 2021, SPP will re-engage the regional allocation review task force (RARTF), as required by the tariff, to plan and finalize methodology for the RCAR III study that must be completed in 2022 per Attachment J of the SPP tariff. This RCAR III study will be the first to utilize operational market data for the majority of the highway/byway project analysis while supplementing the remaining projects' analysis utilizing planning models and assumptions.

ORDER 2222 DEVELOPMENT

FERC Order No. 2222 helps usher in the electric grid of the future and promotes competition in electric markets by removing the barriers preventing distributed energy resources (DERs) from competing on a level playing field in the organized capacity, energy and ancillary services markets. SPP will have governing language, process/procedures and significant application/tool changes necessary to facilitate not only compliance with the order, but the design to help ensure future enhancements better optimize the value of DERs. SPP anticipates this project will require substantial technology resources and effort to develop and implement.

SPP will develop and file tariff changes with FERC by the first quarter 2022 to support resources on the distribution grid. It anticipates implementation of the system and procedure changes to both operations and planning by 2024. The changes include communication with the distribution utility and other entities within the SPP market footprint previously not engages with SPP, potential changes to demand response processes and tariff language and the aggregation of individual DERs into a single resource.

20-YEAR ASSESSMENT

The objective of the 20-year assessment is to develop a long-range, extra high-voltage, 300 kV and above transmission roadmap for the SPP region. The assessment will result in the identification of projects that economically deliver energy within the SPP region while addressing a reasonable range of future industry uncertainty. The resulting library of projects will provide a source of candidate projects that will inform shorter-term planning assessments for injecting longer-term vision into those assessments. The SPP tariff requires completion of a 20-year assessment every five years. 2022 is the last year in the current five-year cycle.

WESTERN EXPANSION

SPP expects two initiatives to gain momentum in 2022. First, several utilities are evaluating the benefits of placing western transmission facilities and load under the terms and conditions of SPP's Open Access Transmission Tariff. The interested utilities are working with SPP to evaluate the terms, costs and benefits of this action. SPP projects these membership agreements will be executed in 2022.

Secondly, SPP is expecting to work with the Northwest Power Pool ("NWPP") in the implementation and subsequent operation of a resource adequacy program for entities affiliated with the Northwest Power Pool ("NWPP").NWPP is comprised of vertically integrated utilities and generation-only entities, including independent power producers. Smaller load-serving entities that do not own generation generally participate indirectly through the NWPP member system with which they are interconnected. The NWPP membership includes several large utilities in the Pacific Northwest and Canada, including Bonneville Power Administration, Western Area Power Administration, Northwestern Energy, PacifiCorp, Xcel Energy, British Columbia Hydro and Alberta Independent System Operator. The entities are located in the Western Interconnection and are under the jurisdiction of the Western Electricity Coordinating Council (WECC) Regional Entity. NWPP is registered with the North American Reliability Corporation (NERC) as a Reserve Sharing Group (RSG).

IT STORAGE CAPACITY

Demand for storage continues to grow at a high rate. Well-functioning applications and services demand increasing amounts of detailed data. Responsive data retrieval, storage processes and data management are essential to meet user needs and maintain affordability. The storage capacity planning strategy includes assessments of current capacity and areas where capacity can be optimized, future capacity requirements, performance metrics and capacity planning tools. SPP will use this information to formulate actionable recommendations to support capacity needs now and in the future.

HITT RECOMMENDATIONS IMPLEMENTATION

HITT was created to comprehensively review SPP's cost allocation model, transmission planning processes, integrated marketplace services and disconnects or synergies between planning and real-time reliability and economic operations. SPP released the resulting recommendations in July 2019, which consist of items for continual study and evaluation and specific implementations to address the issues considered by the HITT. SPP organized the group's 21 recommendations (actually 26 action items) into the HITT program, and a schedule for staff actions and working group consideration. As of June 2021, SPP has completed 16 initiatives, and expect to complete the remaining efforts by October 2022.

