BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF SOUTHWESTERN PUBLIC SERVICE COMPANY'S APPLICATION FOR: (1) REVISION OF ITS RETAIL RATES UNDER ADVICE NOTICE NO. 282; (2) AUTHORIZATION AND APPROVAL TO SHORTEN THE SERVICE LIFE OF AND ABANDON ITS TOLK GENERATING STATION UNITS; AND (3) OTHER RELATED RELIEF,	)	**CASE NO. 19-00170-UT**
SOUTHWESTERN PUBLIC SERVICE COMPANY,	)	
APPLICANT.	)	

DIRECT TESTIMONY

of

DAVID C. HARKNESS

on behalf of

SOUTHWESTERN PUBLIC SERVICE COMPANY

TABLE OF CONTENTS

GLOSSARY OF ACRONYMS AND DEFINED TERMS

Acronym/Defined Term	**Meaning**
Base Period	April 1, 2018 through March 31, 2019
CIO	Chief Information Officer
CIP	Critical Infrastructure Protection
Commission	New Mexico Public Regulation Commission
EEI	Edison Electric Institute
ERP	Enterprise Resource Planning
FERC	Federal Energy Regulatory Commission
GL	General Ledger
IT	Information Technology
NERC	North American Electric Reliability Corporation
Operating Companies	Northern States Power Company, a Minnesota corporation; Northern States Power Company, a Wisconsin corporation; Public Service Company of Colorado, a Colorado corporation; and SPS
PC	personal computer
PTT	Productivity Through Technology
SCADA	Supervisory Control and Data Acquisition
SDDC	Software Defined Data Center
SIEM	Security Incident & Event Management

Acronym/Defined Term	Meaning
SPS	Southwestern Public Service Company, a New Mexico corporation
T&D	Transmission and Distribution
Test Year	Historical Test Year Period consisting of the Base Period and further incorporating all proper adjustments and capital additions
Total Company or total company	Total SPS (before jurisdictional allocation)
WAM	Work and Asset Management
WAN	wide area network
WBS	Work Breakdown Structure
Xcel Energy	Xcel Energy Inc.
XES	Xcel Energy Services Inc.

LIST OF ATTACHMENTS

Attachment	**Description**
DCH-1	Total Company Amounts and Jurisdictional Percentages (*Filename*: DCH-1.xlsx)
DCH-2	Capital Additions Closed to Plant-in-Service for the Period April 1, 2018 through March 31, 2019 (*Filename*: DCH-2.xlsx)
DCH-3	Capital Additions Closed to Plant-in-Service for the Period April 1, 2019 through August 31, 2019 (*Filename*: DCH-3.xlsx)

Case No. 19-00170-UT
Direct Testimony
of
David C. Harkness

I. WITNESS IDENTIFICATION AND QUALIFICATIONS

Q. Please state your name and business address.

A. My name is David C. Harkness. My business address is 401 Nicollet Mall, Minneapolis, Minnesota 55401.

Q. On whose behalf are you testifying in this proceeding?

A. I am filing testimony on behalf of Southwestern Public Service Company, a New Mexico corporation ("SPS") and wholly-owned electric utility subsidiary of Xcel Energy Inc. ("Xcel Energy").

Q. By whom are you employed and in what position?

A. I am employed by Xcel Energy Services Inc. ("XES") as Chief Information Officer ("CIO") and Vice President.

Q. Please briefly outline your responsibilities as CIO and Vice President.

A. I am responsible for the XES Business Systems organization, which performs Xcel Energy's shared Information Technology ("IT") functions. The key types of activities performed include all enterprise application development and maintenance, management of IT infrastructure, data center operations and architecture, and IT governance. Also as part of this role, I am responsible for IT disaster recovery and implementing capital projects that address cyber security needs.

Q. Please describe your educational background.

A. I hold a Bachelor of Arts degree from the University of Iowa with a major in Computer Science and Applied Mathematics.

Q. Please describe your professional experience.

A. I have more than 30 years of experience in the field of IT, with over 26 of those years being in a management role. I joined Xcel Energy in November 2009, following six years at PNM Resources in Albuquerque, New Mexico, where I first served as Senior Director, Business Process Outsourcing, then as Senior Director of Business Transformation and, finally, as Vice President and CIO for more than three years. While in New Mexico, I was also appointed by Governor Richardson to New Mexico's Information Technology Commission, where I helped establish and direct IT strategy for the State of New Mexico. Prior to that experience, I held several IT leadership roles for McLeod USA, MCI, and Rockwell International, where I began my career in 1986.

Q. Have you attended or taken any special courses or seminars relating to public utilities?

A. Yes. I attended the University of Idaho Utility Executive Course in 2006. I also attended a Merger and Acquisition course at Northwestern University's Kellogg School of Management in 2007.

Q. Are you a member of any professional organizations?

A. Yes. I serve on two utility CIO committees. The Edison Electric Institute ("EEI") Executive Advisory Committee is made up of 25 utility CIOs and is designed so those CIOs are better able to advise their Chief Executive Officers on critical technology risks and advances, as well as assist in policy development surrounding standards, regulation, and legislation. In addition, I serve as co-Chair on the EEI/American Gas Association Technical Advisory Council made up of 16 utility CIOs. That Council discusses best practices, lessons learned, and case studies of various IT projects and operations. I also serve on the IT Committee of the Knowledge Utility Executive Summit, an annual conference of senior leaders in the utility industry. The summit addresses pressing topics in the industry, including issues related to IT.

Q. Have you filed testimony before any regulatory authorities?

A. Yes. I have testified before the New Mexico Public Regulation Commission ("Commission") on behalf of Public Service Company of New Mexico regarding IT costs and operations and have filed testimony on those same topics before the Commission and the Public Utility Commission of Texas in previous SPS base rate cases.

II. ASSIGNMENT AND SUMMARY OF TESTIMONY AND RECOMMENDATIONS

Q. What is your assignment in this proceeding?

A. My testimony will discuss the following topics:

1. I explain how the Business Systems capital projects are ranked, estimated, selected for funding and managed.

2. I provide and address the major Business Systems capital additions from April 1, 2018 through August 31, 2019, including the cost data for the capital additions that closed to plant-in-service during the period April 1, 2018 through March 31, 2019 and the capital additions that are expected to close to plant-in-service during the period from April 1, 2019 through August 31, 2019.

In addition, the vast majority of the Business Systems capital projects I address are projects that are implemented across Xcel Energy and affect the Operating Companies, including SPS.

Q. Please summarize the conclusions and recommendations in your testimony.

A. The Business Systems capital additions totaling $10,823,960 on a New Mexico retail basis for the period April 1, 2018 through August 31, 2019 that SPS is requesting in this filing are reasonable and necessary to provide, maintain, and secure the properties and facilities that are used by SPS to provide safe and reliable electric utility service for its customers. The total amount of costs for projects placed in service during the period of April 1, 2018 through March 31,

2019 is $7,502,520 and to be placed in service during the period April 1, 2019 through August 31, 2019 is $3,321,440. These costs were prudently incurred and consist of reasonable and necessary capital projects related to software, hardware, systems and related technology infrastructure investments, and cyber security solutions that support Xcel Energy's business operations including those of SPS. These investments are necessary to maintain existing IT system and infrastructure, to replace aging technology, and to deploy efficiency solutions that enable the organization to continue to provide customers with high levels of service. The investments are also needed to prevent threats to the security of the IT systems. Therefore, the Commission should authorize these Business Systems capital additions to be included in SPS's rate base.

Q. Were Attachments DCH-1 through DCH-3 prepared by you or under your direct supervision and control?

A. Yes. Attachment DCH-1 was prepared by my staff as well as SPS witness Arthur P. Freitas and his staff. Attachments DCH-2 and DCH-3 were prepared by my staff as well as SPS witness Laurie J. Wold and her staff, and the information in Attachments DCH-2 and DCH-3 is included in Ms. Wold's Attachments LJW-2 and LJW-3. I have reviewed my attachments, and I believe them to be accurate.

Q. How were New Mexico retail jurisdictional amounts in your testimony and attachments calculated?

A. Throughout this testimony, I quantify the asset amounts on a New Mexico retail basis based upon the jurisdictional allocation percentages Mr. Freitas uses to develop the New Mexico retail revenue requirement in his Attachment APF-6. Mr. Freitas is responsible for calculating jurisdictional allocation percentages that apply to the various costs components in the cost of service. My staff and I conferred with Mr. Freitas and his staff to determine these New Mexico retail jurisdictional amounts presented in my testimony and attachments. If the percentages used to allocate amounts to the New Mexico retail jurisdiction change, those new allocation percentages will need to be applied to the total company numbers to derive updated New Mexico retail amounts. Attachment DCH-1 contains the total company numbers and the jurisdictional percentages used to derive the New Mexico retail amounts in my testimony.

III. THE RANKING, ESTIMATION, AND MANAGEMENT OF BUSINESS SYTEMS CAPITAL ADDITIONS

Q. Please describe Business Systems and the work Business Systems performs to support SPS's operations.

A. There are three key drivers to IT investments: evolving cyber security threats; replacing aging technology; and increasing efficiency. Business Systems is in a phase of increased investment in IT infrastructure and is making significant capital additions to serve these three objectives. Business Systems has made these investments over the past few years and expects that this phase will continue for the next several years as necessary improvements are made to address cyber security, replace aging technology, and increase efficiencies.

Q. How does Business Systems determine when an existing application or system needs to be replaced or upgraded?

A. Business Systems works with each of the business areas and Operating Companies to identify short and long-term technology needs. The needs typically are greater than the organization's ability to fund them, so Business Systems evaluates any proposed Business Systems investment and prioritizes the organization's needs. Business Systems, however, strives to maximize

technology investments by maintaining existing systems until the risk and costs associated with keeping these aging technologies in place outweigh the benefit.

Q. Please describe the process for ranking and funding Business Systems capital projects.

A. A formal portfolio prioritization process is conducted on a regular basis to determine which capital projects are included in the budget. The project prioritization process is as follows:

1. Business Systems directors represent the different operational areas throughout Xcel Energy, such as Corporate, Utility, and Financial Operations. The director works with the operational areas to understand the business strategy and what IT capabilities are required to support that strategy. The director, in conjunction with operational area personnel, develops an IT roadmap based on the business strategy. The IT roadmap contains the current systems in use, required upgrades, and future system solutions to meet the business strategy. The IT roadmap becomes the source for project ideas that are used as input into the capital budget process.

2. Project ideas are entered into a database and categorized by type. There are five categories: (1) Aging Technology; (2) Enhance Capabilities; (3) Cyber-Security; (4) Productivity Through Technology; and (5) Emergent Demand.

