BEFORE THE CORPORATION COMMISSION OF THE STATE OF OKLAHOMA

APPLICATION OF PUBLIC SERVICE COMPANY OF OKLAHOMA, AN OKLAHOMA CORPORATION, FOR AN ADJUSTMENT IN ITS RATES AND CHARGES AND THE ELECTRIC SERVICE RULES, REGULATIONS AND CONDITIONS OF SERVICE FOR ELECTRIC SERVICE IN THE STATE OF OKLAHOMA	)))))))	CAUSE NO. PUD 202100055

FILED
APR 30 2021
COURT CLERK'S OFFICE - OKC
CORPORATION COMMISSION
OF OKLAHOMA

DIRECT TESTIMONY OF

STEVEN F. BAKER

ON BEHALF OF

PUBLIC SERVICE COMPANY OF OKLAHOMA

April 2021

TESTIMONY INDEX

EXHIBITS

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.

A. My name is Steven F. Baker and I am the Vice President of Distribution Operations for Public Service Company of Oklahoma (PSO or Company). My business address is 212 E. Sixth Street, Tulsa, OK 74119.

Q. WOULD YOU PLEASE REVIEW YOUR EDUCATIONAL AND BUSINESS BACKGROUND?

A. I earned a bachelor's degree in Electrical Engineering from Texas Tech University in 1990. I am a registered professional engineer in the State of Texas and have over 28 years of electric utility operations experience in the areas of distribution system planning, construction design and engineering, electrical safety, major storm restoration, construction management, project management, financial planning and the development of operating policies and procedures. I began my career in 1990 with West Texas Utilities Company (WTU, which is now AEP Texas Inc.) as a Distribution Engineer. During my time at WTU, I developed hands-on experience designing, planning, constructing and maintaining the distribution system. While at WTU, I also held a variety of leadership positions and worked directly with customers to meet expectations and resolve system performance issues. In 2003, I joined PSO as the Tulsa District Distribution System Manager. In that role, I had oversight responsibilities for the design, construction and overall operation of the distribution system serving Tulsa and northeast Oklahoma. I held that position until I was named to my current position with the Company in 2010.

Q. WHAT ARE YOUR CURRENT RESPONSIBILITIES?

A. I am responsible for the various organizations that construct, operate and maintain PSO's distribution system. My team is responsible for the extension of service to new customers, the safe and reliable delivery of service to our customers, and restoring service when outages occur. My responsibilities also include overseeing PSO's distribution asset management functions, technology deployments, line construction and maintenance, street and security lighting, reliability program development and execution, employee development, system planning programs, employee and contractor safety performance as well as the distribution system vegetation management program.

Q. HAVE YOU PREVIOUSLY FILED TESTIMONY?

A. Yes. I filed testimony before the Oklahoma Corporation Commission (OCC or Commission) for the following cases:

- Cause No. PUD 200600275 - Addendum to a Territorial Boundary Agreement.
- Cause No. PUD 200700397 - Application on behalf of the Company to defer, amortize, and recover storm costs associated with the January 2007 ice storm that impacted the Company's service territory.
- Cause Nos. PUD 201000050 and PUD 201300217 - Applications on behalf of the Company to adjust its rates.
- Cause No. PUD 201300202 - PSO's System Reliability Rider.
- Cause Nos. PUD 201500208 and 201700151 - Applications on behalf of the Company to adjust its rates.
- Cause No. PUD 201800097 - Application on behalf of the Company to adjust its rates.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my testimony is to provide the Commission a summary of the activities, expenses and investments undertaken by the Company since the last rate case in 2018. These activities, expenses and investments are necessary to provide for the reliable delivery of electricity to our customers and transform the distribution system to address the needs of emerging technologies and customer expectations. I also provide an update on PSO's reliability performance since the last rate case, outline PSO's requested multi-year grid transformation and revitalization plan, which will expand program options and extend the existing Distribution Reliability and Safety (DRS) rider and the closure of non-LED municipal street light tariffs to new requests.

II. PSO SERVICE AREA AND DISTRIBUTION ORGANIZATION

Q. PLEASE BRIEFLY DESCRIBE THE PSO SERVICE TERRITORY.

A. PSO serves approximately 562,618 customers in 232 cities and towns across 30,000 square miles of eastern and southwestern Oklahoma. This includes approximately 484,000 residential, 64,000 commercial, 6,800 industrial, and 8,300 other customers. PSO's Distribution Operations organization includes three districts: Tulsa, Lawton, and McAlester. PSO's distribution system includes approximately 16,500 overhead circuit miles and almost 5,500 underground circuit miles. See Exhibit SFB-1 for a map of the PSO Service Territory.

Q. PLEASE GIVE AN OVERVIEW OF PSO'S DISTRIBUTION ORGANIZATION.

A. The PSO Distribution Operations organization is comprised of approximately 460 employees, and approximately 600 contracted employees dedicated to overseeing

the safe and reliable delivery of electrical service to homes, businesses, and industries across PSO's service territory. See EXHIBIT SFB-2 for a Distribution Organization Chart. PSO's Distribution Operations function is organized into three operating districts: (headquartered in Tulsa, McAlester, and Lawton) and three functional support departments (Operations Services, Distribution Reliability, and Distribution Dispatch).

Q. PLEASE DESCRIBE THE OPERATING DISTRICT ORGANIZATIONS.

A. The three district organizations include line, service, and engineering support personnel that are responsible for the maintenance and construction of the electric distribution system. Their collective responsibilities include: outage restoration, storm restoration and preparation, response to civil authority emergencies and requests, worker safety, public safety, customer requests for new or upgraded service, and execution of reliability improvement and asset renewal programs. The operating district organizations directly interact with customers across the state on a daily basis and serve as the "face" of PSO for most customers.

Q. PLEASE DESCRIBE THE FUNCTIONAL SUPPORT DEPARTMENTS.

A. The Operations Services organization encompasses four functional departments including Contract Construction, Distribution Rights-of-Way (ROW), Resource Planning, and Contract Administration.

The Contract Construction department provides oversight and quality control for PSO's nearly 600 overhead and line contractors. The Contract Construction department typically serves as project managers for the larger and more complex construction projects and is responsible for meeting customer

deadlines, public safety, adherence to design standards, and oversight of contract and off-system workers during major storm restoration events across the state.

The Distribution ROW department is responsible for acquiring easements for distribution facilities, researching filed property records, and retention of PSO's distribution easement records.

The Resource Planning department is responsible for working directly with customers to schedule service appointments and reconcile labor and material charges for individual work orders.

The Contract Administration department is responsible for reviewing contractor invoices and authorizing payment for contractor expenses. This department also provides logistical oversight of contract and off-system workers during major storm restoration events.

The Distribution Reliability organization continually assesses the performance and reliability of the distribution grid. The primary assessment tool is the Outage Management System (OMS), which tracks all of the distribution line outage attributes such as outage frequency, duration and causation. Using this data, the Distribution Reliability group can recommend actions to address poor performing assets. This group also includes the Forestry Group that oversees the Company's vegetation management program. The Distribution Reliability group also reviews and implements the application of new technologies such as distribution automation (DACR) and conservation voltage reduction (CVR) to improve asset performance and monitoring capabilities.

The Distribution Dispatch organization is responsible for the safe and efficient operation of the electrical distribution system, and the routing of all outage calls and emergencies to mobile data computers installed in the vehicles of district personnel. The Distribution Dispatch organization is also responsible for switching or reconfiguring the electric distribution system during outage restoration or peak loading conditions, monitoring and operating system automation devices such as substation breakers and line switches, interfacing with the Transmission Dispatch organization, and coding outage orders to reflect the estimated time of restoration.

III. TEST YEAR OPERATIONS & MAINTENANCE (O&M)

Q. WHAT LEVEL OF DISTRIBUTION O&M EXPENSES DID THE COMPANY INCUR IN THE TEST YEAR ENDING DECEMBER 31, 2020?

A. The Company's adjusted test year O&M expenses for distribution activities were $83,383,334, which includes approximately $1.2 million associated with pro forma adjustments. Company witness Heather Whitney discusses these adjustments in more detail in her direct testimony.

The distribution O&M includes expenses recorded in all Federal Energy Regulatory Commission (FERC) distribution accounts. Figure 1 provides a description of these FERC accounts as well as associated adjusted test year dollars. The total of the "Adjusted Test Year" column of Figure 1 is the level of O&M associated with day-to-day operation and maintenance of the distribution system during the test year.

Figure 1

FERC	FERC Description	Adjusted Test Year
580	Operation Supervision & Engineering	$2,948,397
581	Load Dispatching	$2,417,509
582	Station Expenses	$1,104,916
583	Overhead Line Expenses	$3,311,639
584	Underground Line Expenses	$3,921,286
585	Street Lighting & Signal System Expenses	$43,490
586	Meter Expenses	$4,016,567
587	Customer Installations Expenses	$326,528
588	Miscellaneous Distribution Expenses	$10,050,599
589	Rents	$817,824
590	Maintenance Supervision & Engineering	$54,072
591	Maintenance of Structures	$216,374
592	Maintenance of Station Equipment	$1,504,467
593	Maintenance of Overhead Lines	$50,133,975
594	Maintenance of Underground Lines	$1,811,788
595	Maintenance of Line Transformers	$129,907
596	Maintenance of Street Lighting & Signal Systems	$72,268
597	Maintenance of Meters	$310,633
598	Maintenance of Miscellaneous Distribution Plant	$191,095
Total Test Year Distribution O&M Expenses		**$83,383,334**

Q. HOW DOES THE ADJUSTED TEST YEAR COMPARE WITH HISTORICAL O&M SPENDING LEVELS?

A. The Company has maintained its O&M spending in the past few years but continues to support significant levels of expense primarily related to FERC Account 593 – Maintenance of Overhead Lines. A large expense in this account is the vegetation management program, which includes ROW clearing and herbicide spraying. These vegetation management activities are paramount in preventing outages and helping

PSO maintain or improve reliability of the distribution system. Other activities in this account include the many inspection programs for poles, cross arms, conductor, fuse cutouts, lightning arrestors, regulators and reclosers. These inspection programs help the Company to identify the distribution infrastructure that is in need of replacement. This proactive approach allows PSO to replace equipment before failure, which contributes to maintaining the reliability of the distribution system. See Figure 2 for the historic levels of O&M by FERC Account.