Z2

SPP has two significant legal and regulatory activities underway related to Z2, and one does not have a definitive resolution date due to its legal and/or regulatory track with timelines set by the courts. Legacy Z2 resettlement is on appeal to the D.C. Circuit Court of Appeals. SPP's objective is to participate in the legal process and drive toward a resolution that complies with court and FERC orders. FERC approved revisions to Attachment Z2 effective July 1, 2020, to specify that upgrade sponsors are no longer eligible for transmission revenue credits for new network upgrades.

SEAMS DEVELOPMENT

Throughout the remainder of 2021 and the first half of 2022, SPP expects to coordinate with neighboring transmission planning authorities, transmission service providers, reliability coordinators, and market operators to form seams development plans. These plans will identify mutually agreeable opportunities to reduce seams boundaries, primarily in the operations and planning realms, in order to create additional value for SPP and its respective neighbors.

SPP and MISO began performance of Joint Targeted Interconnection Queue Study in 2021. While that study is expected to be completed by the end of 2021, it is expected that any necessary regulatory development and FERC filings will take place in early 2022.

GRID OF THE FUTURE

SPP expects to begin work on its Grid of the Future strategic opportunity in late 2021 with efforts increasing in early 2022 and continuing throughout the majority of the year. The bulk of this work in 2022 is expected to consist of establishment of a complementary stakeholder group, evaluation of future opportunities and threats, and reporting on conclusions and needed capabilities, tools, and processes.

DEPARTMENTAL OBJECTIVES

Additional details associated with the departmental impact to meet the aforementioned corporate objectives are included in the following departmental objectives.

OPERATIONS

SPP STRATEGIC ROADMAP

In 2020, efforts commenced to develop the SPP's strategic roadmap process. This process allows SPP staff and stakeholders to identify, develop and prioritize initiatives that enhance SPP's reliability capabilities by improving existing tools and processes and developing new ones. Certain initiatives aim to increase reliability and reduce compliance risk through improved congestion management practices, while others address opportunities to utilize the existing grid more efficiently through practices like dynamic line ratings and topology optimization. Another initiative focuses on continued improvement and seeks to evaluate the reliability metrics and assumptions used in SPP's generation assessment process with the goal of ensuring appropriate risks and reliability margins for outage coordination. This roadmap process increases transparency and collaboration, while prioritizing focus on areas with the greatest need.

INTEGRATING NEW TOOLS

The transient security assessment tool (TSAT) is part of the dynamic security assessment suite of tools and has been in production since August 2019. Additional validation of results is ongoing to ensure results are accurate and concise and can be trusted for real-time decision making. TSAT provides operators a time domain analysis to determine the impacts of a fault on the transmission grid. The tool assists SPP personnel in protecting grid reliability for transient instability. SPP will continue to evaluate the accuracy and effectiveness of TSAT. Based on future transmission system conditions, SPP will add new TSAT scenarios as necessary.

Operations is prototyping the Strategic Energy and Risk Valuation Model (SERVM) tool that is utilized in the resource assessment process by planning to deploy more sophisticated statistical analysis in the generation outage process. As referenced in the strategic roadmap section above, SPP continues to improve its outage coordination process. Work has focused on refining the generation assessment process by ensuring the statistical analysis employed is accurate and suitable. Staff is focusing on benchmarking toward historical analysis and implementing new statistical tools and methods.

2021 WINTER WEATHER EVENT

SPP is working on a coordinated response to the 2021 winter weather event geared toward continuous improvement. The comprehensive review steering committee has engaged multiple stakeholder groups to perform a comprehensive review of the event with the goal of making recommendations for improvement as part of the lessons learned effort. While this work is

ongoing, these SPP anticipates recommendations to identify opportunities for improvement in the following areas:

- **Operational aspects**: Operating conditions leading up to and during the event
- **Communication**: Effectiveness of communications between SPP and member operating staff before and during the event
- **Load-shed approach**: Effectiveness of load-shed strategy
- **Import strategy**: Use of imports, their impact on congestion, and SPP resources and opportunities to improve the strategy in future events
- **Seasonal planning**: Effectiveness of winter preparedness
- **Training**: Evaluation of TOP and SPP operator training and preparedness
- **BA and RC operator tools**: Effectiveness of tools
- **BA and RC processes and procedures**: Effectiveness of processes/procedures

As such, each of these improvement areas will be a large part of the SPP operations roadmap for 2022 and beyond.