3. Projects are ranked across Xcel Energy based on risk and value. The project ranking process includes, but is not limited to, a cost-benefit analysis. During the prioritization process, as the CIO, I and my management team (i.e., the relevant Business Systems director, with support of operational area personnel) review the relative value, risk factors, and delivery capacity associated with all of the project demands to determine the optimal portfolio mix for current and future years. This

process helps Xcel Energy evaluate projects using a pre-defined set of criteria and has helped SPS and Xcel Energy to be more objective when determining the capital budget.

Q. How do legal requirements affect the ranking and selection of capital projects to be funded?

A. Legal requirements are built into the categories discussed above and also affect the ranking of capital projects. Legal requirements that affect the ranking include environmental requirements, recent system stability, and future regulatory demands. For example, the North American Reliability Corporation ("NERC") Critical Infrastructure Protection ("CIP") Standards CIP-002 through CIP-014 require that SPS and Xcel Energy comply with physical and cyber security controls designed to protect critical infrastructure. When there are legal requirements that affect capital projects, their ranking is prioritized in the capital budget. For example, NERC Standard CIP-010-2 requires the management of transient cyber assets that are brought into facilities that are critical to the operation of the bulk electric system. This requirement increased the priority of the Transient Cyber Asset Compliance project (discussed in Section IV below).

Q. How does SPS assure that Business Systems capital expenditures provide the intended benefits?

A. During the proposal process of each project, the key success metrics based on the category of the project are identified. These success metrics are reviewed during project execution and at the close of the project. The sponsor of the project is responsible for measuring and tracking the applicable economic, operational, staffing, regulatory compliance, and any other benefits derived from the project. These formal reviews help the sponsor stay on track for delivery and attain the project benefits.

Q. Please generally describe how Business Systems develops cost estimates for proposed capital additions.

A. When a Business Systems project is in the initial stages of planning, we develop cost and schedule estimates based on internal experience with similar implementations. We then utilize a competitive bid process to ensure that Xcel Energy receives quality service at a fair price, that business value is delivered according to the agreed requirements, and that costs remain in line with the approved budget.

Q. Please explain how Business Systems capital costs are managed during a specific project.

A. After the estimates are developed, all projects follow a project flow process that requires reviews and approvals at the budget, management, senior management, and executive levels. After these approvals, projects are reviewed on a monthly basis to compare the monthly budget to actual expenditures. Accordingly, on a monthly basis, Business Systems evaluates deviations to determine whether costs are appropriate. In addition, Business Systems develops action plans to mitigate variations in actual to budgeted expenditures. These mitigation plans may either reduce or delay other expenditures to support the overall authorized budget. If authorized budget adjustments are required, they are identified and approved at an appropriate level of management.

IV. BUSINESS SYSTEMS CAPITAL ADDITIONS

Q. As part of this rate case, is SPS asking to include Business Systems capital additions in its rate base?

A. Yes. SPS is asking to include in rate base Business Systems capital additions that have closed or are expected to close to plant-in-service for the period of April 1, 2018 through August 31, 2019. SPS has included these capital additions in its Test Year[1] rate base. In Subsection A, I address the capital additions that have closed to plant-in-service during the period of April 1, 2018 through March 31, 2019. In Subsection B, I will discuss the capital additions that have closed to plant-in-service or are expected to close to plant-in-service during the period of April 1, 2019 through August 31, 2019. All of these Business Systems capital additions support SPS's ability to provide safe and reliable electric service to its customers.

[1] The Test Year is the Historical Test Year Period consisting of the Base Period (April 1, 2018 through March 31, 2019) and further incorporating all proper adjustments and capital additions.

A. Business Systems Capital Additions for the Period April 1, 2018 through March 31, 2019

Q. What is the dollar amount of the Business Systems capital additions that SPS is requesting in this case for the period of April 1, 2018 through March 31, 2019?

A. SPS is requesting $7,502,520 on a New Mexico retail basis in Business Systems capital additions for the period of April 1, 2018 through March 31, 2019. This amount consists of general plant capital additions of $2,401,386 and intangible plant additions of $5,101,133. Attachment DCH-2 provides all of the Business Systems capital additions closed to plant-in-service during this time period.

Q. Have you prepared a list of SPS's requested Business Systems capital additions closed to plant-in-service during the period of April 1, 2018 through March 31, 2019?

A. Yes. Attachment DCH-2 is a list of SPS's requested Business Systems capital additions for the period from April 1, 2018 through March 31, 2019. Attachment DCH-2 provides the following information:

Column A	Asset Class	Identifies the type of asset.
Column B	Witness	Identifies the witness supporting the project.

Column C	Project Category	Provides the project category that is descriptive of the project's type.
Column D	WBS Level 2 Number	Provides the Work Breakdown Structure ("WBS") Level 2 number for the project.
Column E	Project Description (WBS Level 2 Description)	Provides a short title for the WBS Level 2 number for the project.
Column F	Additions to Plant-in-Service (April 1, 2018– March 31, 2019) Total Company	Provides the Total Company dollar amount for the plant additions for the period April 1, 2018 through March 31, 2019.
Column G	Additions to Plant-in-Service (April 1, 2018– March 31, 2019) NM Retail	Provides the New Mexico Retail dollar amount for the plant additions for the period April 1, 2018 through March 31, 2019.

Q. Please describe the Business Systems capital additions placed in service for the period of April 1, 2018 through March 31, 2019 as shown on Attachment DCH-2.

A. As shown in Table DCH-1 below, the plant additions for this period fall within the following categories: Productivity Through Technology ("PTT"), Aging Technology, Enhance Capabilities, and Cyber Security. Although each project is assigned to one category, its purpose may relate to one or more categories.

Business Systems investments are primarily enterprise-wide systems that are used by all of the Operating Companies, including SPS.

Table DCH-1

Business Systems – Capital Investment
for the period April 1, 2018 through March 31, 2019

Project Category	Business Systems Capital Additions (total company)	Business Systems Capital Additions (NM retail)
PTT	$4,409,960	$1,224,268
Aging Technology	$17,247,078	$4,789,049
Enhance Capabilities	$2,727,466	$757,183
Cyber Security	$2,636,821	$732,019
Total	$27,021,325	$7,502,520

Q. Please describe the types of projects included in the "PTT" category.

A. This category of projects relates to the capital investments made as part of the PTT effort, which is an initiative to improve business processes and systems throughout Xcel Energy by addressing needed technological changes. Investing in PTT projects improves and strengthens the technology employees use to conduct business with vendors on a daily, monthly, and annual basis, which enables SPS to provide efficient, safe, and reliable service. The foundational components of the PTT effort included replacing the former General Ledger

("GL") system, which was a JD Edwards application, and replacing the Work and Asset Management ("WAM") systems, which varied by business unit. Rather than replacing each of these applications individually, they were replaced with an Enterprise Resource Planning ("ERP") system from the vendor SAP. An ERP is a suite of integrated applications used to collect, store, manage, and interpret data from many business activities that is intended to be used across Xcel Energy. This corporate-wide approach is more efficient than implementing multiple systems for individual business areas such as Transmission, Distribution or Generation within each Operating Company. The ongoing PTT effort, also called Stabilize and Optimize, involves implementing enhancements to the GL and WAM tools within SAP. This effort has been and continues to be focused on improving end user experience and driving customer satisfaction by providing enhancements in a number of areas including, but not limited to, mobility, scheduling, invoice and materials management, operational and financial reporting, and IT system performance. For example, investments in this area serve to improve efficiency and accuracy in the up-front work order to pay processes, including work planning and work management in order to streamline Supply Chain integrations, work execution and on-time end-to-end work order to

pay processes, as well as implementing the current vendor provided enhancement packs and upgrades that improve system functionality and stability. With this investment in PTT projects, Xcel Energy is able to enhance the functionality of the internal processes and systems that are a necessary part of doing business across multiple business areas in a cost-effective and efficient manner.

The total investment in this category amounts to $1,224,268 on a New Mexico Retail basis during the period. Projects included in this category are:

- **PTT Stabilize and Optimize – $1,156,002 NM Retail ($4,164,058 Total Company)** (Level 2 WBS D.0001787.009, D.0001787.004, D.0002020.014) **–** The Stabilization and Optimization project is a continuing effort focused on improving end user experience, driving customer satisfaction, and improving efficiency by providing enhancements. Examples include further work execution process automation that will reduce non-value added work, improve user experience, further mobile adoption and increase data quality controls. In addition, the project implements additional scheduling process automation that will improve the customer and user experience, reduce process waste, improve emergency response and escalated operation capabilities. The project also includes improving the efficiency and accuracy in the work order-to-pay processes, including work planning and work management, in order to streamline supply chain integrations, work execution, and on-time end-to-end work order to pay processes.

- **Work and Asset Phase 1 SW SPS – $68,266 NM Retail ($245,902 Total Company)** (Level 2 WBS D.0001726.058) **–** This project was for trailing work related to the WAM project and involved implementing improvements in data and reporting to support

management decision making, as well as required enhancements and changes to the WAM system identified after the tools went live.

Combined, these projects account for 100% of the total capital additions in this category.

Q. Please describe the types of projects included in the "Aging Technology" category.

A. This category of investment includes projects that were necessary to repair or replace aging software, hardware, systems, and related technology infrastructure, which are required to ensure efficient and reliable business operations. This category of investment includes upgrades of the critical systems that are used across Xcel Energy such as desktop operating systems, productivity suites, and other infrastructure systems used throughout the organization. For example, capital additions in this category include planned replacements and upgrades of computer hardware platforms (e.g., desktop computers and laptops, mobile data terminals), radio and microwave systems, network components, and applications. This category also includes projects related to software license renewals and expanded licensing for existing software.

SPS's portion of the total investment in this category amounts to $4,789,049 on a New Mexico retail basis during the period. Projects included in this category are:

- **Next Generation Desktop – $944,216 NM Retail ($3,401,180 Total Company) (**Level 2 WBS D.0001805.004)– This project includes costs for purchasing licenses necessary to move desktop and mobile computing devices throughout Xcel Energy to the most current operating system, Windows 10, and to move from the Office 2010 suite of applications to Office 365. The legacy operating system is near the end of its useful life, and vendor support ends in January 2020. A current, supported operating system is essential for avoiding security vulnerabilities and enables new business capabilities and efficiencies, such as mobile and tablet technologies across our business.

- **SPS Microwave Project [Purch Eddy County MW Equip NM] – $655,052 NM Retail ($2,359,576 Total Company)** (WBS Level 2 Numbers D.0001839.827, D.0001839.406, D.0001839.675) – This project involves costs for the installation of a new microwave tower, communications hut, and equipment at the Roosevelt microwave site. It required migration off of the old tower and shelter, which will be removed after migration has been tested and is complete.

- **PC Device Refresh – $502,290 NM Retail ($1,809,308 Total Company)** (WBS Level 2 Numbers D.0001821.290, D.0001821.311, D.0001821.232, D.0001821.185, D.0001821.208) – These projects involve expenditures for the planned or scheduled replacement of aging personal computers ("PC"), including laptops and desktops, when they reach the end of their useful lives, and investment necessary to purchase PCs for new personnel or as replacements for lost or damaged computers as the need arises during the year.