Figure 2 – Historic 3-Year O&M

Account	FERC Description – See Note	2018	2019	2020
580	Operation Supervision & Engineering	$3,168,259	$4,033,294	$3,106,010
581	Operation Load Dispatching	$3,011,228	$3,292,724	$2,576,286
582	Operation Station Expenses	$993,637	$1,089,698	$1,132,966
583	Operation Overhead Line Expenses	$2,029,006	$3,689,354	$3,425,463
584	Operation Underground Line Expenses	$3,799,523	$3,933,858	$4,000,790
585	Operation Street Lighting & Signal System	$76,658	$66,250	$45,201
586	Operation Meter Expenses	$7,904,527	$4,489,991	$4,390,189
587	Operation Customer Installation Expenses	$669,496	$622,359	$345,920
588	Operation Misc Expenses	$9,909,202	$9,006,549	$11,479,631
589	Operation Rents	$788,532	$836,719	$817,824
	Total Operation Expenses $	**$32,350,066**	**$31,060,797**	**$31,320,289**
590	Maintenance Supervision & Engineering	$62,326	$64,422	$55,875
591	Maintenance Structures	$84,873	$197,083	$216,609
592	Maintenance Station Equipment	$1,590,169	$1,703,143	$1,534,402
593	Maintenance Overhead Lines	$47,598,420	$46,479,753	$46,449,862
594	Maintenance Underground Lines	$2,573,043	$3,015,122	$1,845,237
595	Maintenance Line Transformers	$58,831	$87,524	$134,676
596	Maintenance Street Lighting & Signal Systems	$57,248	$98,822	$73,533
597	Maintenance Meters	$307,769	$259,660	$329,680
598	Maintenance Misc Distribution Plant $	$412,963	$370,351	$197,186
	Total Maintenance Expenses $	**$52,745,643**	**$52,275,880**	**$50,837,060**
	Total Distribution (O&M) Expenses $	**$85,095,710**	**$83,336,677**	**$82,157,349**
Note: FERC Uniform System of Account Descriptions				

IV. CAPITAL INVESTMENTS

Q. HOW MUCH CAPITAL HAS THE COMPANY INVESTED IN THE DISTRIBUTION SYSTEM SINCE THE PREVIOUS BASE RATE CASE?

A. The Company has invested approximately $462 million in the distribution system since its last base rate case. This amount of distribution investment placed in service was made to support employee and customer safety, customer growth, customer requests for new service, customer satisfaction, reliability improvements, modernization and automation of portions of the electric system, in addition to complying with Commission rules.

Q. PLEASE SUMMARIZE THE DISTRIBUTION CAPITAL INVESTMENT PSO HAS MADE SINCE THE LAST BASE RATE CASE.

A. Please refer to Figure 3 which indicates the amount of capital investment for each of the ten general budget categories for the period October 1, 2018, through December 31, 2020.

Figure 3

Project Category	2018	2019	2020	Total
Asset Improvement	17,900,872	54,824,906	60,228,052	132,953,830
Customer Service	11,620,353	64,508,487	65,659,594	141,788,435
Forestry	995,746	47,142	8,052,389	9,095,277
Other		30,655	1,111,484	1,142,138
Planning Capacity	202,524	5,701,706	5,029,146	10,933,376
Regulatory	1,257,288	2,853,016	45,242,424	49,352,728
Reliability	3,584,628	5,121,364	4,059,759	12,765,751
System Restoration	1,026,406	5,603,135	5,380,602	12,010,144
Total	**36,587,817**	**138,690,412**	**194,763,449**	**370,041,678**
Intangible Plant	5,474,804	17,292,493	18,425,440	41,192,737
General Plant	5,409,142	14,489,665	31,087,278	50,986,085
Total Distribution	**47,471,763**	**170,472,570**	**244,276,167**	**462,220,500**

Q. WOULD YOU PLEASE DEFINE THE TYPE OF WORK AND ASSOCIATED INVESTMENT FOR EACH OF THE DISTRIBUTION CAPITAL CATEGORIES?

A. The general capital project categories are:

1. Asset Improvement: Asset Improvement projects include replacement of obsolete equipment and other aging infrastructure, as well as the addition of new assets that support projects associated with smart grid such as the Distribution Automation – Circuit Reconfiguration technology. This technology automatically reconfigures distribution circuits during fault conditions to minimize the impact of outages to the fewest number of customers. PSO applies this technology to both line and station equipment. This project category also has a significant impact on reducing the duration of customer outages and improving customer reliability. Asset Improvement includes a subcategory called Infrastructure Business Continuity. This subcategory includes the capital expenditures for the tools and software used to implement cyber security for the protection of the utility communication infrastructure. [$132,953,830]

2. Customer Service: These projects support new customer facilities, and include upgrading existing customer facilities, meter installations, and other customer requirements. The category also includes the meter and transformer blankets, which provide for the replacement of these devices as needed. [$141,788,435]

3. Forestry: As part of PSO's vegetation management program, this category includes capital work performed by PSO's Forestry department to widen existing clearance zones, remove large trees outside the ROW, or to establish a new clearance zone for new construction. [$9,095,277]

4. Planning Capacity: The Planning Capacity category is comprised of projects developed as part of PSO's long-range planning for meeting electrical load on PSO's distribution system. The need for capacity expansion can be due to either new customers or new load by existing customers in an area. [$10,933,376]

5. Regulatory: The Regulatory category is comprised of project costs (including overhead conductors, poles, towers, fixtures, line transformers, etc.) that are recovered through regulatory riders. [$49,352,728]

6. Reliability: Reliability capital projects are specific projects that target known reliability issues affecting groups of customers and entire circuits. These projects may also be used to add capacity to the system, and include new circuits or stations, additions to existing facilities, and replacing existing assets with higher capacity assets such as re-conductoring an existing line with an increased conductor size. An example of such a specific reliability project is a cutout replacement project. Cutouts are identified for replacement because they may crack and fail during repeated freezing and thawing over time. [$12,765,751]

7. System Restoration: The Service Restoration category involves the restoration of electrical service following an unplanned event. Capital projects completed during service restoration are typical system restoration projects, and include replacing poles, re-conductoring full-length spans, and replacing transformers damaged during a storm or weather-related event. This category also includes the repair of street lights and outdoor area lights. [$15,642,985]

8. Intangible Plant: Intangible plant includes items for system software projects and will be discussed in more detail by Company witness Therace Risch. [$41,192,737]

9. General Plant: General plant items include major items such as communications equipment, structures and improvements and miscellaneous equipment. A majority of the cost (almost $37.0 million) in this category is associated with communication equipment. [$50,986,085]

V. MAJOR STORMS

Q. HAVE THERE BEEN ANY SEVERE WEATHER EVENTS THAT OCCURRED SINCE THE LAST RATE CASE?

A. Yes, PSO experienced four severe weather events, or major storms since the last rate case. The storms are categorized in Figure 4 below:

Figure 4

Event	Area/District	Storm Type	Customers Out	Total (O&M)
5/17/2019	Tulsa / McAlester / Lawton Districts	Thunderstorm, High Winds	43,952	$ 1,536,817
5/17/2019	Tulsa Urban	Thunderstorm, High Winds, Tornado	27,405	$ 1,825,247
7/11/2020	Tulsa District	Thunderstorm, High Winds	41,687	$ 1,456,781
10/26/2020	Lawton / Tulsa Districts	Ice Storm	122,053	$ 6,505,071
Total			**235,097**	**$ 11,323,916**

Q. WOULD YOU PLEASE EXPLAIN THE PROCESS THE COMPANY USES TO RESTORE SERVICE TO CUSTOMERS?

A. Consistent with PSO's distribution outage restoration process, after a storm ends, an assessment is performed to determine the extent of damage to the Company's electric

system and estimate the event restoration date and time. The assessment involves specific field inspections, a review of the outage orders, hazard orders, general field reports of damage, and an aerial inspection of the system (weather permitting). In addition, the assessment process also identifies critical customers that are without power, such as hospitals and emergency services (i.e., police, fire department, etc.). Assessments are performed initially and as needed throughout the storm restoration process. While assessments are being conducted, local PSO servicemen, line crews and tree crews work to restore main line feeder outages and mitigate public safety hazards.

Once the initial assessments are made, PSO personnel develop and implement a resource allocation plan. The resource allocation plan and approach to restoration varies by the amount of system damage incurred. A key component in developing and implementing the plan is the use of Circuit Coordinators. Circuit Coordinators are Company employees charged with the restoration of all customers on one or more distribution circuits during moderate to heavy system damage situations. Circuit Coordinators lead a restoration team, which includes line personnel, service personnel, tree trimmers, and assessors. The Circuit Coordinators and their restoration teams are responsible for all restoration and repair activities from the main distribution circuit to the low-voltage service entrance. A customer on a circuit can lose service due to multiple causes. For example, a fault or interruption of service can be near a distribution substation causing the entire circuit to be without power. However, further down the line, protective devices also may have operated causing large groups of customers to lose service. While even further down the line, a

transformer may have failed or an overhead line to a customer's home may be down causing an outage to a small number of customers or an individual customer. The team of resources assigned to the Circuit Coordinator is responsible for trouble-shooting and restoring service for all causes of outages along the distribution circuit.

Since safety for the public and our customers is paramount, a Hazard Assessment Coordinator is assigned to assess and coordinate hazardous situations in the field, including wires on the ground and low hanging wires. This individual has resources dedicated to respond and make these situations safe.

In an effort to coordinate field activities, provide media updates, and inform executive management, regularly scheduled conference calls are conducted with the PSO team. These calls, held multiple times daily for the duration of the storm recovery process, allow key members of the management team to provide restoration updates, request additional assistance, monitor ongoing weather reports, and discuss logistical considerations.

Once all storm restoration activities are completed, distribution employees return to the field to inspect each circuit affected by the storm to identify additional repairs that may be needed to bring the circuit back to normal operating conditions.

Q. HOW DOES THE COMPANY COMMUNICATE WITH CUSTOMERS DURING STORMS?

A. The Company uses several different methods to communicate with customers including: the Company's Automated Call Back System (ACBS), the Customer Outbound Information Notification phone dialer System (COINS), frequent media updates via television, newspaper, forecasted restoration maps, PSO's "One Voice"

general press releases, text messaging to customers that have subscribed to PSO's mobile alerts program, and outage maps and other information listed on PSO's internet site (www.PSOklahoma.com).

VI. PSO AFFILIATE COSTS

Q. WHAT ARE THE TEST YEAR DISTRIBUTION O&M AEPSC AFFILIATE CHARGES?

A. The adjusted affiliate distribution service cost charged to PSO's Distribution Operation organization from American Electric Power Service Corporation (AEPSC) during the test year is $11,531,984. Affiliate costs constitute approximately 12.1 percent of the total adjusted test year distribution O&M costs excluding the storm expense.