MARKETS AND RELIABILITY TRAINING SIMULATOR (MRTS)

In 2016, SPP launched a multiyear project to upgrade its dispatcher training simulator (DTS) to a markets and reliability training simulator (MRTS). SPP is working with an external vendor to create a full training and testing simulated environment that performs more closely to real-time production systems. Development is ongoing throughout 2021 and the first two phases are complete. The next phase of the project is the implementation and testing of all software. The completed MRTS will provide realistic simulation training using market systems imperative for SPP operator readiness and increased reliability. This will improve operator training and greatly enhance support of reliability coordination, balancing authority and market operations.

EXPAND AND IMPROVE MARKET FUNCTIONALITY

SPP's footprint continues to see increasing amounts of variable generation penetration. As the grid shifts to a generation fleet with more renewable resources, there are many times when the majority of the day's planned operating capacity is available from a forecastable resource. Due to changes in temperature, humidity, cloud cover and human behavior, these resource forecasts are not always accurate. This phenomenon can lead to SPP relying on capacity that will not actually be supplying energy when needed to meet demand. SPP is working to develop an uncertainty product that accounts for uncertainty in energy production from available capacity to ensure there is enough capacity to be committed to produce energy during these events. The time horizons for this product development have not been determined. Other markets have addressed this issue with products in the 30-minute time horizon. In SPP's analyses to date, results look promising for one or more products in time ranges of up to four hours. The working groups are analyzing the results of SPP's study on uncertainty and are working to develop this product to ensure it meets the needs of SPP and the market.

SPP is developing a ramping capability product to ensure it has enough ramping capability to address potential wind forecast errors and address SPP members and the SPP market monitor concerns SPP's real-time prices are overly volatile due to scarcity pricing. Ramping capability of resources is an essential component of efficiently and economically meeting the energy needs of SPP's market participants. A resource's asset age and technology has impact on its ability to ramp. The SPP market does not directly value the ability to perform ramping functions. This could potentially result in new technology ignoring ramp as a valued product and older assets not necessarily optimizing their offers or maintenance to produce enough ramping capability to meet the region's needs. With the continuing development of forecastable resources, the ability to procure and value excess ramping capability to handle potential errors in renewable forecasts will help ensure a stable, reliable and economic grid for SPP and its members. SPP filed revision request (361 Ramping Capability*)* with FERC April 21, 2020, and is awaiting the response to begin implementation planning.

Another area of SPP focus to improve and expand market functionality is on fast-start resources. Fast-start resources are essential to the reliable provision of energy. These resources typically have short startup times, low minimum run-time requirements and faster than average ramp rates. These characteristics provide the needed flexibility for managing the operational challenges SPP faces. Although the need for fast-start resources could potentially decrease with the implementation of ramp market products, SPP anticipates continuing to encounter unforeseen circumstances that will require a fast-start market product/service. While SPP has a participation model for fast-start resources, many market participants believe the model's compensation principles are lacking and do not adequately incent participation of fast-start resources. FERC and some stakeholders are concerned about the inclusion of startup and no-load costs into the locational marginal price (LMP) calculation. SPP and its stakeholders have initiated fast-start market product enhancements in the form of RR 375 (FERC Order on Fast-Start Pricing) (filed at FERC and awaiting response) and RR 402 (HITT R3 (Fast-Start Resources) - Enhanced Intra-Day Reliability Unit Commitment) (approved at MWG) and expect to implement these changes after gaining approval from FERC.