- **Demand Response System Replacement – $289,233 NM Retail ($1,041,852 Total Company)** (WBS Level 2 Number D.0001826.191) – This project includes costs for deploying a new demand response management system to address existing compliance and financial risks and to position Xcel Energy's gas and electric areas to expand demand response in the future and to increase customer choice.

- **Oracle Software License – $225,930 NM Retail ($813,827 Total Company)** (WBS Level 2 Numbers D.0002003.010, D.0002003.014) – Costs for this project were incurred to upgrade the Oracle database versions in use across Xcel Energy. Several versions that were in service were at the end of their useful lives and were no longer supported by the vendor. Key systems supported by Oracle include Business Objects, Enterprise Service Bus, the Xcel Energy website, and generation management tools.

- **Network Management System Version Upgrade – $210,971 NM Retail ($759,942 Total Company)** (WBS Level 2 Number D.0002002.007) – This project contains costs necessary for upgrading the outage management system, Oracle Network Management System. The system was nearing the end of its useful life, and the upgrade was required to retain full vendor support and to ensure operational reliability. The new version also aligns with Xcel Energy's enterprise standards for key technology components (e.g., JAVA and WebLogic) and eliminated some interim work-arounds to maintain critical business functionality.

- **Transmission & Distribution MPLS Network Unplanned - $187,398 NM Retail ($675,029 Total Company)** (WBS Level 2 Numbers D.0002016.017, D.0002016.004, D.0002016.018, D.0001822.057) – In addition to budgeting and planning for capital spending on known projects, Xcel Energy also knows needs will arise during the year that will require investment even if the specific project is not able to be identified at the start of the budget year. This project includes that type of investment. Specifically, the investment was necessary for wide area network ("WAN") reliability and capacity

improvements for transmission and distribution substations, generation facilities, service centers, and third-party sites. It includes replacement of frame relay technology, unplanned circuit improvements, and security upgrades.

- **Interval and Complex Billing Project– $185,487 NM Retail ($668,146 Total Company)** (WBS Level 2 Number D.0001804.151) – The Interval and Complex Billing Project is designed to create a new set of capabilities to improve the billing accuracy and efficiency of our most complex rates and support the billing. The project will help inform the customer of their usage to drive increased customer satisfaction and may decrease energy consumption.

- **Telecom Expense Management – $155,740 NM Retail ($560,993 Total Company)** (WBS Level 2 Number D.0001796.018) – This project includes costs for preparing to change network services vendors. It includes auditing telecom invoices and processing invoice payments, and managing the provisioning and full installation of new network circuits, transferring third-party treasury service to the new vendor, and migrating asset management to the corporate IT Service Management processes and tools.

- **IrthNet Damage Prevention – $140,598 NM Retail ($506,452 Total Company)** (WBS Level 2 Number D.0001744.019) – This project involves replacing the aging IrthNet facilities location system (i.e., dial 811 locate before digging) and Damage Prevention applications with a single solution. IrthNet was at its end-of-life in 2017. The new system Xcel Energy installed enables or enhances underground locating, safety, work assignment, communications, and reporting for regulatory locating and damage prevention programs.

- **Network Refresh – $135,495 NM Retail ($488,068 Total Company)** (WBS Level 2 Numbers D.0001821.278, D.0001840.004, D.0001821.537, D.0001840.019, D.0001839.055, D.0001821.401, D.0001839.063) – These are annual projects that provide for the planned, scheduled replacement of aging local area network and WAN

components such as routers and hubs as they reach the end of their useful lives and are no longer supported by the vendor. Replacement of these components is necessary to ensure continued efficiency and reliable operations.

- **MicroFocus License True-up – $125,091 NM Retail ($450,595 Total Company)** (WBS Level 2 Number D.0002090.013) – This project includes costs for additional software license purchases to cover application use in excess of the paid entitlements. The excess was due to additional device endpoints requiring a license and additional users of the application.

- **Facility IT Investments – $123,756 NM Retail ($445,784 Total Company)** (WBS Level 2 Number D.0002021.004) – This project includes costs for new or replaced local area network and WAN components that are necessary due to changes in facility requirements, including new sites and the remodeling or repurposing of existing facilities.

- **UAST1 – $98,149 NM Retail ($353,544 Total Company)** (WBS Level 2 Numbers D.0002097.007) – This project involves the technical and data storage portions of the Transmission unmanned aircraft system effort and involves integrating data obtained by unmanned aircraft into existing modeling tools and asset condition reports required for NERC compliance and maintenance planning.

- **Land Mobile Radio Hardware – $89,172 NM Retail ($321,210 Total Company)** (WBS Level 2 Number D.0001783.021) – This project includes costs for expanded private radio coverage in southeastern New Mexico due to replacing aging equipment at an existing site and additional equipment to establish two new radio tower sites. The radio tower sites are necessary for communication with field personnel.

- **911 Emergency Phone Record Solution – $82,033 NM Retail ($295,491 Total Company)** (WBS Level 2 Numbers D.0001839.379,

D.0001839.851) – This project involves implementing a system that provides the correct location information of internal callers to 911 operators. This is a legal requirement in Colorado, Minnesota, and Texas, and for safety reasons, it is being implemented across the entire Xcel Energy service territory.

- **EMS Infrastructure Refresh – $80,362 NM Retail ($289,475 Total Company)** (WBS Level 2 Number D.0001821.307) – This annual project includes costs for replacing end-of-life servers, routers, switches, and other hardware that supports electric and gas system operations, including generation, dispatch, transmission, and distribution.

- **Verint Workforce Management Upgrade or Replacement – $-76,944 NM Retail ($277,163 Total Company)** (WBS Level 2 Numbers D.0001826.161, D.0001800.939) – This project was necessary to replace the call center tool used to support workforce management and quality assurance. The vendor stopped supporting the prior system in 2015. The tool helps optimize resource utilization and provides performance monitoring capabilities.

- **OSI PI Enterprise Agreement – $76,742 NM Retail ($276,433 Total Company)** (WBS Level 2 Number D.0002067.004) – This project involves negotiation and renewal of the license agreement for the Open Source International Plant Information ("PI") system. PI is used to monitor generation plants in real time. The existing licensing agreement expired in 2018.

- **Microsoft Core Server Licensing True-up – $67,146 NM Retail ($241,869 Total Company)** (WBS Level 2 Number D.0002162.004) – This project involves the purchase of additional Microsoft server operating system licenses to cover necessary consumption in excess of purchased entitlements.

- **Storage Project – $57,675 NM Retail ($207,751 Total Company)** (WBS Level 2 Number D.0001839.148) – This annual project contains

costs for the replacement of data storage hardware that is no longer cost-effective to support or that presents a significant risk to operations due to aging components or lack of vendor support.

- **WAN SPS – $56,443 NM Retail ($203,313 Total Company)** (WBS Level 2 Number D.0002014.001, D.0001822.058, D.0001822.036, D.0001797.009) – The WAN SPS project is necessary to implement WAN reliability and capacity improvements for Distribution and Transmission substations, Energy Supply sites, Service Centers, and third parties. This project addresses business needs related to increased substation communications reliability; high-speed digital access for operations, maintenance, and security; and the ability to analyze data to improve reliability and operations.

Combined, these projects account for 95% of the total capital additions in this category. The remaining 5% of the projects are similar in nature in that they are necessary to repair or replace aging technology, which is essential to ensuring efficient and reliable business operations that support SPS's provision of electric service.

Q. Please describe the types of projects included in the "Enhance Capabilities" category.

A. This category of projects includes the implementation of new software, upgrades to existing software systems, and necessary hardware upgrades to support software investments. These investments are needed to enhance production and training environments to meet regulatory requirements, efficiently manage assets,

improve project management and workflow, enable continued system stability, meet evolving legal and compliance requirements, maintain and improve business operations, and protect SPS and Xcel Energy information. These investments impact many of the operational functions of Xcel Energy including power plants, transmission operations, facility management, IT operations management, construction project management, and customer care needs.

SPS's portion of the total investment in this category amounts to $757,183 on a New Mexico retail basis during the period. Projects included in this category are:

- **Sharepoint Upgrade – $268,246 NM Retail ($966,253 Total Company)** (WBS Level 2 Numbers D.0001839.391, D.0002182.004) – This project was necessary to upgrade SharePoint 2007 to the current version (SharePoint 2016 and SharePoint Online). SharePoint is a web application that enables employees to collaborate from across all business units, and to work more efficiently by letting users share documents and data while maintaining security and version control. SharePoint Online is hosted by Microsoft and is used for most internal collaboration and all collaboration with outside parties. SharePoint 2016 is located on premise and is used for custom applications that require integration with other internal systems, as well as for data related to CIP, which are a series of NERC compliance standards. The new versions provide a more powerful platform and enable new capabilities, such as enhanced sharing of information and improved information governance and security.

- **Wireless Project – $175,825 NM Retail ($633,341 Total Company)** (WBS Level 2 Numbers D.0001804.397, D.0001804.396,

D.0001804.327, D.0001804.325) – These projects involve the purchase of hardware necessary to provide wireless access across Xcel Energy. These projects will enable mobility for those with laptops or tablets, which is more flexible than wired networking.

- **2015 Real Property Asset Management (RPAM) Project – $-169,402 NM Retail ($610,205 Total Company)** (WBS Level 2 Number D.0001826.247) – This project contains costs for upgrading the software Xcel Energy utilizes to operate and maintain facilities. The project improved decision-making and property management processes, improved facility budget management, and provided improved analytics related to property management.

- **IT Service Request Automation – $68,300 NM Retail ($246,023 Total Company)** (WBS Level 2 Number D.0002090.004) – This project enhanced the XpressREQUEST portal, which is used by employees to request things such as computers, software, databases, data access, privileged access, phones, etc. The project integrated XpressREQUEST with the SailPoint access management tool (discussed below under Cyber Security), providing a single user interface to obtain services fulfilled by both tools. The integration ensures that all requests receive appropriate approvals from a compliance and cyber security perspective.

- **Network Inventory and Planning Solution – $39,377 NM Retail ($141,841 Total Company)** (WBS Level 2 Number D.0001796.025) – This project created a central repository that can house the inventory of all network assets. This inventory will include wireless networks, fiber, physical locations, WAN circuits, network hardware components, etc. In addition, the system provides geospatial visualization of the entire communications network, and provides real-time network monitoring for enhanced network reliability and security.

- **Rational Tool Upgrade – $34,151 NM Retail ($123,015 Total Company)** (WBS Level 2 Number D.0001792.176) – This project upgraded the IBM Rational tool, which facilitates software application

development, testing, and defect tracking. The tool is used by Business Systems and technology vendors to deliver software solutions to Xcel Energy. The prior version was unstable and not properly sized for current demand.