Q. PLEASE PROVIDE A BREAKDOWN OF THE AEPSC O&M CHARGES TO PSO BY THE AEPSC ORGANIZATION.

A. The affiliate distribution service charges by the AEPSC organization are detailed in Figure 5.

Figure 5

AEPSC Organization	Test Year Charges
Distribution Performance Management & Meter Services Support	$1,357,467
Distribution Central Depts	$122,097
Distribution Services Total	**$1,479,564**
Customer Operations	$7,656,415
Customer Services Support	$1,579,292
Economic & Business Development	$816,713
Customer Services Total	**$10,052,420**
Total	**$11,531,984**

Q. PLEASE SUMMARIZE THE SERVICES PROVIDED BY AEPSC DISTRIBUTION SERVICES AND WHY THESE SERVICES ARE NECESSARY.

A. AEPSC Distribution Services focuses on functions tied to system reliability and performance in AEP's 11-state service territory. This organization provides overall coordination for distribution standards, system capacity planning, network engineering, reliability planning, and emergency restoration planning activities. While each operating company has command and control of the day-to-day functions they are supported by Performance Management, including the Utilities Group. The Utilities Group focuses on process improvements, best practices, hardware and system development, and contract negotiations in order to improve overall operating efficiencies.

Performance Management supports two major functions: Distribution Line Training, which provides AEP with safe and effective employees through education and the promotion of consistent practices and procedures, and Human Performance Improvement, which uses well-founded principles in error reduction to improve employee safety and health. There are five sections in Utilities Group:

Distribution Services Support – The Distribution Services Support group manages the development, enhancement, support, and maintenance of distribution information technology systems for the AEP Utilities Organization. The Utilities Organization is made up of the operating companies of American Electric Power Company, Inc. The systems supported by the Distribution Services Support organization include the Outage Management System, Distribution Work Management System, and the GIS Mapping System. These information technology systems are integral to the efficient

operation of the AEP operating companies. Research and Development is primarily supported through the evaluation of new technologies at AEP's Dolan Lab. Geographic Information System (GIS) mapping group leverages GIS expertise and system support from across the AEP system to support PSO's operations.

Distribution Engineering Services – The Distribution Engineering Services group supports evaluation and implementation of AEP's reliability programs and focuses on developing and maintaining engineering standards.

Distribution Planning – The Distribution Planning group conducts and implements system improvement planning across AEP and provides distribution capacity planning efficiencies.

Emergency Preparedness and Resiliency – The Emergency Preparedness and Resiliency group ensures identification of and readiness to respond to business continuity interruptions, recovers critical business processes following an event, and coordinates mutual assistance during major storm response.

Distribution Analytics – The Distribution Analytics group uses data from operations and advanced metering to develop models and algorithms to provide analyses, which are used to improve operations or reduce costs.

Q. PLEASE SUMMARIZE THE SERVICES PROVIDED BY THE AEPSC CUSTOMER ORGANIZATION (CO) AND WHY THESE SERVICES ARE NECESSARY.

A. The AEPSC CO provides customer service support to PSO and the other AEP operating companies. AEPSC CO provides services that are complementary to the services provided by the PSO organization. The AEPSC CO primarily provides the

services that are common among all operating companies throughout the AEP system, thus allowing the operating companies to benefit through economies of scale. In general, PSO is responsible for providing those services that are unique to PSO.

The AEPSC CO organization provides specialized energy delivery support services and expertise across the AEP system. The AEPSC CO is comprised of six groups: Customer Operations, Customer Services Support, Customer Initiatives Program Management, Customer Strategy and Insights, Economic and Business Development and Customer Solutions & Policy. Within each group are centralized subgroups that provide dedicated resources to AEP's operating companies in 11 states.

Q. PLEASE DESCRIBE THE SERVICES PROVIDED TO PSO BY THE AEPSC CO.

A. Customer Operations is responsible for performing retail customer billing, customer data management, and call center services on behalf of AEP's operating companies. AEPSC has virtually integrated Customer Operations Centers (COCs) that are strategically located throughout AEP's service territories, including one in Tulsa. The COC employees process inbound customer calls and internet inquiries from the Company's internet site and take the appropriate action to respond to all customer service inquiries including credit-related functions, outage reporting, customer complaint resolution, and customer hazardous conditions. This group also supports system-wide credit and collection services, such as bankruptcy filings, low income assistance processing, collection calls, and payment processing.

Customer Services Support provides central support for customer and revenue-related programs and systems. This group is responsible for providing user support services for the Customer Information System, performing special billing for large commercial/industrial customers, and managing third-party distribution and pole attachment business relationships, including billing and collections for Other Accounts Receivable. Program support includes energy efficiency and demand response and evaluation, load research analytics, and support of customer service representatives and engineers.

Customer Initiatives Program Management group delivers modern solutions that advance AEP's strategic objectives. The AEPSC Customer Program Management employees are responsible for providing program deployment oversight for customer programs and technology benefiting AEP's customers.

Customer Strategy and Insights group develops and supports customer digital channels and key customer insights and metrics. The AEPSC Customer Strategy and Insights group also supports budgeting for the CO organization.

Customer Solutions and Policy group focuses on the convergence of customer preferences, new technologies, reducing costs, and minimizing risks. This subgroup of employees is dedicated to developing and implementing a variety of innovative customer solutions and marketing programs.

Q. PLEASE DESCRIBE THE SERVICES PROVIDED TO PSO BY THE ECONOMIC AND BUSINESS DEVELOPMENT GROUP.

A. The AEPSC Economic and Business Development (EBD) group provides a variety of professional resources and research to evaluate regional and local market conditions

and to develop new programs and initiatives to spur growth and investment throughout AEP's service territories, which brings jobs to our communities. The EBD team supports the efforts of the State and communities to bring jobs and investment to Oklahoma. New programs include PSO's unique, new "Energizing Economic Development" e-Learning Course for Community Leaders to enhance the community's capability to attract and retain jobs. Examples of success in attracting new jobs to our area range from Sofidel's new $400 million facility in Inola that opened in 2020 with more than 300 employees, to Milo's Tea in Tulsa employing 100, or Red Collar in Clinton adding 20 jobs.

The Economic and Business Development group also manages AEPSC National Accounts. This group of employees has responsibilities that include providing national account management services to large chain accounts that have locations in more than one AEP operating company service area. These employees provide these national commercial and industrial accounts such as ATT, Dollar General, Phillips 66, Quik-Trip, Wal-Mart and many more with a single point of contact to more effectively and efficiently help resolve service issues involving new or existing locations.

VII. PSO SYSTEM RELIABILITY

Q. WHAT FACTORS INFLUENCE THE PERFORMANCE OF THE ELECTRICAL DISTRIBUTION SYSTEM?

A. The performance of PSO's electrical distribution system is influenced by many factors including; all forms of weather events, the proximity of vegetation to overhead power lines, component aging and normal degradation, electrical loading,

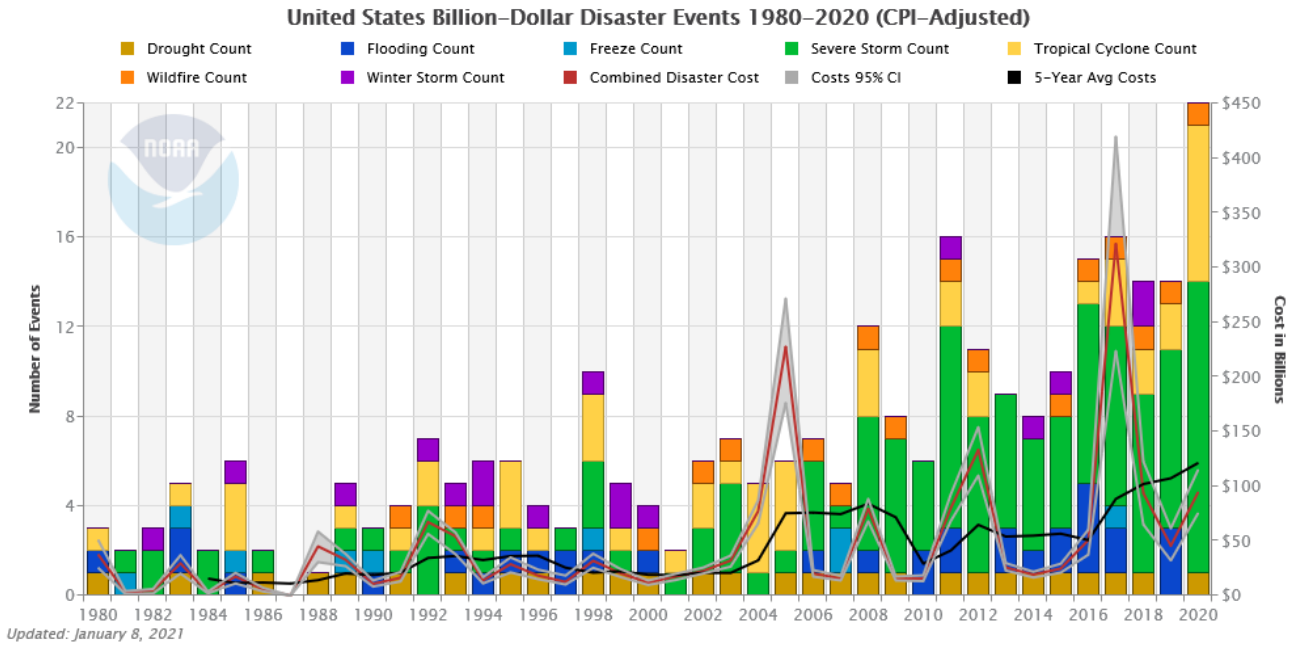
temperatures, unintentional contact with overhead and underground equipment, public vehicle accidents and insufficient hosting capacity for customer owned distributed energy resources (DER).

Q. HOW DO THESE FACTORS INFLUENCE DISTRIBUTION RELIABILITY?

A. Weather influences distribution system reliability in a wide variety of ways. Significant weather events such as tornados, derechos, ice storms and severe thunderstorms present the greatest test to the structural strength and resiliency of the distribution system. During these events, the overhead system is exposed to wind and ice loading conditions that can exceed National Electric Safety Code (NESC) design standards and create significant damage to large sections of the grid. These events can result in multiple day outages that impact isolated or large customer groups and often require additional resources to repair the damage. These events can have substantial impacts on commerce, critical infrastructure and the lives of our customers. The larger events can also result in significant costs that must be recovered from customers over a period of time. These events occur far too frequently in Oklahoma and utilities should be encouraged and allowed to make targeted investments to mitigate the effects of future weather impacts. This potential trend is reinforced by a recent study by the NOAA National Centers for Environmental Information (NCEI) that shows that the costs associated with significant weather events (such as a tornado, ice storm, polar vortex, etc.) and climate disaster events across the United States are increasing exponentially. The study shows that during the period 1980-2020, the United States suffered 291 weather and climate disasters with resulting costs exceeding $1.9 trillion. The report also

highlights the total cost of these events over the past five years exceeds $600 billion (or 31.6% of the 40 year study total). Figure 6 seen below is an excerpt from a NOAA report published in 2021 and illustrates the growing economic impact of these types of events.