The SPP board approved HITT M1 (Improve Congestion Hedging) in July 2019 and directed the market working group to write a policy paper to use counterflow optimization in the auction revenue rights (ARR) allocation. Based on the market rules already in place, there is no use of un-nominated ARRs in SPP's annual ARR allocation. These un-nominated ARRs are often counterflow ARRs, which means these ARRs are a cost-to-the-market participant. SPP has contracted with a consultant to perform the analysis and provide a recommendation to the Strategic Planning Committee (SPC) in 2021.

INFORMATION TECHNOLOGY

The mission of IT is to provide value, in partnership with our stakeholders, through continuous innovation, technology transformation, reliable platforms and excellent customer support. IT leads and supports work for every department within SPP. The IT ecosystem is constantly in flux

to respond quickly to business needs as well as reliability, security, compliance and financial risks.

The major areas of IT focus for 2022 are:

- Risk management
- Quality and efficiency
- Technology and process support
- Affordability

RISK MANAGEMENT

SPP is enhancing security efforts in accordance with its IT cybersecurity architecture roadmap. This work includes:

- Improving vulnerability assessment practices through enhanced scans and assessing all results for any necessary mitigation. This will provide a more detailed analysis of vulnerabilities present in SPP's network and allow for a more focused approach in assessing the risks posed by those vulnerabilities.
- Continuing the implementation of an identity and access management system by finalizing the rollout of SPP's existing identity and access management software product as SPP's identity analytics solution. This system will ensure that users have only the access privileges needed, thereby increasing security and lowering risk.
- Strengthening SPP's information management program by establishing a data governance program. Several projects are being sponsored and prioritized, including hardening sensitive data definitions, updating and enforcing data retention policies, implementing a data-loss prevention platform to prevent sensitive data from being stored in inappropriate locations and tracing the flow of sensitive information through the SPP infrastructure.
- Streamlining intra- and interdepartmental efforts associated with NERC standard CIP-013-1 (supply chain risk management), which helps SPP mitigate identified and potential cybersecurity risks to bulk electric system cyber assets.
- Addressing the 2021 FERC audit findings.
- Implementing, as appropriate, recommendations derived from the cybersecurity strategy assessment conducted by a third-party information security company.

QUALITY AND EFFICIENCY

As the needs of the business change, IT continues to partner with stakeholders across the business to create and implement collaborative solutions that are focused on continuous improvement and efficiency.

Automating the following solutions will reduce the opportunity for human error and related compliance and security risks.

- Patch assessments of security and nonsecurity patches issued by third-party software providers, most of which are driven by critical infrastructure protection (CIP) requirements.
- CIP physical and virtual server builds and decommissions.
- CIP audit evidence collection.

Initiating the following work will increase efficiency.

- Implementing cloud-like infrastructure on premises.
- Standardizing processes and platforms to reduce the SPP software stack, increase efficiency and automation and reduce the time and expense associated with licensing, support and maintenance.
- Re-engineering the hardware, software and services procurement process to clarify and consolidate the various paths by which hardware and software are acquired today, ensure adequate architectural and security oversight and maintain auditable compliance with CIP-010-1 and CIP-013-requirements.

TECHNOLOGY AND PROCESS SUPPORT

SPP continues to evaluate and appropriately implement new technologies that optimize current functionality and add new required functionality. It is prudent for IT to maintain awareness of these evolving technologies with an eye toward integrating them into the SPP infrastructure in support of SPP's strategic initiative of driving value beyond reliability.

- IT is evaluating cloud-based solutions that could allow for more flexibility and efficiency while reducing equipment purchases by delegating responsibility for certain parts of the infrastructure outside of SPP. IT is working with stakeholders and industry analysts to develop a strategy for managing cloud-based security risk as part of its comprehensive risk management program.
- IT is pursuing a strategy of de-coupling SPP's infrastructure stack. Rather than supporting custom software running on custom hardware, SPP is moving toward a common underlying layer of physical components that can be dynamically reconfigured to support business needs. This common physical layer across multiple applications decreases the effort and risks of supporting multiple custom configurations and allows the same physical resources to be leveraged by many applications as needed.