Combined, these projects account for 99% of the total capital additions in this category. The remaining 1% of the projects are similar in nature in that they involve the implementation or upgrade of existing software, hardware, or systems that are needed to improve business operations and to protect SPS and Xcel Energy information.

Q. How do you differentiate between the Enhancing Capability investments and the Aging Technology investments?

A. As noted above, some of the investments overlap between categories. That said, the projects in the Aging Technology category typically involve the replacement of assets that were already in service, while the projects in the Enhance Capabilities category typically involve implementing systems that significantly add to business capability or efficiency. Close calls in deciding which category is appropriate often involve application upgrades. In some cases, the primary reason for an upgrade is the age of the existing application. In other cases, the upgraded application enables new functionality and capability. In many cases both issues drive the need for the capital investment.

Q. Please describe the types of projects included in the "Cyber Security" category.

A. Projects in this category include solutions required to meet regulatory requirements, such as the NERC CIP Standards, and to protect SPS and Xcel Energy's computing environment. Accordingly, these projects assist SPS in establishing and maintaining the proper tools to protect the integrity and confidentiality of its data and its systems.

SPS's portion of the total investment in this category amounts to $732,019 a New Mexico retail basis. Projects included in this category are:

- **Transient Cyber Asset Compliance – $227,369 NM Retail ($819,010 Total Company)** (WBS Level 2 Number D.0002000.008) – This project was necessary to achieve compliance with NERC CIP Standard CIP-010, which sets requirements for managing the use of portable, unmanaged (transient) computing devices in medium to high impact bulk electric system facilities such as substations. The project contains costs for hardware and software to control the use of transient cyber assets at these facilities and to produce evidence of compliance.

- **Firewall Rule Management – $95,836 NM Retail ($345,214 Total Company)** (WBS Level 2 Number D.0002099.007) – This project contains costs for implementing the tools and processes to inventory and manage firewall rules throughout Xcel Energy. Firewall rules are numerous and complex, requiring methodical management to ensure security, enable appropriate communication, and avoid rule conflicts.

- **Certificate and Key Management – $93,299 NM Retail ($336,074 Total Company)** (WBS Level 2 Number D.0001771.007) – This

project includes costs for a software purchase and the implementation of a tool to manage digital certificates and encryption keys. These enable the secure transfer of data by positively identifying an entity and encrypting the data shared with that entity.

- **Advanced Endpoint Protection – $91,847 NM Retail ($330,844 Total Company)** (WBS Level 2 Number D.0001825.098) – This project involved the purchase and deployment of Tanium, an endpoint security tool uniquely designed to identify infected devices and malicious activity on the network, enabling a rapid response. The tool complements traditional anti-virus tools by scanning for indicators of compromise on computers (endpoints) that have been infected by malware that slipped through the primary anti-virus defenses. The tool also has the ability to trace endpoint activities in support of forensics investigations.

- **Cyber Ark – $60,319 NM Retail ($217,277 Total Company)** (WBS Level 2 Number D.0002098.004) – This project involves the implementation of a password vaulting solution called Cyber Ark, which allows authorized personnel to have privileged (administrator) access when required by checking out temporary credentials rather than being granted privileged access directly. The tool also secures the passwords of service accounts (used by systems rather than people) that require privileged access.

- **SailPoint Phase 3 – $58,745 NM Retail ($211,607 Total Company)** (WBS Level 2 Number D.0002001.014) – This project involves enhancements to the SailPoint identity and access management tool, including bringing more entitlements (software and access) into the system. The expansion of SailPoint enhances Xcel Energy's Identity and Access Management, which supports compliance with Sarbanes-Oxley, Federal Energy Regulatory Commission ("FERC"), and NERC reliability standards. This project included an integration with the service request portal discussed in the IT Service Request Automation project above.

- **Enterprise Database Security Phase 3 – $40,986 NM Retail ($147,637 Total Company)** (WBS Level 2 Number D.0002008.004) – This project involves enhancing the control and logging of access to structured data assets. This phase of the project focuses on data encryption, masking, protection, best practices, and governance processes to enforce security policies and demonstrate compliance.

- **Replace Emergency Mass Notification Service – $32,762 NM Retail ($118,012 Total Company)** (WBS Level 2 Number D.0001818.108) – This project involves replacing an existing mass notification service with one that has more capabilities. Notices can be sent via any combination of email, text, or phone call, optionally requiring acknowledgement of message receipt. In addition to enabling mass notifications for emergency situations (severe weather, fire, cyber attack, etc.), the service is also used for more routine communication, such as paging on-call personnel when required.

Combined, these projects account for 96% of the total capital additions in this category. The remaining 4% of the projects are similar in nature in that they are necessary to meet regulatory requirements and protect SPS's and Xcel Energy's computing environment.

Q. Are the Business Systems capital additions for the period of April 1, 2018 through March 31, 2019 presented in Attachment DCH-2 reasonable and necessary?

A. Yes. As discussed in my testimony above, the Business Systems capital additions presented in Attachment DCH-2 are reasonable and necessary to efficiently manage business operations, protect SPS and Xcel Energy data and information,

meet evolving regulatory and legal requirements, keep current with technology, maintain the stability and reliability of the existing IT systems, and provide the tools required to effectively and safely provide service to SPS's retail customers. The rigorous IT Governance process, which I discuss in Section III of my testimony, that is followed in evaluating, selecting, and monitoring the execution and implementation of capital projects ensures that the expenditures are reasonable and necessary and that the costs are prudently incurred to provide safe and reliable utility service to SPS customers.

B. Business Systems Capital Additions for the Period April 1, 2019 through August 31, 2019

Q. Please describe the Business Systems capital additions SPS is requesting to include in its rate base for the period of April 1, 2019 through August 31, 2019.

A. The capital additions that have been or will be placed in service during the period of April 1, 2019 through August 31, 2019 are similar to the projects that were closed to plant-in-service during the period of April 1, 2018 through March 31, 2019 and that are discussed in the previous section of my testimony. As with the projects discussed above, these projects support SPS's ability to provide safe and reliable electric service to its customers.

Q. What is the dollar amount of the Business Systems capital additions for the period of April 1, 2019 through August 31, 2019 that SPS is requesting to include in rate base?

A. SPS is requesting $3,321,440 on a New Mexico retail basis in Business Systems capital additions for the period of April 1, 2019, through August 31, 2019. This amount consists of general plant capital additions of $2,349,086 and intangible plant capital additions of $972,354. Attachment DCH-3 provides all of the Business Systems capital additions that closed or are expected to be closed to plant-in-service during this time period.

Q. Please describe the information included in Attachment DCH-3, which provides details about the dollar amount for Business Systems capital additions for the period of April 1, 2019, through August 31, 2019.

A. Attachment DCH-3 provides the following information:

Column A	Asset Class	Identifies the type of asset.
Column B	Witness	Identifies the witness supporting the project.
Column C	Project Category	Provides the project category that is descriptive of the project's type.

Column D	Project Description	Provides a short title that describes the project.
Column E	Additions to Plant-in-Service (April 1, 2019 – August 31, 2019) Total Company	Provides the Total Company dollar amount for the plant additions for the period April 1, 2019 through August 31, 2019.
Column F	Additions to Plant-in-Service (April 1, 2019 – August 31, 2019) NM Retail	Provides the New Mexico Retail dollar amount for the plant additions for the period April 1, 2019 through August 31, 2019.

Q. Please describe the Business Systems capital additions placed in service for the period of April 1, 2019 through August 31, 2019.

A. The capital additions that have been or will be placed into service between April 1, 2019 through August 31, 2019 are similar to the projects that were closed during the period of April 1, 2018 through March 31, 2019 and that are discussed in the previous section of my testimony. The table below shows the project categories and amounts.

Table DCH-2
Business Systems – Capital Investment
for the period April 1, 2019 through August 31, 2019

Project Category	Business Systems Capital Additions (total company)	Business Systems Capital Additions (NM retail)
PTT	$138,807	$38,535
Aging Technologies	$8,442,980	$2,343,891
Enhance Capabilities	$1,953,577	$542,341
Cyber Security	$887,456	$246,371
Emergent Demand	$541,407	$150,302
Total	$11,964,227	$3,321,440

Q. Please describe the types of projects included in the "PTT" category.

A. The general description of the PTT category is provided in the previous subsection of this testimony, which applies to the projects included for the period April 1, 2019 through August 31, 2019 identified as PTT on Attachment DCH-3. The total planned investment in this category is $38,535 on a New Mexico retail basis during the period. The project in this category is:

- **PTT Stabilize and Optimize – $38,535 NM Retail ($138,807 Total Company)** — This project reflects continuing work on the project with the same name that was described in Section III, Subsection A of this testimony.

This project accounts for 100% of the total capital additions in this category.

Q. Please describe the types of projects included in the "Aging Technology" category.

A. The general description of the Aging Technology category is provided in the previous subsection of this testimony, which applies to the projects included for the period April 1, 2019 through August 31, 2019 identified as Aging Technology on Attachment DCH-3. The total planned investment in this category is $2,343,891 on a New Mexico retail basis during the period. The projects included in this category are:

- **Commodity Management System Upgrade – $230,375 NM Retail ($829,839 Total Company)** – This project is necessary to upgrade CommodityXL (CXL) to keep the application in line with the latest technology architecture standards and new functionality enhancements made by Triple Point Technologies. This includes migrating away from Oracle 11G that is no longer supported.

- **Satellite Project – $110,482 NM Retail ($397,971 Total Company)** – This project involves implementing reliable satellite connections in all Xcel Energy regions and enables dynamic network addressing for satellite connections that have already been deployed. This upgrade and expansion of satellite capabilities will enable automated emergency cut-over and improve performance.

- **Network Strategy - T&D Substation Connectivity – $108,815 NM Retail ($391,964 Total Company)** – These projects involve

purchasing transmission and distribution ("T&D") network equipment. The costs for these projects are associated with the design, deployment, and testing of elements for utilizing transmission fiber and microwave-based communications in support of a corporate initiative to expand and privatize the Xcel Energy-wide area network.[2] The business needs being addressed by these projects include increased substation communications reliability; high-speed digital access for operations, maintenance, and security; and the ability to analyze data to improve reliability and operations.

- **Enterprise Learning Upgrade – $65,965 NM Retail ($237,615 Total Company)** – This project involves migrating the existing on-premise Learning Management System to a hosted environment. The system was no longer supported by the vendor and could not be integrated with the enterprise talent management system. The system provides on-line training courses, facilitates the scheduling of instructor led courses, and tracks learning history to ensure compliance with training requirements of Sarbanes Oxley, FERC, NERC, etc.