Figure 6



Reference: NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2021). https://www.ncdc.noaa.gov/billions/, DOI: 10.25921/stkw-7w73

Vegetation management is a critical component of a utility's overall reliability performance plan. The effects of poor vegetation management create avoidable outage situations during normal weather conditions and have the potential to greatly increase the volume and duration of outages during moderate to severe weather events. Left unchecked, vegetation issues can add time to every outage situation

because field crews must trim back vegetation from overhead equipment before they can set up trucks and equipment to perform repairs.

System aging and degradation also has a profound effect on the reliability of the distribution system. As equipment ages and is exposed to the elements for an extended period, the system has less overall structural strength and is much more susceptible to wind and ice loading events. As the structural strength of the grid declines, similar weather events can result in significantly larger and more costly restoration efforts. Utilities fight a constant battle against aging and degradation and must devote significant resources to revitalization efforts in order to hold the line on the average condition of the grid components. Aging equipment often serves as the weak point that can cause adjacent structures to fail and thereby increase the size of the outage, the complexity of the repairs and extend restoration times. In addition, aging infrastructure will also act as a barrier to the transformation of the grid required to accommodate two-way power flows required by distributed energy resources such as rooftop solar, batteries, electric vehicles and wind turbines. PSO must significantly increase investments to revitalize the structural strength of the electric system to offset the effects of equipment aging and degradation.

Failure to monitor and plan for load increases can create outages and severe power quality problems for customers. A utility must work closely with customers to understand load expansion plans and timing to ensure adequate transmission, substation and distribution capacity is available prior to placing additional electrical loads on-line. Loop and alternate feed capacity must also be maintained to limit outage duration if the primary source is lost. Real time load monitoring will soon

become essential to reliable grid operation as the number of electric vehicles and DER are added to the grid in Oklahoma. Real time grid monitoring will require investments in line sensors, advanced distribution management systems, grid revitalization and data analytics. Real time monitoring and situational awareness is a critical component of the grid transformation process that must occur in the immediate future on the PSO system.

Q. WHAT ACTION DOES PSO TAKE TO MITIGATE THE FACTORS THAT INFLUENCE THE PERFORMANCE OF THE ELECTRICAL DISTRIBUTION SYSTEM?

A. PSO continually reviews system performance data to develop and execute strategies that strike a balance between reliability performance and the impact to customer billing. PSO monitors operational data collected from system devices such as our Advanced Metering Infrastructure (AMI), which is comprised of over 550,000 meters equipped with two-way communication capabilities located at customer premises throughout our service territory. PSO's AMI meters measure and record a wide range of operational information including: peak load demand in kw, load profiles, voltage, voltage profiles, voltage events, power factor, outage counts and outage logs. PSO continues to improve our data analytical skills to realize the potential of the nearly 9 billion data points gathered by AMI meters each year to predict future system failures, pinpoint power quality problems and develop proactive reliability strategies. PSO also closely monitors the real-time operational data (loading, voltage, interruptions and equipment status) provided by our System Control and Data Acquisition (SCADA) system, which is deployed on over 700 of PSO's distribution

feeder breakers across the state. PSO continually gathers outage information and measures industry-standard reliability indices (SAIFI, SAIDI and CAIDI) to track performance trends on a system-wide and circuit level. PSO also focuses on accurate Cause Classification of outages that are recorded by our field employees and system dispatchers. Accurate root cause determination of outage events is an essential part of targeting reliability activities that either eliminate or mitigate future reliability and power quality problems. PSO also has an inherent responsibility to use all available systems and devices to continually monitor system loading to ensure customer loads and load increases can be served during peak loading conditions while meeting all requirements for acceptable operating voltage levels. In addition, PSO pays close attention to all forms of customer feedback. Reports of system reliability and power quality issues collected by our call center agents, customer service representatives, field employees, account managers, traditional and social media monitors and external affairs team are relayed to operational leaders and either addressed promptly and/or factored into our reliability improvement planning process. The sources of feedback and information outlined above collectively inform the development of PSO's annual distribution reliability plan to prioritize capital investment to achieve the highest reliability benefit.

Q. WHAT MEASURES ARE USED TO ENSURE THE PLAN IS ACHIEVING AN ACCEPTABLE LEVEL OF DISTRIBUTION SYSTEM RELIABILITY?

A. The primary metric used to gauge service reliability are the System Average Interruption Frequency Index (SAIFI), the System Average Interruption Duration

Index (SAIDI), and the Customer Average Interruption Duration Index (CAIDI). These indices are defined by the IEEE Standard 1366 as follows:

- SAIFI is the average frequency of sustained interruptions per customer over a predefined area. It is the total number of (sustained) customer interruptions divided by the total number of customers served. PSO measures SAIFI in terms of events on a rolling twelve-month basis. PSO considers SAIFI to be general indicator of the condition of an electric system under most circumstances.

- SAIDI is commonly referred to as customer minutes of interruption divided by the total number of customers served. PSO measures SAIDI in minutes on a rolling twelve-month basis. SAIDI is equal to the product of SAIFI and CAIDI. PSO considers SAIDI to be balanced general indicator of overall system performance.

- CAIDI is the average time needed to restore service to the average customer per sustained interruption. It represents the sum of customer interruption durations divided by the total number of customers interrupted. PSO measures CAIDI in minutes on a rolling twelve-month basis. PSO considers CAIDI to be a general indicator of response and recovery performance when sustained outages occur.

PSO also closely tracks Customer Minutes of Interruption (CMI) when evaluating system reliability performance. CMI is a subset of CAIDI and represents the total number of customers that experience a sustained outage multiplied by the duration of each customer interruption.

PSO calculates and reports SAIFI, SAIDI, and CAIDI indices without major events to provide a more realistic view of how the system operates during most

operating conditions. Major weather events are typically excluded from the calculation of these industry standard metrics to better represent system performance during normal conditions and to allow for more consistent comparisons with other utilities and industry averages.

Q. PLEASE PROVIDE THE COMPANY'S RECENT SAIFI, SAIDI, AND CAIDI INDICES.

A. The past three years of PSO's SAIFI, SAIDI, and CAIDI indices (excluding major events), as defined by the Oklahoma Reliability Rules at OAC 165:35-25-18, are shown in Figures 7, 8, and 9 respectively. This version of PSO's reliability indices are considered the "regulatory view" and do not include weather events that meet the threshold for exclusion as defined by Oklahoma Reliability Rules. It is important to note that the regulatory view of PSO's reliability indices does not match the actual reliability performance experienced by customers that includes the real world events produced by significant weather events.

Figure 7

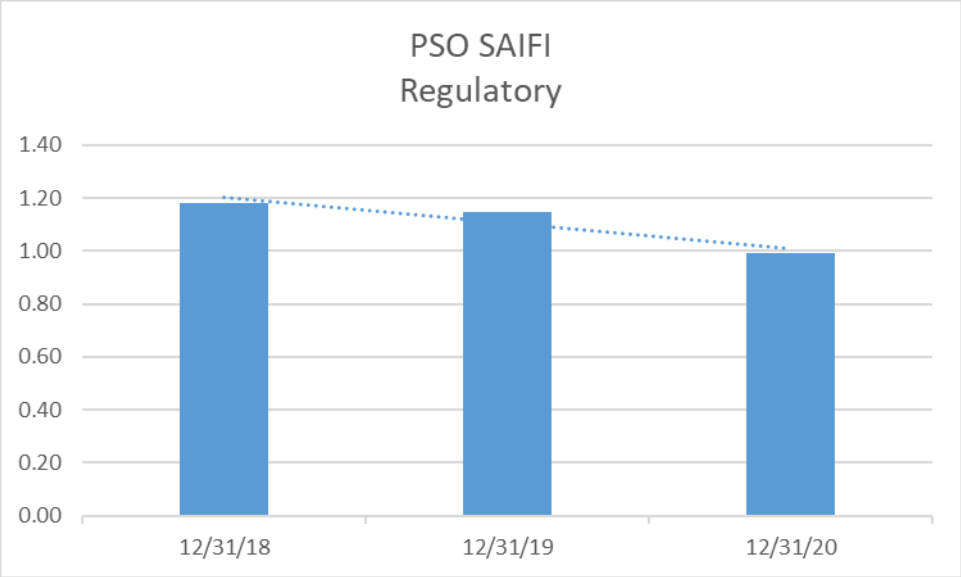


Figure 8

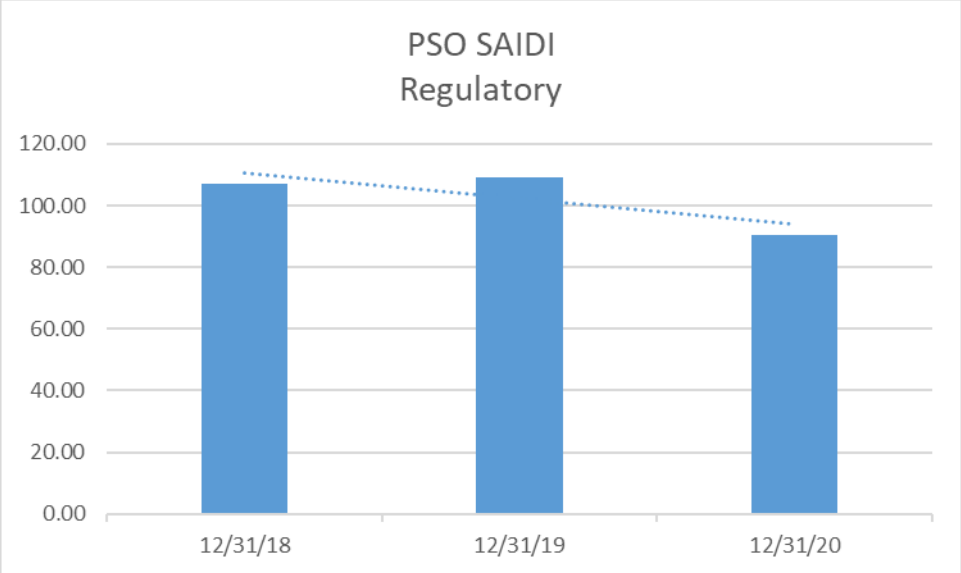
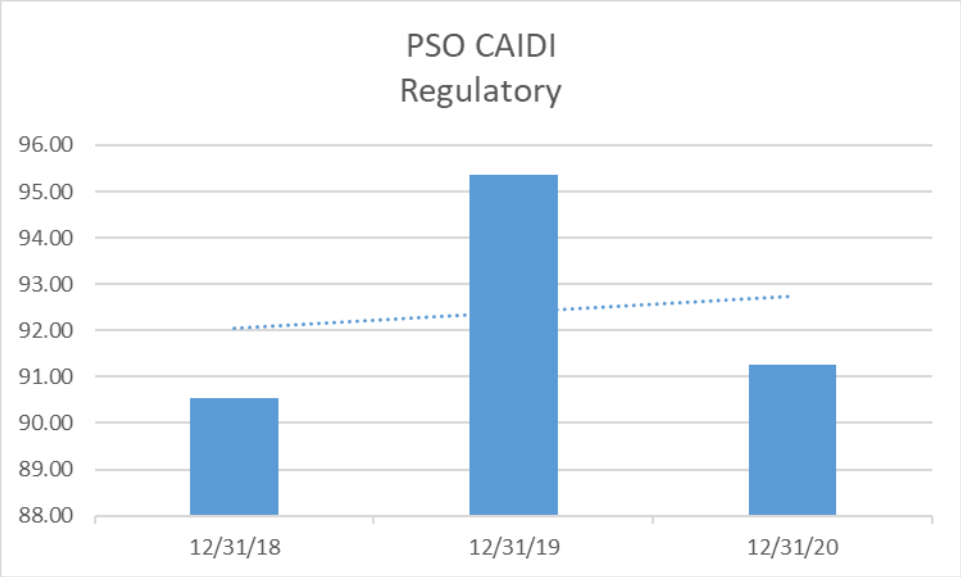