AFFORDABILITY

Physical technology assets (servers, hosts, storage devices and networking equipment) comprise approximately $42 million of capital hardware inventory. SPP must replace these physical assets on a periodic basis due to technical obsolescence that creates exposure to increased hardware failure rates, discontinued or unaffordable vendor support, operating system incompatibility and the need for improved application performance and connectivity requirements.

In addition to SPP's hardware portfolio, the IT department supports roughly $160 million of software applications, tools and security products requiring continuous upkeep related to security patches, product upgrades and integration efforts to ensure compatibility across products and systems.

An asset inventory management program is being evaluated by the enterprise architecture group that will reduce exposure to contractual noncompliance fines, reduce risk of purchasing multiple overlapping technologies, reduce risk of infrastructure getting to end of support and expense reduction of automating a manual and error-prone task.

IT will begin research into a cost allocation "show-back" process that will allow SPP staff and stakeholders a more granular view of costs associated with a particular business function or project. This process will provide SPP's analytical oversight of member financial resources additional transparency and education of total costs to support a particular system. SPP expects this effort to take a maximum of three years to implement.

FINANCE

EMERGENCY MANAGEMENT

As SPP emerges from the COVID-19 pandemic, it will look to enhance its emergency management plans based on lessons learned from the pandemic and industry best practices. Additionally, the SPP will update its business continuity plans to accommodate each department's impacts due to adoption of a hybrid work environment. These activities will better prepare SPP to provide its suite of services under extreme conditions, with limited access to facilities or assets and with a workforce that may provide critical services from a remote workplace.

CREDIT POLICY

The 2021 winter storm event and its subsequent documentation provided valuable information to SPP's credit team and its external stakeholders. The Credit Practices Working Group will review and analyze this data and may recommend prudent amendments to the credit policy and tariff.

ENGINEERING

GENERATION INTERCONNECTION (GI) PROCESS

In 2019, the new three-phase GI study process was approved by FERC and was implemented beginning with the DISIS 2017-001 Cluster Study. SPP staff, SPP members and interconnection customers spent much of 2021 working together with the SCRIPT to adjust the three-phase DISIS study with the objective to accelerate the clearing of the GI backlog of almost 558 requests (more than 100 GW). Special studies (affected systems, modification, interim, limited

operations, surplus, ILTCR) now consists of a backlog of approximately 100 studies that must be performed over the next year. This high volume of special studies is expected to continue until the GI backlog has been cleared.

The generation interconnection user forum ("GIUF") was established to educate stakeholders and to identify process improvements to facilitate clearing of the GI queue backlog. An average of 100 people attend the GIUF meeting each month, and Hybrid facility requests (combinations of different types of resources) are becoming more prevalent which will require the adoption of new study procedures and policies to address the unique aspects of hybrid facilities. The generator replacement process was added to Attachment V of the tariff in 2020. This is a procedure to expedite processing of a request to replace an existing generating facility with a replacement generating facility without going through the full DISIS study process.

RESOURCE ADEQUACY PROCESS

In 2018, FERC approved new tariff provisions regarding resource adequacy, which SPP began implementing in 2019. Foremost are a new enforcement process and enhanced data collection and monitoring provisions that ensure load-responsible entities are planning sufficient resource capacity.

The Supply Adequacy Working Group is addressing many initiatives and policies regarding accreditation for wind, solar, storage and hybrid resources. SPP has targeted the new wind and solar accreditation policy and governing documents for MOPC approval in late 2021. SPP has targeted the stand-alone battery accreditation policy and governing documents for MOPC approval in 2022 because the hybrid accreditation is still being developed. Additionally, resource adequacy staff is facilitating changes to conventional generation accreditation based on historical performance.

In response to the 2021 winter weather event, resource adequacy has a number of recommendations and initiatives to investigate and implement within the 2022-2024 period. The initiatives include exploring fuel assurance measures for generating capacity, putting more focus on winter preparedness for generating capacity, studying the need for a separate winter season planning reserve margin and exploring the need to account for extreme weather events that may occur in the future.