- **Active Directory Upgrade – $58,515 NM Retail ($210,777 Total Company)** – This project involves the replacement of the Microsoft Active Directory infrastructure at 28 sites across Xcel Energy, as well as an upgrade of the Active Directory software to the most recent version. Active Directory authenticates and authorizes users and computers in a Microsoft Windows domain. It also assigns and enforces security policies for all computers that are members of the domain.

- **WAN SPS – $272,968 NM Retail ($983,262 Total Company); LMR Radio HW – $574,753 NM Retail ($2,070,331 Total Company); T&D MPLS Unplanned – $561,685 NM Retail ($2,023,257 Total Company); Network Refresh – $89,049 NM Retail ($320,766 Total Company); PC Device Refresh – $53,331 NM Retail ($192,103**

[2] "Privatize" in this instance means replacing circuits leased from outside vendors with circuits owned and operated by Xcel Energy subsidiaries such as SPS.

Total Company) – These projects are all continuing work on projects with these same names that were described in Section III, Subsection A of this testimony.

Combined, these projects account for 96% of the total capital additions in this category. The remaining 4% of the projects are similar in nature in that they repair or replace aging technology, which is essential to ensuring efficient and reliable business operations.

Q. Please describe the types of projects included in the "Enhance Capabilities" category.

A. The general description of the Enhance Capabilities category is provided in the previous subsection of this testimony, and the description also applies to the projects included for the period April 1, 2019 through August 31, 2019 identified as Enhance Capabilities on Attachment DCH-3. The total planned investment in this category is $542,341 on a New Mexico retail basis during the period. The projects included in this category are:

- **SPS Wind Farm – $127,625 NM Retail ($459,722 Total Company)** – This project is necessary to implement new network infrastructure to support SPS wind farms. The project includes installing local and wide-area connections to the construction trailers, the facility buildings, and the collector substations at the wind farm sites.

- **Blue Prism Process Automation – $74,009 NM Retail ($266,589 Total Company)** – This project leverages automation technologies,

such as robotic process automation, smart workflows, and natural language processing to streamline workloads. For example, the tool can be used to automate what had been a time-consuming, manually created report, reducing errors and freeing personnel to focus on higher value work.

- **Basic Private Cloud Services $47,486 NM Retail ($171,051 Total Company)** – This project is for creating and enabling the basic private cloud services, including virtualization and automation of disaster recovery, network and server creation within contained environments, basic auditing and reporting services, and enabling future public cloud usage.

- **Network Inventory and Planning Solution – $198,669 NM Retail ($715,629 Total Company); Wireless Project – $64,715 NM Retail ($233,111 Total Company) –** These projects are all continuing work on projects with the same names that were described in Section III, Subsection A of this testimony.

Combined, these projects account for 94% of the total capital additions in this category. The remaining 6% of the projects are similar in nature in that they will involve the implementation or upgrade of existing software, hardware, and systems that are needed to improve business operations.

Q. Please describe the types of projects included in the "Cyber Security" category.

A. The general description of the Cyber Security category is provided in the previous subsection of this testimony, which also applies to the projects included for the

period April 1, 2019 through August 31, 2019 identified as Cyber Security on Attachment DCH-3. The total planned investment in this category is $246,371 on a New Mexico retail basis during the period. The projects included in this category are:

- **Security Camera Upgrade – $154,429 NM retail ($556,274 Total Company)** – These projects are part of a security camera upgrade effort, which replaces analog cameras with digital cameras, and includes the necessary software and cabling. The legacy security camera system was reaching the end of its useful life and did not provide the required level of security observation. The new system allows security personnel to work more efficiently.

- **Security Technology Refresh – $88,327 NM Retail ($318,165 Total Company)** – This project is necessary to update critical cyber security technology including perimeter security, internal infrastructure security, application security, and vulnerability management to protect sensitive customer and business information. This project will ensure that Xcel Energy meets applicable legal and regulatory obligations (*e.g.*, NERC CIP, Sarbanes Oxley, etc.) and risk management objectives.

- **Certificate and Key Management – $3,756 NM Retail ($13,531 Total Company)** – This project reflects continuing work on the project of the same name discussed in Section III, Subsection A above.

Combined, these projects account for approximately 100% of the total capital additions in this category.

Q. Please describe the types of projects included in the "Emergent Demand" category.

A. The Emergent Demand category is a capital investment account created to ensure that Business Systems is able to meet unanticipated aging technology, cyber security threats, and efficiency needs that inevitably emerge each year. Given the ever-changing nature of technology and emerging cyber security risks, it is not possible to identify all projects that may arise or become critical in a given year. For instance, Business Systems may identify a risk associated with existing technology that needs to be addressed earlier than initially planned. In other instances, Business Systems might begin to implement a new software and then learn of a new function that is cost-effective to adopt at the same time the project is implemented. The Emergent Demand account allows Business Systems to address these types of issues without unnecessarily delaying or cancelling previously-planned projects or otherwise absorbing unplanned work and costs.

SPS's portion of the total investment in this category amounts to $150,302 on a New Mexico retail basis ($541,407 Total Company) during the period. This amount is based on forecasted business priorities for this time period, balanced by the overall business area capital spending guidelines.

Q. Are the Business Systems capital additions presented in Attachment DCH-3 consistent with what is expected to be placed in service during the period April 1, 2019 through August 31, 2019?

A. Yes. With respect to the included projects, although the actual cost of any single capital project may vary somewhat from the planned amount on Attachment DCH-3, and it is possible that other projects will emerge or replace those listed, Attachment DCH-3 is a reasonable estimate of the total costs of the Business Systems capital investment that will be placed in service during the period April 1, 2019 through August 31, 2019.

Q. Are the Business Systems capital additions for the period presented in Attachment DCH-3 reasonable and necessary?

A. Yes. As discussed in my testimony, the Business Systems capital additions presented in Attachment DCH-3 are reasonable and necessary to efficiently manage business operations, protect SPS and Xcel Energy data and information, meet evolving regulatory and legal requirements, keep current with technology, maintain the stability and reliability of the existing IT systems, and provide the tools required to effectively and safely provide service to SPS's retail customers. The rigorous process that is followed in evaluating, selecting, and monitoring the execution and implementation of capital projects will ensure that the expenditures

are reasonable and necessary and that the costs are prudently incurred to provide safe and reliable service to SPS's customers.

Q. Does this conclude your pre-filed direct testimony?

A. Yes.

VERIFICATION

STATE OF MINNEAPOLIS)
) ss.
COUNTY OF HENNEPIN)

DAVID C. HARKNESS, first being sworn on his oath, states:

I am the witness identified in the preceding direct testimony. I have read the direct testimony and the accompanying attachment(s) and am familiar with their contents. Based upon my personal knowledge, the facts stated in the testimony are true. In addition, in my judgment and based upon my professional experience, the opinions and conclusions stated in the testimony are true, valid, and accurate.

DAVID C. HARKNESS

SUBSCRIBED AND SWORN TO before me this 24th day of June, 2019 by DAVID C. HARKNESS.

REBECCA ELAINE MONSON
Notary Public
Minnesota
My Commission Expires
Jan 31, 2022

Notary Public of the State of Minnesota
My Commission Expires: 1-31-2022

Southwestern Public Service Company

Total Company Amounts and Jurisdictional Percentages

Line No.	Witness	Description	Page No.	Line No.	Total Company Amount	Number Scale	Allocator (Name)	TY Allocator (%)	NM Amount
1	Harkness	Business Systems Capital Additions April 1, 2018 through August 31, 2019	4	17	$ 38,985,552	Dollars	(1)	(1)	$ 10,823,960
2	Harkness	Business Systems Capital Additions April 1, 2018 through March 31, 2019	5	1	$ 27,021,325	Dollars	(1)	(1)	$ 7,502,520
3	Harkness	Business Systems Capital Additions April 1, 2019 through August 31, 2019	5	2	$ 11,964,227	Dollars	LABXAG	27.76%	$ 3,321,440
4	Harkness	Business Systems Capital Additions April 1, 2018 through March 31, 2019	13	6	$ 27,021,325	Dollars	(1)	(1)	$ 7,502,520
5	Harkness	Business Systems General Plant Capital Additions April 1, 2018 through March 31, 2019	13	8	$ 8,650,083	Dollars	LABXAG	27.76%	$ 2,401,386
6	Harkness	Business Systems Intangible Plant Capital Additions April 1, 2018 through March 31, 2019	13	9	$ 18,371,242	Dollars	(1)	(1)	$ 5,101,133
7	Harkness	PTT	15	Table DCH-1	$ 4,409,960	Dollars	LABXAG	27.76%	$ 1,224,268
8	Harkness	Aging Technology	15	Table DCH-1	$ 17,247,078	Dollars	(1)	(1)	$ 4,789,049
9	Harkness	Enhance Capabilities	15	Table DCH-1	$ 2,727,466	Dollars	LABXAG	27.76%	$ 757,183
10	Harkness	Cyber Security	15	Table DCH-1	$ 2,636,821	Dollars	LABXAG	27.76%	$ 732,019
11	Harkness	Total	15	Table DCH-1	$ 27,021,325	Dollars	(1)	(1)	$ 7,502,520
12	Harkness	PTT	17	6	$ 4,409,960	Dollars	LABXAG	27.76%	$ 1,224,268
13	Harkness	PTT Stabilize and Optimize	17	8	$ 4,164,058	Dollars	LABXAG	27.76%	$ 1,156,002
14	Harkness	Work and Asset Phase 1 SW SPS	17	25	$ 245,902	Dollars	LABXAG	27.76%	$ 68,266
15	Harkness	Aging Technology	19	2	$ 17,247,078	Dollars	(1)	(1)	$ 4,789,049
16	Harkness	Next Generation Desktop	19	4	$ 3,401,180	Dollars	LABXAG	27.76%	$ 944,216
17	Harkness	SPS Microwave Project [Purch Eddy County MW Equip NM]	19	17	$ 2,359,576	Dollars	LABXAG	27.76%	$ 655,052
18	Harkness	PC Device Refresh	19	24	$ 1,809,308	Dollars	LABXAG	27.76%	$ 502,290
19	Harkness	Demand Response System Replacement	20	1	$ 1,041,852	Dollars	LABXAG	27.76%	$ 289,233
20	Harkness	Oracle Software License	20	8	$ 813,827	Dollars	LABXAG	27.76%	$ 225,930
21	Harkness	Network Management System Version Upgrade	20	17	$ 759,942	Dollars	LABXAG	27.76%	$ 210,971
22	Harkness	Transmission & Distribution MPLS Network Unplanned	20	29	$ 675,029	Dollars	LABXAG	27.76%	$ 187,398
23	Harkness	Interval and Complex Billing Project	21	6	$ 668,146	Dollars	LABXAG	27.76%	$ 185,487
24	Harkness	Telecom Expense Management	21	14	$ 560,993	Dollars	LABXAG	27.76%	$ 155,740
25	Harkness	IrthNet Damage Prevention	21	23	$ 506,452	Dollars	LABXAG	27.76%	$ 140,598
26	Harkness	Network Refresh	21	32	$ 488,068	Dollars	LABXAG	27.76%	$ 135,495
27	Harkness	MicroFocus License True-up	22	6	$ 450,595	Dollars	LABXAG	27.76%	$ 125,091
28	Harkness	Facility IT Investments	22	13	$ 445,784	Dollars	LABXAG	27.76%	$ 123,756
29	Harkness	UAST1	22	20	$ 353,544	Dollars	LABXAG	27.76%	$ 98,149
30	Harkness	Land Mobile Radio Hardware	22	27	$ 321,210	Dollars	LABXAG	27.76%	$ 89,172
31	Harkness	911 Emergency Phone Record Solution	22	35	$ 295,491	Dollars	LABXAG	27.76%	$ 82,033
32	Harkness	EMS Infrastructure Refresh	23	7	$ 289,475	Dollars	LABXAG	27.76%	$ 80,362
33	Harkness	Verint Workforce Management upgrade or replacement	23	15	$ 277,163	Dollars	LABXAG	27.76%	$ 76,944
34	Harkness	OSI PI Enterprise Agreement	23	22	$ 276,433	Dollars	LABXAG	27.76%	$ 76,742
35	Harkness	Microsoft Core Server Licensing True-up	23	29	$ 241,869	Dollars	LABXAG	27.76%	$ 67,146
36	Harkness	Storage Project	23	35	$ 207,751	Dollars	LABXAG	27.76%	$ 57,675
37	Harkness	WAN SPS	24	5	$ 203,313	Dollars	LABXAG	27.76%	$ 56,443
38	Harkness	Enhance Capabilities	25	7	$ 2,727,466	Dollars	LABXAG	27.76%	$ 757,183
39	Harkness	Sharepoint Upgrade	25	10	$ 966,253	Dollars	LABXAG	27.76%	$ 268,246
40	Harkness	Wireless Project	25	26	$ 633,341	Dollars	LABXAG	27.76%	$ 175,825
41	Harkness	2015 Real Property Asset Management	26	7	$ 610,205	Dollars	LABXAG	27.76%	$ 169,402
42	Harkness	IT Service Request Automation	26	14	$ 246,023	Dollars	LABXAG	27.76%	$ 68,300
43	Harkness	Network Inventory and Planning Solution	26	25	$ 141,841	Dollars	LABXAG	27.76%	$ 39,377
44	Harkness	Rational Tool Upgrade	26	34	$ 123,015	Dollars	LABXAG	27.76%	$ 34,151
45	Harkness	Cyber Security	28	8	$ 2,636,821	Dollars	LABXAG	27.76%	$ 732,019
46	Harkness	Transient Cyber Asset Compliance	28	10	$ 819,010	Dollars	LABXAG	27.76%	$ 227,369
47	Harkness	Firewall Rule Management	28	19	$ 345,214	Dollars	LABXAG	27.76%	$ 95,836
48	Harkness	Certificate and Key Management	28	26	$ 336,074	Dollars	LABXAG	27.76%	$ 93,299
49	Harkness	Advanced Endpoint Protection	29	6	$ 330,844	Dollars	LABXAG	27.76%	$ 91,847
50	Harkness	Cyber Ark	29	17	$ 217,277	Dollars	LABXAG	27.76%	$ 60,319
51	Harkness	SailPoint Phase	29	26	$ 211,607	Dollars	LABXAG	27.76%	$ 58,745
52	Harkness	Enterprise Database Security Phase 3	30	1	$ 147,637	Dollars	LABXAG	27.76%	$ 40,986