Figure 9



Q. PLEASE PROVIDE THE COMPANY'S RECENT SAIFI, SAIDI, AND CAIDI INDICES WITHOUT REGULATORY EXCLUSIONS THAT ILLUSTRATE THE ACTUAL RELIABILITY PERFORMANCE CUSTOMERS EXPERIENCED OVER THE SAME PERIOD.

A. PSO's 2018 – 2020 SAIFI, SAIDI, and CAIDI without regulatory exclusions for significant weather events are listed below in figures 10, 11, and 12.

Figure 10

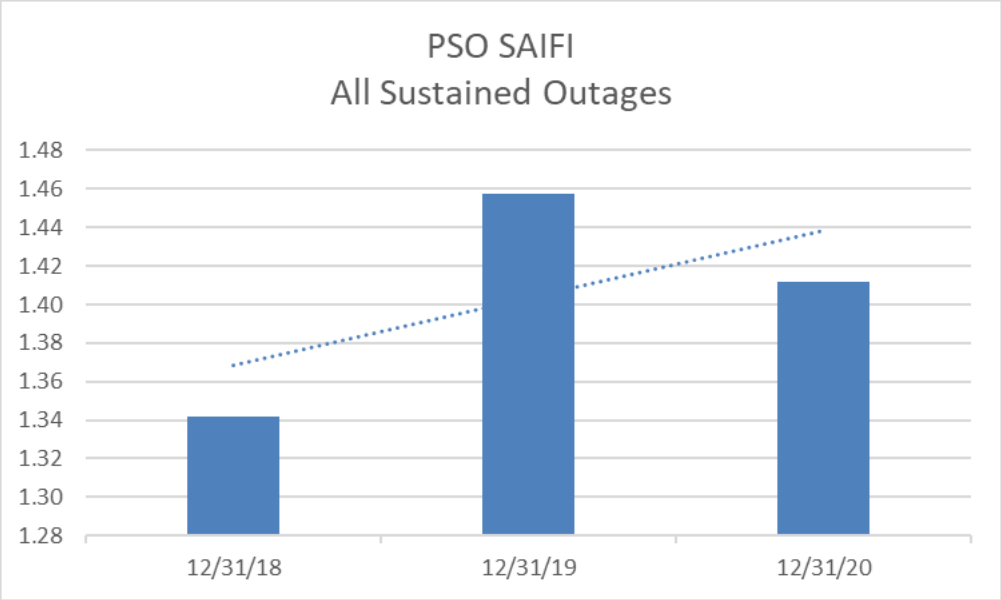


Figure 11

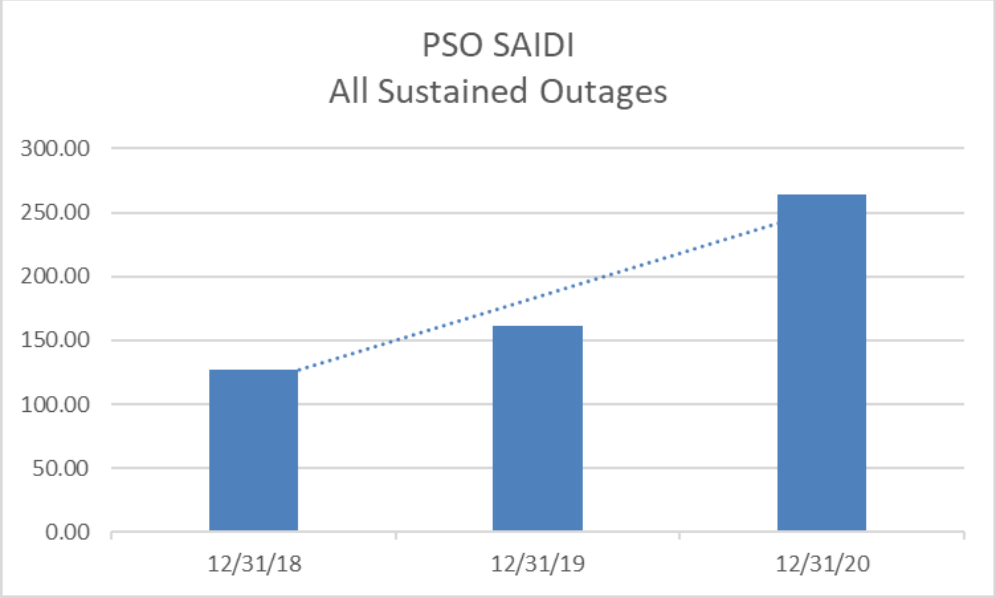


Figure 12

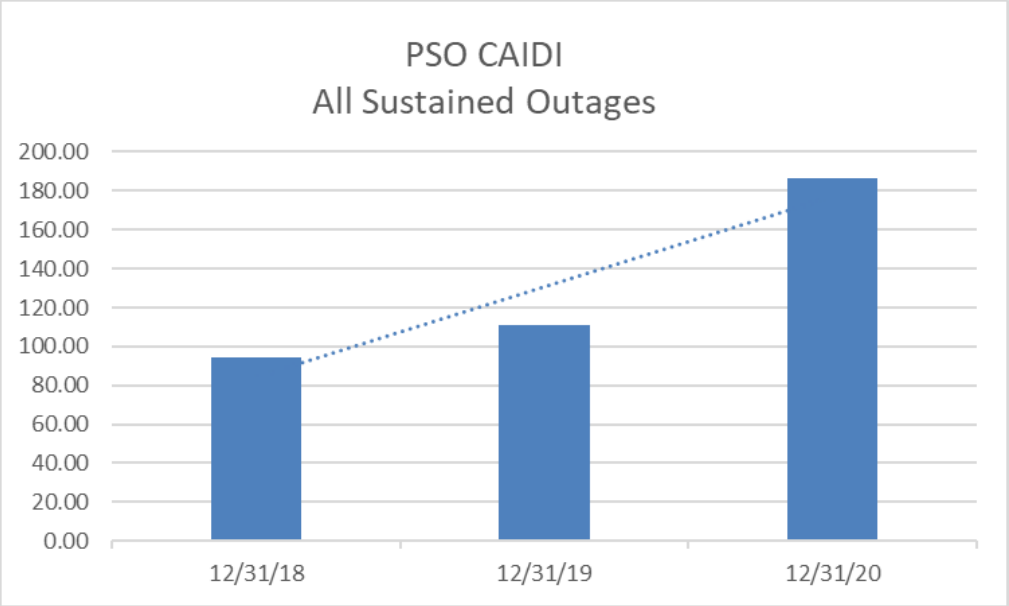
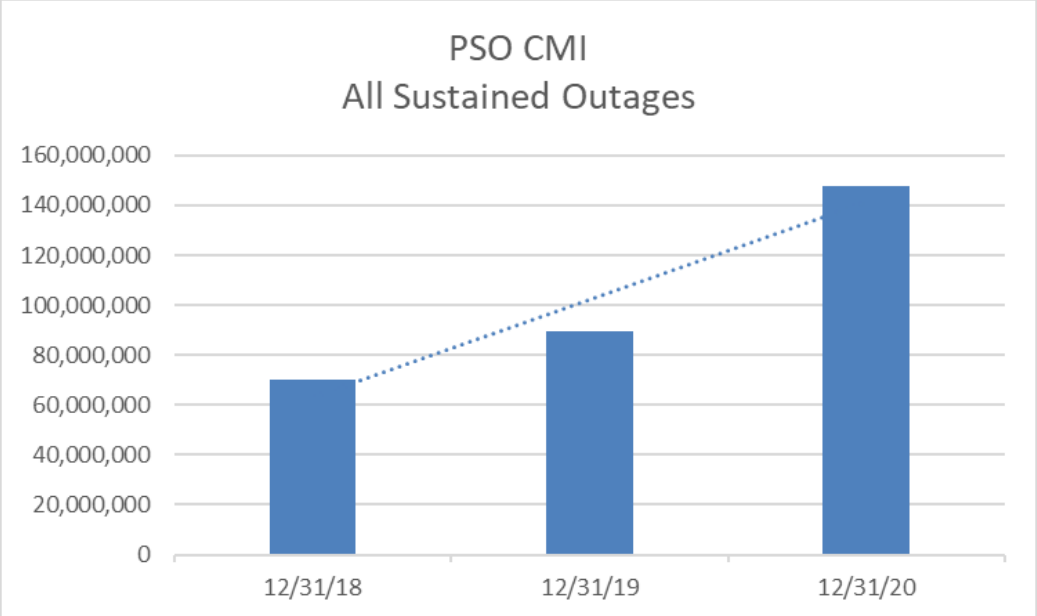