TRANSMISSION PLANNING

The transmission planning and interregional coordination teams will be working with MISO to perform a coordinated system plan in 2022.This study is performed as part of the 2022 Integrated Transmission Plan and a hopeful outcome will include seams-related transmission projects. A coordinated system plan with AECI is targeted for 2022 as well.

Transmission planning will lead or support six of 22 projects slated for 2022 including: DERs FERC Order 2222, Electric Storage Resources/Hybrids, SCRIPT, HITT (T1), ProMod upgrade, and West RTO.

PROCESS INTEGRITY

NERC AND NAESB STANDARDS

In 2022, SPP process integrity will work with stakeholders to pass a maximum of three new standards at NERC and one at the North American Energy Standards Board (NAESB) to address new technologies. Process integrity will take advantage of opportunities at NERC, NAESB, the ISO RTO Council and FERC to advocate or sponsor projects to improve standards and practices that will make improvements tied to the corporate efforts under winter weather events.

CUSTOMER SERVICES

To assist our stakeholders in managing the impact of travel-related costs, SPP will offer 2022 training deliverables virtually when deemed appropriate. Virtual training will account for more than half of 2022 deliveries. SPP will evaluate in-person training to ensure the impact of travel-related costs (e.g., travel expenses and overtime) are kept to a minimum.

SPP's customer training provides approximately 500 NERC credential maintenance hours to ensure stakeholder operators have access to a minimum of 70 continuing education hours. This strategically aligns with their three-year reliability coordinator NERC certification renewal requirements. All SPP market enhancement training, system modifications and processes/protocol updates requiring education will be facilitated virtually before implementation. Specifically, 2022 customer training deliverables will include:

- 2021 winter event recommendations and identified improvements
- PROMOD replacement/upgrade education
- SCRIPT implementation/development education
- HIIT adoption/implementation education
- FERC Order No. 2222 education
- RTO West education

2022 PROJECTS

SPP's project review and prioritization committee (PRPC) reviews enterprise project requests and approves those that align with and support SPP value propositions and strategic objectives. Generally, business owners develop business cases, with the support of the PMO and the sponsoring director. In some cases, the PRPC recognizes that while it is too early to submit a detailed business case, there is awareness of looming enterprise efforts that will require coordinated planning and accordingly will have an impact on resources available for project work. In that case, the PRPC has included such efforts even when a business owner has not submitted a business case for consideration. For the 2022-2024 budget planning cycle, the PRPC recommends a portfolio of 21 enterprise efforts for 2022.

2022-2024 LIST OF PRIORITIZED PROJECTS/ PROGRAMS

SPP classifies projects (or in some cases programs) in the following descriptive categories:

- **Previous**: projects previously prioritized, including two with updated business cases
- **New**: new submissions with estimated scope, budget and/or timelines
- **Unknown**: submissions with unknown scope, budget and timelines