Southwestern Public Service Company

Total Company Amounts and Jurisdictional Percentages

Line No.	Witness	Description	Page No.	Line No.	Total Company Amount	Number Scale	Allocator (Name)	TY Allocator (%)	NM Amount
53	Harkness	Replace Emergency Mass Notification Service	30	8	$ 118,012	Dollars	LABXAG	27.76%	$ 32,762
54	Harkness	Business Systems Capital Additions April 1, 2019 through August 31, 2019	32	4	$ 11,964,227	Dollars	LABXAG	27.76%	$ 3,321,440
55	Harkness	Business Systems General Plant Capital Additions April 1, 2019 through August 31, 2019	32	6	$ 8,461,689	Dollars	LABXAG	27.76%	$ 2,349,086
56	Harkness	Business Systems Intangible Plant Capital Additions April 1, 2019 through August 31, 2019	32	7	$ 3,502,538	Dollars	LABXAG	27.76%	$ 972,354
57	Harkness	PTT	34	Table DCH-2	$ 138,807	Dollars	LABXAG	27.76%	$ 38,535
58	Harkness	Aging Technologies	34	Table DCH-2	$ 8,442,980	Dollars	LABXAG	27.76%	$ 2,343,891
59	Harkness	Enhance Capabilities	34	Table DCH-2	$ 1,953,577	Dollars	LABXAG	27.76%	$ 542,341
60	Harkness	Cyber Security	34	Table DCH-2	$ 887,456	Dollars	LABXAG	27.76%	$ 246,371
61	Harkness	Emergent Demand	34	Table DCH-2	$ 541,407	Dollars	LABXAG	27.76%	$ 150,302
62	Harkness	Total	34	Table DCH-2	$ 11,964,227	Dollars	LABXAG	27.76%	$ 3,321,440
63	Harkness	PTT	34	8	$ 138,807	Dollars	LABXAG	27.76%	$ 38,535
64	Harkness	PTT Stabilize and Optimize	34	10	$ 138,807	Dollars	LABXAG	27.76%	$ 38,535
65	Harkness	Aging Technologies	35	9	$ 8,442,980	Dollars	LABXAG	27.76%	$ 2,343,891
66	Harkness	Commodity Management System Upgrade	35	11	$ 829,839	Dollars	LABXAG	27.76%	$ 230,375
67	Harkness	Satellite Project	35	18	$ 397,971	Dollars	LABXAG	27.76%	$ 110,482
68	Harkness	Network Strategy - T&D Substation Connectivity	35	25	$ 391,964	Dollars	LABXAG	27.76%	$ 108,815
69	Harkness	Enterprise Learning Upgrade	36	11	$ 237,615	Dollars	LABXAG	27.76%	$ 65,965
70	Harkness	Active Directory Upgrade	36	19	$ 210,777	Dollars	LABXAG	27.76%	$ 58,515
71	Harkness	WAN SPS	36	28	$ 983,262	Dollars	LABXAG	27.76%	$ 272,968
72	Harkness	LMR Radio HW	36	29	$ 2,070,331	Dollars	LABXAG	27.76%	$ 574,753
73	Harkness	T&D MPLS Unplanned	36	30	$ 2,023,257	Dollars	LABXAG	27.76%	$ 561,685
74	Harkness	Network Refresh	36	31	$ 320,766	Dollars	LABXAG	27.76%	$ 89,049
75	Harkness	PC Device Refresh	36	32	$ 192,103	Dollars	LABXAG	27.76%	$ 53,331
76	Harkness	Enhance Capabilities	37	14	$ 1,953,577	Dollars	LABXAG	27.76%	$ 542,341
77	Harkness	SPS Wind Farm	37	16	$ 459,722	Dollars	LABXAG	27.76%	$ 127,625
78	Harkness	Blue Prism Process Automation	37	22	$ 266,589	Dollars	LABXAG	27.76%	$ 74,009
79	Harkness	Basic Private Cloud Services	38	7	$ 171,051	Dollars	LABXAG	27.76%	$ 47,486
80	Harkness	Network Inventory and Planning Solution	38	14	$ 715,629	Dollars	LABXAG	27.76%	$ 198,669
81	Harkness	Wireless Project	38	15	$ 233,111	Dollars	LABXAG	27.76%	$ 64,715
82	Harkness	Cyber Security	39	2	$ 887,456	Dollars	LABXAG	27.76%	$ 246,371
83	Harkness	Security Camera Upgrade	39	5	$ 556,274	Dollars	LABXAG	27.76%	$ 154,429
84	Harkness	Security Technology Refresh	39	13	$ 318,165	Dollars	LABXAG	27.76%	$ 88,327
85	Harkness	Certificate and Key Management	39	22	$ 13,531	Dollars	LABXAG	27.76%	$ 3,756
86	Harkness	Emergent Demand	40	15	$ 541,407	Dollars	LABXAG	27.76%	$ 150,302

(1) The primary allocator used is LABXAG (27.76%) with one project allocated by CUST-RET (31.08%).

Southwestern Public Service Company
Business Systems Capital Additions
April 1, 2018 through March 31, 2019