Figure 13



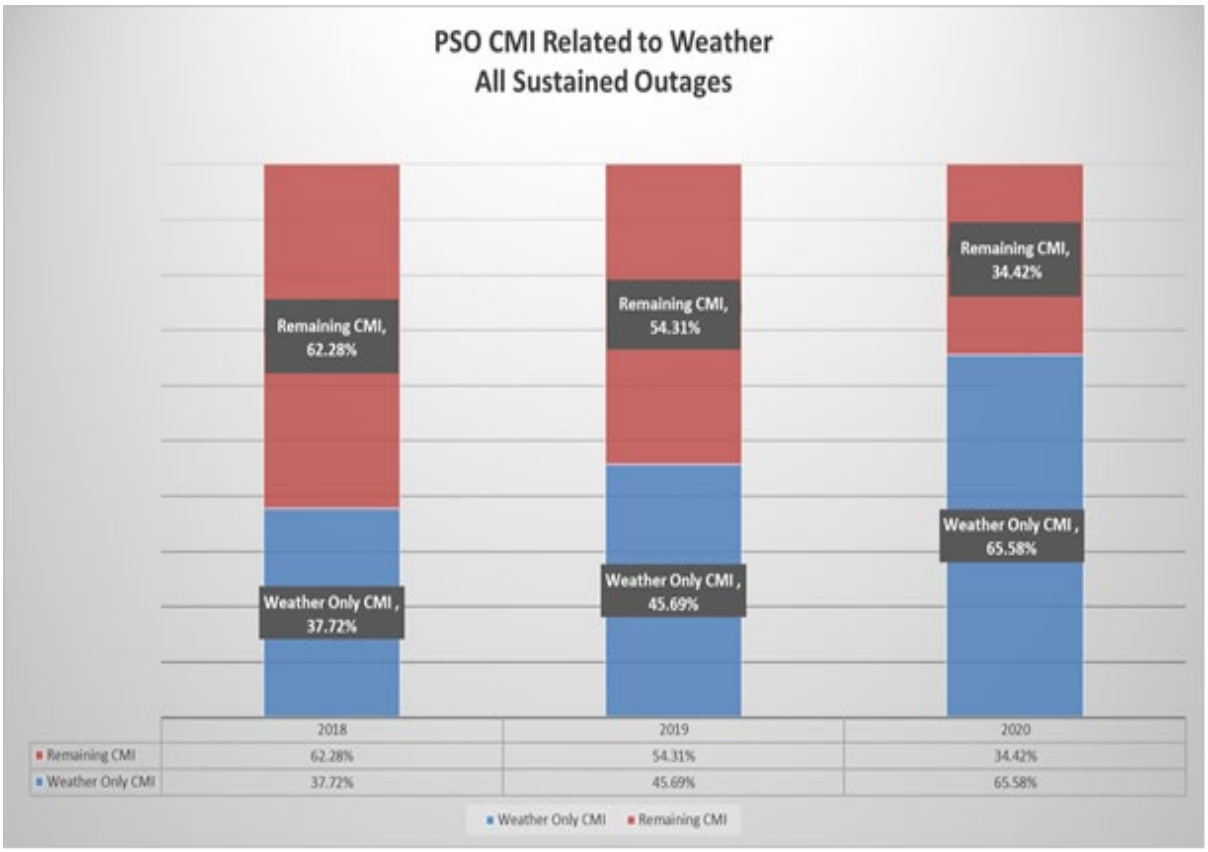
1 Q. WHAT CONCLUSIONS AND OBSERVATIONS CAN BE DRAWN FROM

2 THESE REPORTING EXCLUSION COMPARISONS?

A. PSO's reliability measures excluding major events (as defined by the Oklahoma Reliability Rules at OAC 165:35-25-18) for SAIFI and SAIDI show a steady improvement over the past three calendar years (as shown in figures 7 and 8). However, this is only one part of the data set that should be considered when analyzing system performance and designing reliability improvement plans. Although the cause or duration of the recovery effort may trigger an exclusion in regulatory reporting, customers still experience all outages. To truly impact the actual system reliability experienced by customers, PSO must focus on reducing the frequency and duration of outages regardless of cause or duration and take into account significant weather events that can inadvertently be obscured within exclusion filters. In contrast, the SAIFI, SAIDI and CAIDI indices (listed in figures 10, 11 and 12) include the impacts of significant weather events. The inclusion of the significant weather impacts in the calculation of SAIFI, SAIDI and CAIDI significantly changes the perspective of PSO's actual system performance as experienced by customers. The inclusion of significant weather events over the past three years worsened (or raised) PSO's SAIDI performance by 93%, CAIDI by 80% and SAIFI by 5%. To further validate the worsening trend in reliability performance, figure 13 lists CMI which increased by 96% over the same period. Figure 14 breaks down the total CMI over the past three years in terms of weather conditions present when the outages took place. Figure 14 also shows the annual contribution made by weather related events as a percentage of the total CMI over the period 2018-2020. The data shown in figures 10-12 represents the actual reliability performance (without exclusions) PSO's customers *actually* experience. This collective data set highlights

the importance of developing and executing a reliability improvement strategy that deals with the realities of operating an electric system during all types of weather conditions in Oklahoma.

Figure 14



The largest contributor to the worsening trend in reliability performance (as shown in figures 10-13) is an increase in the average age of the distribution line and distribution substation equipment and the inability of the distribution grid to withstand weather events. Figure 14 lists the percentage of CMI associated with weather-related outage cause codes versus the percentage of CMI related to all other (non-weather cause codes). The growing trend in weather-related CMI shown in

figure 14 aligns with the SAIFI, SAIDI and CAIDI overall CMI trends shown in figures 10-13 and highlights the impact weather has on electric system reliability. As shown in figure 14, weather-related outages (without exclusions) account for 49.6% of the total minutes of interruption experienced by customers from 2018-2020. This information further reinforces the importance of developing a grid reliability strategy that includes all types of outage causes regardless of reporting exclusions.

A detailed review of the contributors to total CMI (with and without weather exclusions) reveals distribution equipment failures have increased significantly over the past three years. Figures 15 and 16 list the percentage of overall CMI attributed to four equipment failure categories (poles, crossarms, overhead conductor and underground conductor). The failure rate for these equipment categories has increased approximately 109% for all weather conditions over the past three years. However, the failure rate for the same equipment categories increased by 280% for weather only cause codes over the same period. This data clearly indicates equipment failure is increasing and the rate of failure is much higher when weather events occur.

Figure 15

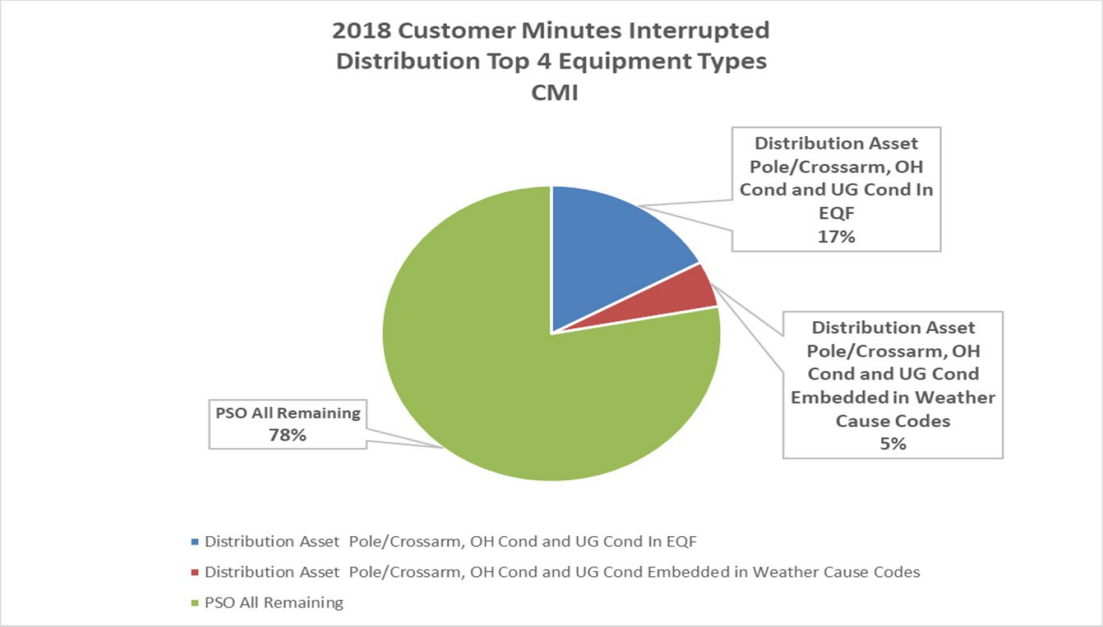
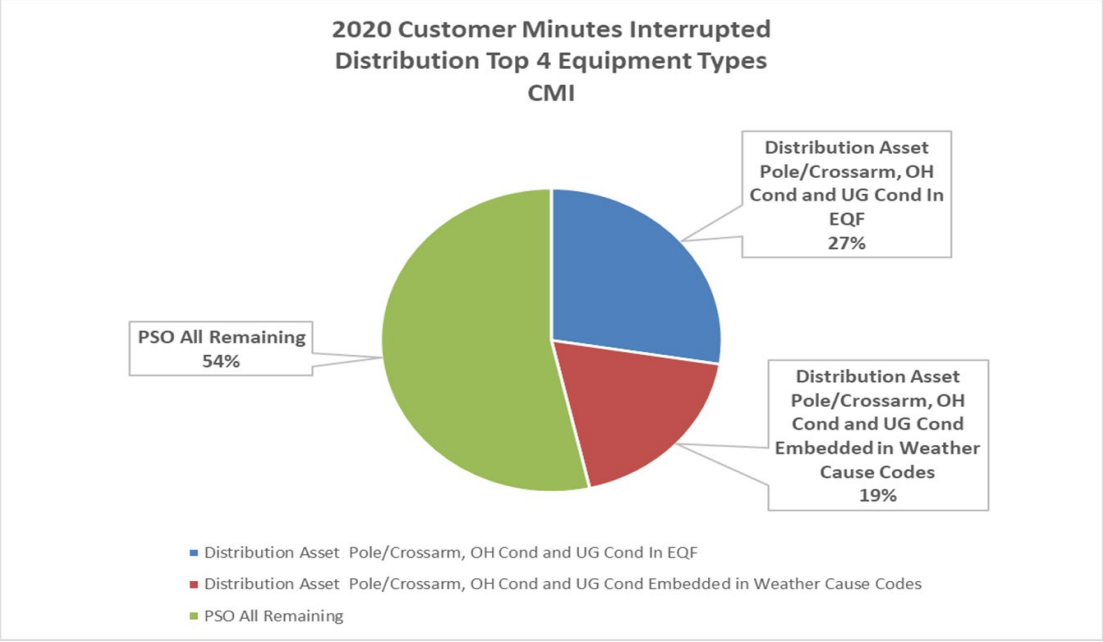


Figure 16



Section VIII provides a detailed analysis of PSO's aging infrastructure situation and outlines a comprehensive plan to harden the system from the impacts of weather while mitigating the societal and customer impacts of extended outage situations.