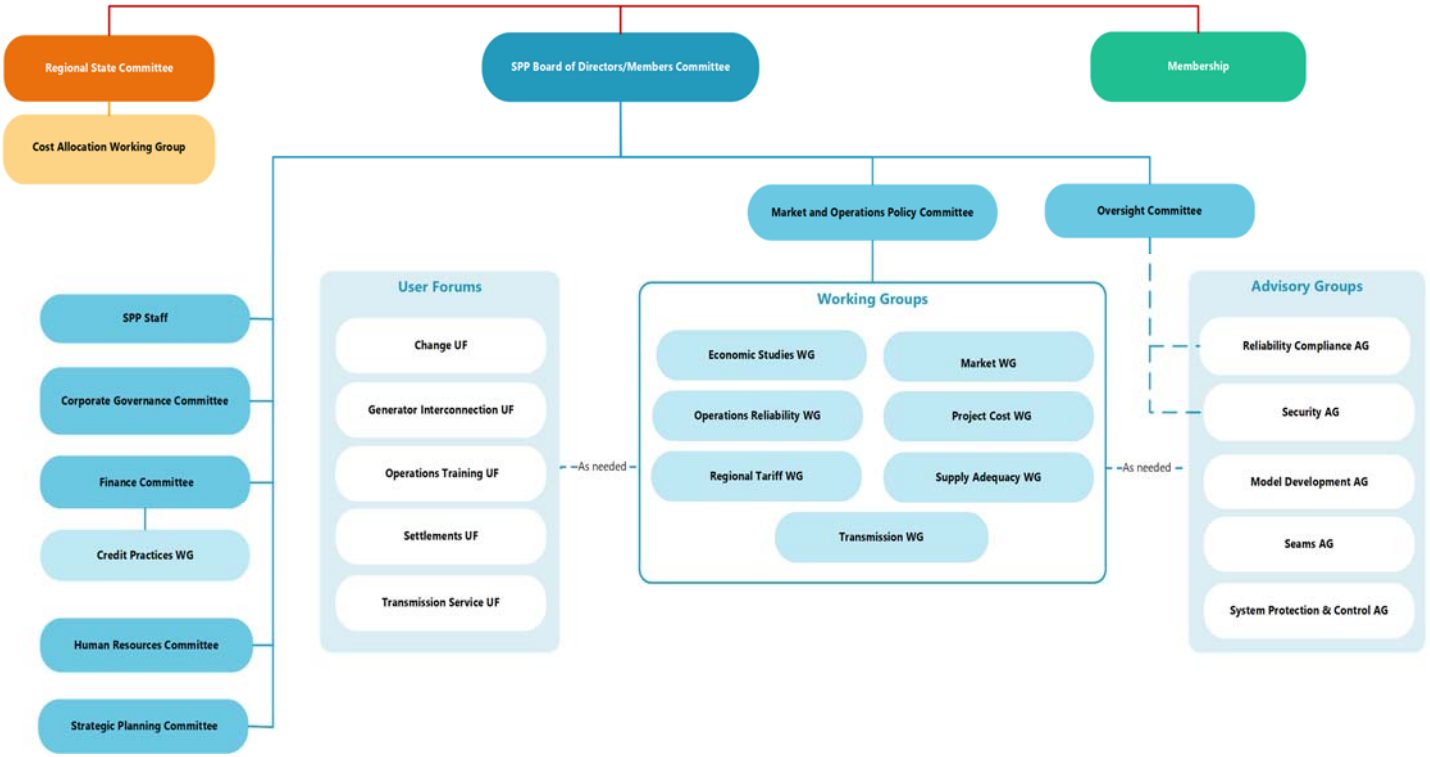
Together, this portfolio of projects and programs addresses stakeholder requests and regulatory directives.

PRIORITY	PROJECT	CATEGORY
1	Fast-Start Resource Logic	Previous
2	EMS, CMT & Markets Upgrade	Previous
3	FERC Order 2222	Unknown
4	HITT Program	Previous
5	West RTO	Unknown
6	HITT Uncertainty Product Development	Previous
7	ICCP Hardware & Software Upgrade	Previous
8	Freeze Date Replacement	Previous
9	Electric Storage & Hybrid Resources	New
10	Z2 FERC Remand Order	Unknown
11	PROM)D Upgrade	Previous

12	HITT M1 Improve Congestion Hedging	New
13	SCRIPT	New
14	Identity and Access Management (IAM) – User Lifecycle Management (ULM) Integration	New
15	Interface Pricing and Pseudo Tie Modeling	Previous
16	HITT Multi-Day Unit Commitment	New
17	Netezza Replacement	New
18	Data Loss Prevention	New
19	Data Aging and Archiving	New
20	ITSM Solution Phase 2 – Implementation	New
TBD	Winter Weather Event Improvements[1]	Unknown

[1] Winter weather event improvements was an effort added very late in the project review and budget process. It currently does not have a business case nor a budget pending regulatory direction but is included for transparency and consistency.

APPENDIX 1: SPP WORKING GROUPS



APPENDIX 2: SPP STAFF ORGANIZATION