Line No.	(A) Asset Class	(B) Witness	(C) Project Category	(D) WBS Level 2	(E) Project Description (WBS Level 2 Description)	(F) Additions to Plant-in-Service (April 1, 2018 - March 31, 2019) Total Company	(G) Additions to Plant-in-Service (April 1, 2018 - March 31, 2019) NM Retail
1	Electric General	Harkness	Aging Technology	D.0001839.827	Purch Eddy County MW Equip NM	$ 2,323,748	$ 645,106
2	Electric General	Harkness	Aging Technology	D.0001821.290	2018 Unplanned PC SPS	1,045,629	290,281
3	Electric General	Harkness	Cyber Security	D.0002000.008	Purch CIP Appl SPS	819,010	227,369
4	Electric General	Harkness	Aging Technology	D.0001821.311	2018 Planned PC SPS	775,703	215,346
5	Electric General	Harkness	Aging Technology	D.0002016.017	Purch T&D MPLS - Unplanned (2017) N	450,721	125,127
6	Electric General	Harkness	Aging Technology	D.0002021.004	Purch Facility IT Investments HW SP	445,784	123,756
7	Electric General	Harkness	Aging Technology	D.0001821.307	2018 EMS Infra Refresh SPS	289,475	80,362
8	Electric General	Harkness	Aging Technology	D.0001821.278	2018 IT INFS Network Refresh S	257,063	71,364
9	Electric General	Harkness	Enhance Capabilities	D.0001804.397	Purch Wireless HW SPS	239,605	66,518
10	Electric General	Harkness	Aging Technology	D.0001839.148	2018 Storage Annual Refresh SP	207,751	57,675
11	Electric General	Harkness	Aging Technology	D.0002016.004	Purch T&D MPLS - Unplanned (2017) S	197,841	54,923
12	Electric General	Harkness	Aging Technology	D.0002014.001	Purch WAN HW SPS-BSPRJ0001170	197,774	54,905
13	Electric General	Harkness	Enhance Capabilities	D.0001804.396	Purch Wireless HW NM	175,180	48,632
14	Electric General	Harkness	Enhance Capabilities	D.0001804.327	Purch Wireless HW SPS	167,034	46,371
15	Electric General	Harkness	Aging Technology	D.0001840.004	2017 Network Refresh SPS	164,421	45,646
16	Electric General	Harkness	Aging Technology	D.0002014.002	Purch WAN HW NM	146,254	40,602
17	Electric General	Harkness	Cyber Security	D.0001840.114	Purch Sec Camera HW TX	114,721	31,848
18	Electric General	Harkness	Aging Technology	D.0001821.538	Purch Mobile Handheld HW SPS	93,656	26,000
19	Electric General	Harkness	Aging Technology	D.0001821.537	2018 IT INFS Network Ref HW NM	64,721	17,968
20	Electric General	Harkness	Enhance Capabilities	D.0001804.325	Purch Wireless Hobbs NM SPS	51,522	14,303
21	Electric General	Harkness	Aging Technology	D.0001839.406	Microwave Crossroads/Towers SP	34,563	9,595
22	Electric General	Harkness	Aging Technology	D.0001839.621	Purch Avaya Server HW SPS	32,451	9,009
23	Electric General	Harkness	Aging Technology	D.0002016.018	Purch T&D MPLS - Unplanned (2017) O	17,683	4,909
24	Electric General	Harkness	Aging Technology	D.0001839.370	Purch SPS Gold Elite Console H	13,782	3,826
25	Electric General	Harkness	Enhance Capabilities	D.0002007.008	Purch Digital Signage HW SPS	12,390	3,440
26	Electric General	Harkness	Aging Technology	D.0001822.010	Purch Sub Frame Relay Equip SP	9,182	2,549
27	Electric General	Harkness	Aging Technology	D.0001822.057	Purch Sub Frame BAU Sites TX SPS	8,784	2,439
28	Electric General	Harkness	Aging Technology	D.0001822.008	Purch Sub Frame Relay Equip NM	5,850	1,624
29	Electric General	Harkness	Cyber Security	D.0001804.126	Purch Network Appl Camera Upgr SPS	4,412	1,225
30	Electric General	Harkness	Aging Technology	D.0001821.232	2017 Unplanned PC Refresh SPS	4,179	1,160
31	Electric General	Harkness	Aging Technology	D.0001822.058	Purch Sub Frame BAU Sites NM SPS	2,142	595
32	Electric General	Harkness	Aging Technology	D.0001840.019	2017 Network Ref NM	1,320	366
33	Electric General	Harkness	Aging Technology	D.0001804.022	Purch Corp Network Core HW SP	1,314	365
34	Electric General	Harkness	Aging Technology	D.0001839.675	Purch Roosevelt MW NM SPS	1,265	351
35	Electric General	Harkness	Aging Technology	D.0001828.004	Purch NS T&D Network Equip SPS	1,122	311
36	Electric General	Harkness	Aging Technology	D.0001839.055	2016 IT INFS Network Refresh S	334	93
37	Electric General	Harkness	Aging Technology	D.0001821.401	2015 IT INFS Refresh Communica	264	73
38	Electric General	Harkness	Aging Technology	D.0001822.001	Purch Corp Frame Relay HW SPS	25	7
39	Electric General	Harkness	Aging Technology	D.0001839.679	Purch Net Core Rte Amarillo SPS	(5)	(1)
40	Electric General	Harkness	Aging Technology	D.0001839.063	2015 IT INFS Network Refresh S	(56)	(15)
41	Electric General	Harkness	Aging Technology	D.0001821.185	2016 Unplanned PC Refresh SPS	(478)	(133)
42	Electric General	Harkness	Aging Technology	D.0001821.208	2017 Planned PC SPS	(15,724)	(4,365)
43	Electric General	Harkness	Cyber Security	D.0001839.832	Purch Net Sec HW SPS	(57,274)	(15,900)

Southwestern Public Service Company
Business Systems Capital Additions
April 1, 2018 through March 31, 2019

Line No.	(A) Asset Class	(B) Witness	(C) Project Category	(D) WBS Level 2	(E) Project Description (WBS Level 2 Description)	(F) Additions to Plant-in-Service (April 1, 2018 - March 31, 2019) Total Company	(G) Additions to Plant-in-Service (April 1, 2018 - March 31, 2019) NM Retail
44	Electric General	Harkness	Aging Technology	D.0001783.021	Purch LMR Radio HW TX	321,210	89,172
45	Electric General	Harkness	Aging Technology	D.0001800.939	Purch Verint Server HW SPS	17,848	4,955
46	Electric General	Harkness	Aging Technology	D.0001797.009	Purch Sub Frame Relay OK SPS	3,395	942
47	Electric General	Harkness	Aging Technology	D.0001783.010	Purch LMR HW SPS	2,278	633
48	Electric General	Harkness	Aging Technology	D.0001703.009	Purch EMS DEMS Ph2 HW SPS	508	141
49	Electric General	Harkness	Aging Technology	D.0001797.010	Purch Sub Frame Relay KS SPS	(293)	(81)
50	**Electric General Total**					**$ 8,650,083**	**$ 2,401,386**
51	Electric Intangible	Harkness	Aging Technology	D.0001805.004	Next Gen MSFT LIC SW SPS-10692	$ 3,401,180	$ 944,216
52	Electric Intangible	Harkness	PTT	D.0001787.009	Customer Mgmt SPS	2,932,094	813,991
53	Electric Intangible	Harkness	Aging Technology	D.0001826.191	Demand Response Manage SW SPS	1,041,852	289,233
54	Electric Intangible	Harkness	PTT	D.0001787.004	SAP Financial Mgmt SPS	966,479	268,308
55	Electric Intangible	Harkness	Enhance Capabilities	D.0001839.391	Sharepoint 2013 Ph2 SW SPS	949,163	263,501
56	Electric Intangible	Harkness	Aging Technology	D.0002002.007	NMS 1.12 Upgrade SW SPS-10669	759,942	210,971
57	Electric Intangible	Harkness	Aging Technology	D.0001804.151	Interval Complex Billing SW SP	668,146	185,487
58	Electric Intangible	Harkness	Enhance Capabilities	D.0001826.247	2015 RPAM Phase 3 Amort SW SPS	610,205	169,402
59	Electric Intangible	Harkness	Aging Technology	D.0001796.018	Netwrk Tools Telecom Exp SW TX -106	560,993	155,740
60	Electric Intangible	Harkness	Aging Technology	D.0001744.019	IrthNet Damage Prevent SW SPS	506,452	140,598
61	Electric Intangible	Harkness	Aging Technology	D.0002090.013	Microfocus SW SPS-10721	450,595	125,091
62	Electric Intangible	Harkness	Aging Technology	D.0002003.010	2018 Oracle SW SPS-10701	409,078	113,566
63	Electric Intangible	Harkness	Aging Technology	D.0002003.014	2019 Oracle SW SPS-10748	404,749	112,364
64	Electric Intangible	Harkness	Aging Technology	D.0002097.007	UAST Ph1 SW SPS-10689	353,544	98,149
65	Electric Intangible	Harkness	Cyber Security	D.0002099.007	Firewall Rule Mgmt SW SPS-10707	345,214	95,836
66	Electric Intangible	Harkness	Cyber Security	D.0001771.007	Certificate Key Mgmt SW SPS	336,074	93,299
67	Electric Intangible	Harkness	Cyber Security	D.0001825.098	Advanced Endpoint SW SPS-10685	330,844	91,847
68	Electric Intangible	Harkness	Aging Technology	D.0002067.004	OSI Ent Agree SW SPS-10726	276,433	76,742
69	Electric Intangible	Harkness	PTT	D.0002020.014	SAP Cont Improve R18 SW SPS-10706	265,485	73,702
70	Electric Intangible	Harkness	Aging Technology	D.0001826.161	Verint Workforce SW SPS	259,315	71,990
71	Electric Intangible	Harkness	Enhance Capabilities	D.0002090.004	IT Service Request SW SPS-10699	246,023	68,300
72	Electric Intangible	Harkness	PTT	D.0001726.058	Work and Asset Phase 1 SW SPS	245,902	68,266
73	Electric Intangible	Harkness	Aging Technology	D.0002162.004	Microsoft Core Server SW SPS-10727	241,869	67,146
74	Electric Intangible	Harkness	Aging Technology	D.0001839.379	RedSky e911 SW SPS	221,184	61,404
75	Electric Intangible	Harkness	Cyber Security	D.0002098.004	CyberArk PAM SW SPS-10694	217,277	60,319
76	Electric Intangible	Harkness	Cyber Security	D.0002001.014	Sailpoint Ph3 SW SPS-10717	211,607	58,745
77	Electric Intangible	Harkness	Aging Technology	D.0002004.014	SAP Data Mart Ph2 SW SPS-10690	195,305	54,219
78	Electric Intangible	Harkness	Aging Technology	D.0002066.004	Bus Obj Ref SW SPS-10698	170,644	47,373
79	Electric Intangible	Harkness	Cyber Security	D.0002008.004	Ent DataBase Security Ph2 SW SPS-10	147,637	40,986
80	Electric Intangible	Harkness	Enhance Capabilities	D.0001796.025	Netwrk Tools Mgmt SW SPS-10700	141,841	39,377
81	Electric Intangible	Harkness	Enhance Capabilities	D.0001792.176	Rational SW SPS-10715	123,015	34,151
82	Electric Intangible	Harkness	Cyber Security	D.0001818.108	Emergency Mass SW SPS-10709	118,012	32,762
83	Electric Intangible	Harkness	Aging Technology	D.0001839.851	RedSky Ph2 SW SPS Direct	74,307	20,629
84	Electric Intangible	Harkness	Cyber Security	D.0002101.006	eGRC Ph3 SW SPS-10719	71,328	19,802
85	Electric Intangible	Harkness	Aging Technology	D.0001839.613	CRS CM SW SPS-10644	30,556	9,497

Southwestern Public Service Company
Business Systems Capital Additions
April 1, 2018 through March 31, 2019