VIII. ELECTRIC GRID TRANSFORMATION AND REVITALIZTION

Q. WHAT ACTIONS ARE REQUIRED TO OPERATE THE ELECTRIC DISTRIBUTION SYSTEM IN A SAFE AND RELIABLE MANNER?

A. PSO believes the historic reliability and system performance investment strategies that have proven to be effective for many years must shift to mitigate the impacts of weather, leverage changes in technology, enable market place changes, anticipate increasing customer expectations and ensure Oklahoma's ability to compete for economic growth. To meet these challenges, PSO believes it must adopt an approach that focuses on grid transformation and revitalization.

Q. HOW DOES PSO DEFINE GRID TRANSFORMATION?

A. PSO defines "grid transformation" as a process of evolution whereby the existing electric system and its inherent limitations are deliberately converted to a "future grid" that deploys existing and emerging technologies to produce benefits for our customers. PSO's plan includes a portfolio of programs designed to meet current and evolving customer expectations. These programs focus on building a more secure, reliable and resilient grid, employing a wide range of technology and analytics to enhance grid performance through smart devices and advanced analytics deployed on distribution lines and inside of distribution substations. This technology will not only build a more resilient grid, but will also prepare PSO for future technologies by re-engineering the existing one-way power flow grid to an interconnected system capable of supporting distributed generation devices, and enabling customer service options.

Q. HOW DOES PSO DEFINE GRID REVITALIZATION?

A. PSO defines "grid revitalization" as a process of renewing the components of the electric distribution system to offset the effects of aging and deterioration. PSO's electric system is growing older by the day. Grid revitalization will address this trend and associated negative impacts on system performance and customer reliability during both normal and adverse weather conditions.

Q. WHY IS IT IMPORTANT FOR PSO TO TRANSFORM AND REVITALIZE THE ELECTRIC SYSTEM?

A. There are three main drivers for proposing an electric grid transformation and revitalization plan. First, the recent weather events in Oklahoma, including the October 2020 ice storm, highlight the important role electric service plays in everyday life, commerce and public safety. From a utility perspective, the current electrical grid is aging and growing increasingly susceptible to weather events that impact large geographic areas, require lengthy restoration efforts and create costly storm recovery expenses. From a customer perspective, multiple day outages produce economic impacts and other hardships that often far exceed the year over year incremental costs required to revitalize the electric system. The bottom line is the grid must be revitalized and hardened to withstand the frequent severe weather events that are characteristic and relatively commonplace for Oklahoma. Increased investments are needed to increase the mechanical strength of the electric system to be less susceptible to the effects of icing, strong winds and lightning. Failure to change course and adopt a different grid design and maintenance strategy will

virtually guarantee similar or worsening system performance during future weather events.

Second, there are many new and emerging technologies available that allow electric utilities to improve system performance, power quality and operational awareness. Although there will always be a need to make traditional investments in grid infrastructure (i.e., poles, wire, cross arms, transformers, hardware, etc.), electric utilities around the world need to expand their investment portfolio to implement technology solutions in addition to traditional grid repair and replacement strategies. Increased technology investments are required to transform the grid from a one-way system designed to meet basic customer needs that were adequate in the decades past to a modern digital system capable of two-way power flows and the seamless integration of distributed energy resources.

Third, the electric system in Oklahoma must evolve in order to keep pace with customer expectations for reliability, power quality, system resiliency and the integration of alternative sources of generation. This includes near term market place changes like FERC Order 2222, which will enable customer-owned DER to be aggregated and participate in ISO/RTO wholesale markets (which includes the Southwest Power Pool or SPP). All ISOs/RTOs (including SPP) must create a new Market Participant category for DER Aggregators and develop associated market rules to enable aggregation. Failure to transform and revitalize the electric system to meet this and other technological changes will become a competitive disadvantage and an inhibitor to Oklahoma's incredible economic growth potential.

Q. WHAT CHANGE IS PSO REQUESTING TO ADDRESS THE DRIVERS IMPACTING THE ELECTRIC DISTRIBUTION SYSTEM?

A. PSO is requesting approval of a multi-year investment plan that accelerates hardening of the electric distribution system and the actions required to enable two-way power flows.

Q. WHAT COST RECOVERY MECHANISM DOES PSO PROPOSE TO SECURE THE FUNDING REQUIRED TO COMPLETE THE PROPOSED ELECTRIC GRID TRANSFORMATION AND REVITALIZATION PLAN?

A. PSO requests the expansion of the existing Distribution Reliability and Safety (DRS) rider to recover costs associated with the five-year Grid Transformation and Revitalization plan. PSO proposes changing the DRS rider from an annual plan to a five year plan, increasing the portfolio of system improvement options beyond just distribution automation investments and increasing the investment cap from $50 million to $100 million annually. Company witness Jennifer Jackson will discuss changes to the DRS rider in more detail.

Q. WHY IS PSO'S PROPOSING TO EXPAND THE DRS RIDER FROM THE EXISTING RIDER?

A. PSO is proposing to expand the scope of the current rider in order to ensure that the distribution grid is sufficiently reliable and able to withstand not only severe weather events, but also normal wear and tear on the system. The current rider is limited in scope to include only distribution automation investments. The current DRS rider

does not address the multitude of investments required to meet near-term requirements to transform and revitalize the distribution system.

Q. EXPLAIN THE MODIFICATIONS PSO IS PROPOSING IN THE DRS RIDER.

A. PSO believes the DRS rider should be expanded to include a variety of grid transformation and revitalization options (not just distribution automation), approved as a 5 year plan (versus a one year plan) and the annual revenue requirement cap increased from $5M to $10M annually.

Q. HOW WOULD PSO CUSTOMERS BENEFIT FROM THE ELECTRIC GRID TRANSFORMATION AND REVITALIZATION PLAN AND THE PROPOSED EXPANDED DRS RIDER?

A. PSO's customers will realize many benefits from the approval of a multi-year electric grid transformation and revitalization plan or revised DRS rider. Customers will benefit from the increased security of a more resilient electrical system that has been hardened to mitigate the impacts of severe weather events such as the October 2020 ice storm that resulted in 147,000 total customer outages for multiple days in PSO's Lawton district. Although outages will always occur during severe weather events, approval of PSO's grid transformation and revitalization plan will lessen the impact of future storms. In general, fewer customers will experience outages, the system will suffer less overall damage and the duration of restoration events and storm expenses will be reduced. Additionally, customers will benefit from a more flexible system that is capable of supporting distributed sources of generation, increased electric vehicle ownership and the adoption of technologies that can lower costs and improve

reliability. Revitalization and transformation of PSO's electrical grid that focuses not only on grid automation, but also includes accelerated replacement of aging distribution line and distribution station infrastructure or increased system hardening, would limit storm damage, improve "blue sky" reliability, and speed up the restoration process when outages occur.

The current DRS rider is focused on the installation of grid automation technologies but does not include the ability to make investments in other activities such as accelerated replacement of aging distribution line and distribution substation infrastructure or increased system hardening. The DRS rider provides recovery for capital investments but does not include recovery of associated increased operating expenses.

The DRS rider should be expanded to allow PSO to make the substantial annual investments needed to address the worsening aging infrastructure situation that will continue to impact customers during major weather events such as the October 2020 ice storm.

Q. HOW DOES PSO DEFINE SYSTEM HARDENING?

A. System hardening is a systematic approach to improve the existing infrastructure to make the system more durable for either normal operating conditions or weather-related events.

Examples of system hardening are installing stronger structures, lessening the span length on existing distribution circuits to reduce tension on existing poles,

increasing the strength of down guys and anchors on dead end structures, and placing targeted overhead facilities underground.

Q. WHAT FACTORS REQUIRE PSO TO TRANSFORM AND HARDEN ITS GRID?

A. There are two primary factors that require PSO to take deliberate actions to modernize the electric grid. The first factor is the need to harden PSO's distribution system to improve reliability during "blue sky" conditions and to mitigate the impact of severe weather events on PSO customers. As shown in figure 14, almost half of PSO's CMI over the past three years are related to weather including major events. In order to limit the impact of these types of weather and major weather events, the system must be hardened. PSO must accelerate programs and investments to increase the structural strength of the electrical distribution system.

The second factor is related to grid transformation and the need to support new technologies and equipment that will enhance the performance of the distribution grid by improving network communications, system monitoring, automating line sectionalizing, overall power quality, and grid security. The available technologies will allow PSO to more quickly assess system conditions, improve customer response time, and improve system reliability through the use of new automation equipment. PSO's infrastructure must be upgraded in order to support these technologies.

Q. WHAT ARE THE CHALLENGES CURRENTLY BEING ADDRESSED BY PSO?

A. In spite of the significant investments made annually to replace aging distribution and substation facilities, PSO is simply not keeping pace with the equipment failure rate impacting the major components of the distribution system. A growing portion of

PSO's distribution line and distribution substation components currently serving customers today were originally installed 40 to 80 years ago.

Q. IS PSO CONCERNED ABOUT THE AGE OF THE ASSETS THAT COMPRISE THE DISTRIBUTION SYSTEM?

A. Yes. The distribution system contains many assets that are beyond their original life expectancy. These aging assets have a greater probability of failure than newer assets, leading to customer outages and incremental expenditures required to replace these assets upon failure. Aging infrastructure can also have a profound impact on system performance during major weather events, which result in more system damage, more customers impacted, longer restoration durations and increased storm recovery costs.

Q. HAS PSO PERFORMED AN EVALUATION OF THE AGE OF ASSETS IN THE DISTRIBUTION SYSTEM?

A. Yes. PSO has evaluated the asset records associated with distribution line and distribution station assets. This evaluation shows that the average age of assets for some asset categories has increased in recent years, while the average age of other asset categories has been relatively stable. The evaluation also shows that for all asset categories there are large numbers of assets still in service that have far exceeded their original life expectancy. The summary of this evaluation is shown below in Figure 17.