Line No.	(A) Asset Class	(B) Witness	(C) Project Category	(D) WBS Level 2	(E) Project Description (WBS Level 2 Description)	(F) Additions to Plant-in-Service (April 1, 2018 - March 31, 2019) Total Company	(G) Additions to Plant-in-Service (April 1, 2018 - March 31, 2019) NM Retail
86	Electric Intangible	Harkness	Aging Technology	D.0001826.381	Mobile App Ph2 SW SPS-10695	25,338	7,034
87	Electric Intangible	Harkness	Cyber Security	D.0001747.008	Data Loss Ph2 SW SPS	21,882	6,075
88	Electric Intangible	Harkness	Aging Technology	D.0001792.008	Data Warehouse Env Ref SW SPS	21,105	5,859
89	Electric Intangible	Harkness	Aging Technology	D.0001770.020	Sec File Ph3 SW SPS-10716	21,023	5,836
90	Electric Intangible	Harkness	Aging Technology	D.0002034.004	CEC-TCPA Do Not Call SW SPS-10703	20,746	5,759
91	Electric Intangible	Harkness	Enhance Capabilities	D.0002182.004	Sharepoint RFP SW SPS-10739	17,090	4,744
92	Electric Intangible	Harkness	Cyber Security	D.0001818.090	SIEM Extension SW SPS-10679	10,188	2,828
93	Electric Intangible	Harkness	Aging Technology	D.0001770.014	Secure File&Transfer Ph 2 SW SPS-10	8,826	2,450
94	Electric Intangible	Harkness	Cyber Security	D.0001804.365	eGRC Security SW SPS -10660	4,399	1,221
95	Electric Intangible	Harkness	Cyber Security	D.0001804.376	EGRC Security Ph2 SW SPS-10668	3,635	1,009
96	Electric Intangible	Harkness	Aging Technology	D.0001792.162	Informatica New Ver-10673 SW SPS	2,354	654
97	Electric Intangible	Harkness	Aging Technology	D.0001744.027	ITSM Ph4 SW SPS	1,282	356
98	Electric Intangible	Harkness	Aging Technology	D.0002004.004	SAP Data Mart SW SPS-10675	1,123	312
99	Electric Intangible	Harkness	Cyber Security	D.0001755.007	Identity & Access Mgmt Sailpoi	987	274
100	Electric Intangible	Harkness	Aging Technology	D.0001839.821	DMZ Airwatch SW SPS-10664	701	195
101	Electric Intangible	Harkness	Enhance Capabilities	D.0001804.369	Integrated Talent Ph4 SWSPS-10637	352	98
102	Electric Intangible	Harkness	Aging Technology	D.0001792.152	XE.COM Optimization Ph2 SW SPS-1066	315	88
103	Electric Intangible	Harkness	Cyber Security	D.0001761.007	Database Security SW SPS	233	65
104	Electric Intangible	Harkness	Cyber Security	D.0001839.642	Network Security Protect SW SPS-106	194	54
105	Electric Intangible	Harkness	Enhance Capabilities	D.0001792.141	10634-eGERC NERC SW SPS	156	43
106	Electric Intangible	Harkness	Cyber Security	D.0001818.077	Vulnerability NexPose SW SPS-10665	114	32
107	Electric Intangible	Harkness	Aging Technology	D.0001744.044	Teradata HW SW SPS	26	7
108	Electric Intangible	Harkness	Enhance Capabilities	D.0001826.233	Solar Energy Grid SW SPS	4	1
109	Electric Intangible	Harkness	Aging Technology	D.0001822.036	TD Ciena Network SW SPS-10642	3	1
110	Electric Intangible	Harkness	Enhance Capabilities	D.0001763.014	ITSM Secure Ticket SW SPS-10676	1	0
111	Electric Intangible	Harkness	Cyber Security	D.0001783.017	WebSense SW SPS-10670	(10)	(3)
112	Electric Intangible	Harkness	Enhance Capabilities	D.0001738.014	GeoSpatial Integration SW SPS-10653	(43)	(12)
113	Electric Intangible	Harkness	Aging Technology	D.0001743.007	Upgrade IEE 5.3 to IEE 8.1 SW	(59)	(16)
114	Electric Intangible	Harkness	Aging Technology	D.0001759.007	Fleet Focus SW SPS	(140)	(39)
115	Electric Intangible	Harkness	Enhance Capabilities	D.0001839.635	VMware Private Cloud SW SPS -10647	(209)	(58)
116	Electric Intangible	Harkness	Enhance Capabilities	D.0001804.306	Federated Records SW SPS-10640	(267)	(74)
117	Electric Intangible	Harkness	Cyber Security	D.0001818.084	Vulnerability AppSpider SW SPS-1066	(442)	(123)
118	Electric Intangible	Harkness	Aging Technology	D.0001826.064	Mobile Application Customer SW	(548)	(152)
119	Electric Intangible	Harkness	Enhance Capabilities	D.0001815.043	Renewable Energy SW SPS-10649	(617)	(171)
120	Electric Intangible	Harkness	Enhance Capabilities	D.0001826.241	SAP BI Suite SW SPS	(786)	(218)
121	Electric Intangible	Harkness	Enhance Capabilities	D.0001741.007	Data Quality Tool SW SPS	(1,623)	(451)
122	Electric Intangible	Harkness	Aging Technology	D.0002007.004	Digital Signage SW SPS-10671	(2,161)	(600)
123	Electric Intangible	Harkness	Aging Technology	D.0001767.007	Self Service and PAF SW SPS	(2,483)	(689)
124	Electric Intangible	Harkness	Enhance Capabilities	D.0001826.211	ITSA Pole Ph3 SW SPS	(2,570)	(713)
125	Electric Intangible	Harkness	Cyber Security	D.0001754.007	Identity & Access Mgmt QAS SW	(2,738)	(760)
126	Electric Intangible	Harkness	Cyber Security	D.0002001.007	SailPoint Extension SW SPS-10667	(60,483)	(16,791)
127	**Electric Intangible Total**					**$ 18,371,242**	**$ 5,101,133**
128	**Grand Total**					**$ 27,021,325**	**$ 7,502,520**

Southwestern Public Service Company
Business Systems Capital Additions
April 1, 2019 through August 31, 2019

Line No.	(A) Asset Class	(B) Witness	(C) Project Category	(D) Project Description	(E) Additions to Plant-in-Service (April 1, 2019 - August 31, 2019) Total Company	(F) Additions to Plant-in-Service (April 1, 2019 - August 31, 2019) NM Retail
1	Electric Intangible	Harkness	Enhance Capabilities	Network Inventory and Planning Solution	$ 715,629	$ 198,669
2	Electric Intangible	Harkness	Aging Technology	Commodity Management System Upgrade	829,839	230,375
3	Electric Intangible	Harkness	Cyber Security	Security Technology Refresh	318,165	88,327
4	Electric Intangible	Harkness	Enhance Capabilities	Blue Prism Process Automation	266,589	74,009
5	Electric Intangible	Harkness	Aging Technology	Enterprise Learning Upgrade	237,615	65,965
6	Electric Intangible	Harkness	Aging Technology	Active Directory Upgrade	210,777	58,515
7	Electric Intangible	Harkness	Aging Technology	UNIX Configuration Manager	139,000	38,588
8	Electric Intangible	Harkness	PTT	SAP Continuous Improvements Placeholder	138,807	38,535
9	Electric Intangible	Harkness	Enhance Capabilities	Basic Private Cloud Services	171,051	47,486
10	Electric Intangible	Harkness	Aging Technology	eGRC Phase IV - SOx and Corp Compliance	115,905	32,177
11	Electric Intangible	Harkness	Aging Technology	Technology License 2019	72,000	19,988
12	Electric Intangible	Harkness	Enhance Capabilities	ESRI ArcGIS Upgrade	42,816	11,886
13	Electric Intangible	Harkness	Aging Technology	Secure File Transfer Program (aka EDI)	34,471	9,570
14	Electric Intangible	Harkness	Aging Technology	SumTotal Upgrade	31,483	8,740
15	Electric Intangible	Harkness	Aging Technology	Corporate Email Refresh	32,601	9,051
16	Electric Intangible	Harkness	Aging Technology	IFP - UI Stabilization	30,284	8,407
17	Electric Intangible	Harkness	Enhance Capabilities	Enterprise Data Analytics	22,280	6,185
18	Electric Intangible	Harkness	Aging Technology	Smallworld LNI-PNI	19,946	5,537
19	Electric Intangible	Harkness	Enhance Capabilities	Customer Mobile App Accessibility	18,872	5,239
20	Electric Intangible	Harkness	Aging Technology	Replace Meeting Planner	17,763	4,931
21	Electric Intangible	Harkness	Enhance Capabilities	SharePoint	16,760	4,653
22	Electric Intangible	Harkness	Cyber Security	Certificate & Key Management	13,531	3,756
23	Electric Intangible	Harkness	Enhance Capabilities	TRIRIGA Mobile	3,605	1,001
24	Electric Intangible	Harkness	Enhance Capabilities	Mobile Computing Infrastructure	2,980	827
25	Electric Intangible	Harkness	Enhance Capabilities	Consolidate Corporate Giving Tools Project	162	45
26	Electric Intangible	Harkness	Aging Technology	UAST1	113	31
27	Electric Intangible	Harkness	Aging Technology	Websphere ELA Extension-Project	6	2
28	Electric Intangible	Harkness	Cyber Security	Security Incident & Event Management	(513)	(142)
29	**Electric Intangible Total**				**$ 3,502,538**	**$ 972,354**

Southwestern Public Service Company
Business Systems Capital Additions
April 1, 2019 through August 31, 2019

Line No.	(A) Asset Class	(B) Witness	(C) Project Category	(D) Project Description	(E) Additions to Plant-in-Service (April 1, 2019 - August 31, 2019) Total Company	(F) Additions to Plant-in-Service (April 1, 2019 - August 31, 2019) NM Retail
30	Electric General	Harkness	Aging Technology	T&D MPLS - Unplanned	$ 2,023,257	$ 561,685
31	Electric General	Harkness	Aging Technology	WAN SPS	983,262	272,968
32	Electric General	Harkness	Aging Technology	Satellite	397,971	110,482
33	Electric General	Harkness	Cyber Security	Security Camera Upgrade	556,274	154,429
34	Electric General	Harkness	Emergent Demand	Emergent Demand	541,407	150,302
35	Electric General	Harkness	Aging Technology	Network Strategy - T&D Substation Connectivity	391,964	108,815
36	Electric General	Harkness	Aging Technology	Network Refresh	320,766	89,049
37	Electric General	Harkness	Enhance Capabilities	Wireless Project	233,111	64,715
38	Electric General	Harkness	Aging Technology	PC Device Refresh	192,103	53,331
39	Electric General	Harkness	Aging Technology	SCCM Upgrade	82,973	23,035
40	Electric General	Harkness	Aging Technology	UAST1	81,912	22,740
41	Electric General	Harkness	Aging Technology	Planned Server Refresh	74,480	20,677
42	Electric General	Harkness	Aging Technology	Storage Project	32,996	9,160
43	Electric General	Harkness	Aging Technology	790 Buchanan Project	10,362	2,877
44	Electric General	Harkness	Aging Technology	VoIP Refresh	8,712	2,419
45	Electric General	Harkness	Aging Technology	Handheld Refresh	26	7
46	Electric General	Harkness	Aging Technology	Property Services LAN Remodel Refresh Project	(132)	(37)
47	Electric General	Harkness	Aging Technology	LMR Radio HW	2,070,331	574,753
48	Electric General	Harkness	Aging Technology	Dynamic EMS Environment	192	53
49	Electric General	Harkness	Enhance Capabilities	SPS Wind Farm	459,722	127,625
50	**Electric General Total**				**$ 8,461,689**	**$ 2,349,086**
51	**Grand Total**				**$ 11,964,227**	**$ 3,321,440**