Figure 17 Age of Distribution Assets

	Yr	Avg Age	Units > 40 Yrs	% of Units > 40 Yrs	Units > 30 Yrs	% of Units > 30 Yrs
Poles	2010	22.6	142,092	18.8%	206,576	27.3%
	2020	25.8	154,015	20.1%	230,693	30.1%
OH Conductor	2010	25.4	19,671,788	25.7%	28,568,769	37.4%
	2020	25.3	17,825,969	22.2%	24,063,234	29.9%
UG Conductor	2010	19.1	2,212,094	5.8%	10,328,862	27.2%
	2020	25.4	9,989,810	22.8%	15,177,082	34.7%
Station Breakers	2015	25.2	482	26.7%	615	34.1%
	2020	25.4	448	23.7%	635	33.5%
Station Transformers	2015	39.1	368	56.6%	418	64.3%
	2020	42.0	366	57.7%	413	65.1%
Station Protection	2015	25.2	1,425	27.0%	1,783	33.8%
	2020	23.1	1,241	21.2%	1,751	30.0%

Q. PLEASE PROVIDE FURTHER EXPLANATION OF THE INFORMATION SHOWN IN FIGURE 17.

A. Records for distribution line and distribution station assets were compared for two snapshots in time. For distribution line assets, records for the years 2010 and 2020 were compared. For distribution station assets, records for the years 2015 and 2020 were compared (due to a data system reconfiguration, a snapshot of station asset records was not available prior to 2015). The purpose of these two snapshots was to evaluate the average age of assets from the prior period as compared to the current period. Also, an evaluation was performed to compare the number of assets of excessive age in the prior period as compared to the current period. In summary, the average age of poles, underground cable, and station transformers has increased over recent years, while the average age of overhead conductor, station breakers, and station protective equipment has remained relatively stable. Also, the number of

assets in service that are greater than 40 years of age has increased for poles and underground cable, while this number has remained stable or decreased for overhead conductor, station breakers, station transformers, and protective equipment. However, there continues to be a large number of assets in all asset categories that have exceeded their original life expectancy (20% or more of assets in each category). In addition, a large number of assets in each category are approaching their original life expectancy of 40 years (30% or more of assets in each category are greater than 30 years old).

Q. WHAT OPTIONS COULD BE CONSIDERED TO ADDRESS THESE AGING ASSETS?

A. The options to replace aging assets are shown in Figure 18. Each of these options is shown as a 10-year plan. The least aggressive option is to replace assets at a rate to maintain the existing average age of each asset category. The middle option is to replace all assets in each category that are currently greater than 40 years of age. The most aggressive option is to replace all assets in each category that are currently greater than 30 years of age. The middle option is the recommended option as it provides the ability to replace the oldest assets on the system in a reasonably aggressive manner. However, even with this incremental replacement plan, at the end of the 10-year period there would still be a large number of assets that are between the ages of 40 and 50 years old.

Figure 18 Options to Replace Aging Distribution Assets

	10 Year Plan - Annual Incremental Units to Maintain Avg Age	10 Year Plan - Annual Incremental Units to Replace All Units Currently > 40 Yrs	10 Year Plan - Annual Incremental Units to Replace All Units Currently > 30 Yrs
Poles	3,710	10,145	17,813
OH Conductor	0	708,317	1,332,043
UG Conductor	603,395	965,076	1,483,803
Station Breakers	1	25	43
Station Transformers	3	30	35
Station Protection	0	53	104

Q. WHAT IS THE COST OF EACH OPTION?

A. The costs for each option is shown in Figure 19. The amount shown is a year one cost. Costs for additional years should have a slight inflationary component added.

Figure 19 Costs to Replace Aging Distribution Assets

	10 Year Plan - Annual Incremental Cost to Maintain Avg Age	10 Year Plan - Annual Incremental Cost to Replace All Assets Currently > 40 Yrs	10 Year Plan - Annual Incremental Cost to Replace All Assets Currently > 30 Yrs
Poles	$5,388,877	$14,738,060	$25,876,951
OH Conductor	0	0	$19,783,848
UG Conductor	$8,961,781	$28,768,910	$44,232,167
Station Breakers	$75,000	$3,690,000	$6,495,000
Station Transformers	$1,987,500	$24,168,000	$27,904,500
Station Protection	0	$2,625,000	$5,175,000
Annual Total	$16,413,157	$84,510,073	$129,467,466

Q. WHAT ARE THE RELIABILITY BENEFITS OF REPLACING THESE AGING ASSETS?

A. Assets that are beyond their intended life expectancy experience a failure rate that is higher than other similar assets on the system. Replacing these assets prior to their failure will avoid outages and provide improved reliability of service to customers served by these assets. The projected avoided outage impacts are shown in Figure 20.

Figure 20 Reliability Benefits of Replacing Aging Distribution Assets

	Projected Annual Failure Rate of Equipment > 40 Yrs	Avg Number of Customers Affected	Avg Duration of Outage	Annual Estimated Avoided CMI Per Year of Asset Replacement Plan
Poles	0.5%	52	152	399,400
OH Conductor	2.0%	43	109	67,100
UG Conductor	2.9%	17	113	182,700
Station Breakers	2.1%	652	115	38,700
Station Transformers	2.5%	745	408	230,800
Station Protection	2.0%	949	59	58,600
Total				977,300

Q. ARE THERE ADDITIONAL BENEFITS TO REPLACING THESE AGING ASSETS?

A. Yes. While the primary benefit of replacing these aging assets is to improve customer service and the performance of the system, replacing these assets prior to failure will result in the avoidance of the replacement cost of these assets when they fail at a later date. This avoided cost serves as an offset to the cost of proactively replacing these assets before failure. Thus, the net cost of replacing these assets before failure is the time value of money for this cost over the period of time from when the asset is replaced proactively to the time of actual failure. The total estimated avoided cost of future failures for each asset category is shown in Figure 21. This value is shown as a present value of future avoided costs. Factors utilized to calculate this value include a WACC of 7.33% and a cost escalation rate of 2%.

Figure 21 Additional Benefit: Avoided Future Cost of Replacing Aging Distribution Assets

	Annual Cost to Replace Aging Assets Proactively	Present Value of Avoided Future Cost of Replacing Aging Assets Upon Failure
Poles	14,738,060	3,804,107
OH Conductor	10,520,103	4,019,518
UG Conductor	28,768,910	12,502,033
Station Breakers	3,690,000	1,161,194
Station Transformers	24,168,000	9,053,989
Station Protection	2,625,000	786,717
Total	84,510,073	31,327,557

Q. HOW WERE PROJECTED FAILURE RATES OF THESE AGING ASSETS DETERMINED?

A. A study of asset failures was performed utilizing the data for asset failures from 10 electric utilities. For these asset failures, the age of each asset at the time of failure was determined. The accumulation of these failure data points was utilized to develop failure curves by age of asset for each of these asset categories. These failure curves were utilized to project failure rates for assets that are greater than 40 years of age. The resulting failure rates for each asset category are shown in Figures 22-26 For the purposes of this evaluation, failure rates were determined for assets between the ages of 40 and 60 years old. However, there are many assets still in service that are greater than 60 years old. The failure rates for those assets would be higher than assumed in this evaluation.

Q. PLEASE PROVIDE THE FAILURE RATE CURVES FOR THE EQUIPMENT INCLUDED IN THE AGING ASSET EVALUATION.

A. The failure curves are shown in the figures below.

Figure 22 Poles

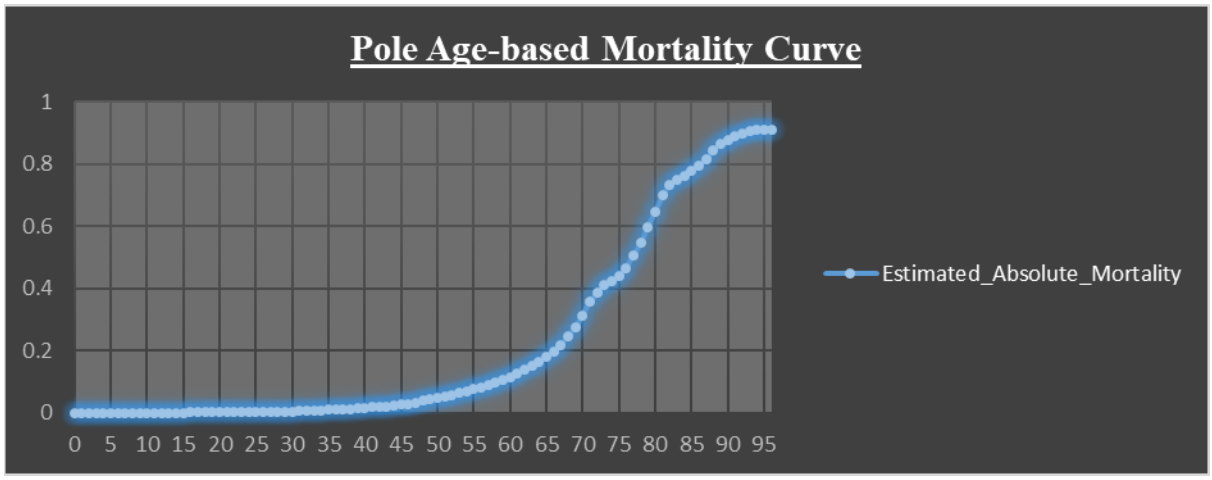


Figure 23 Underground Cable

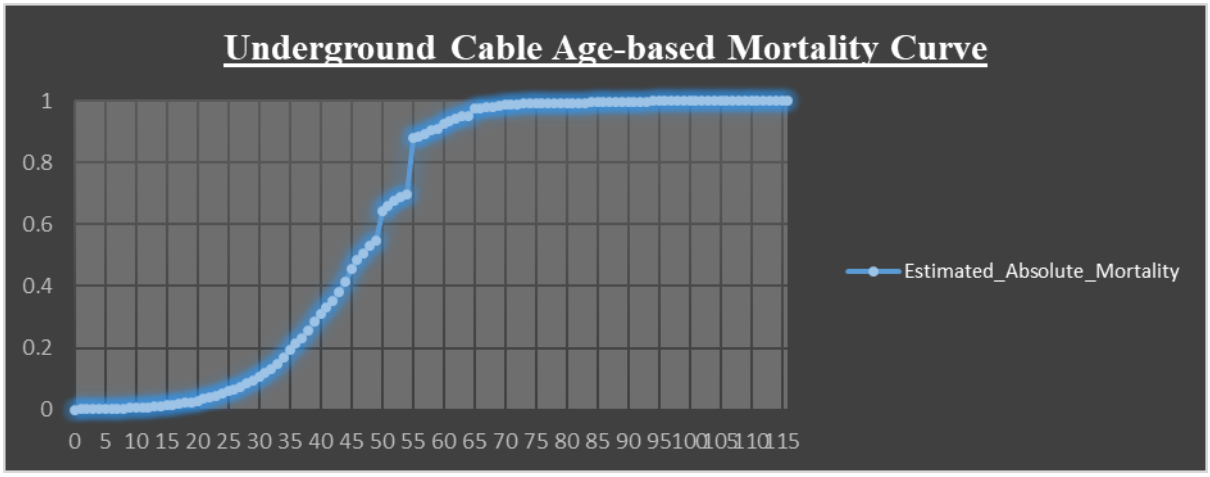


Figure 24 Substation Breakers

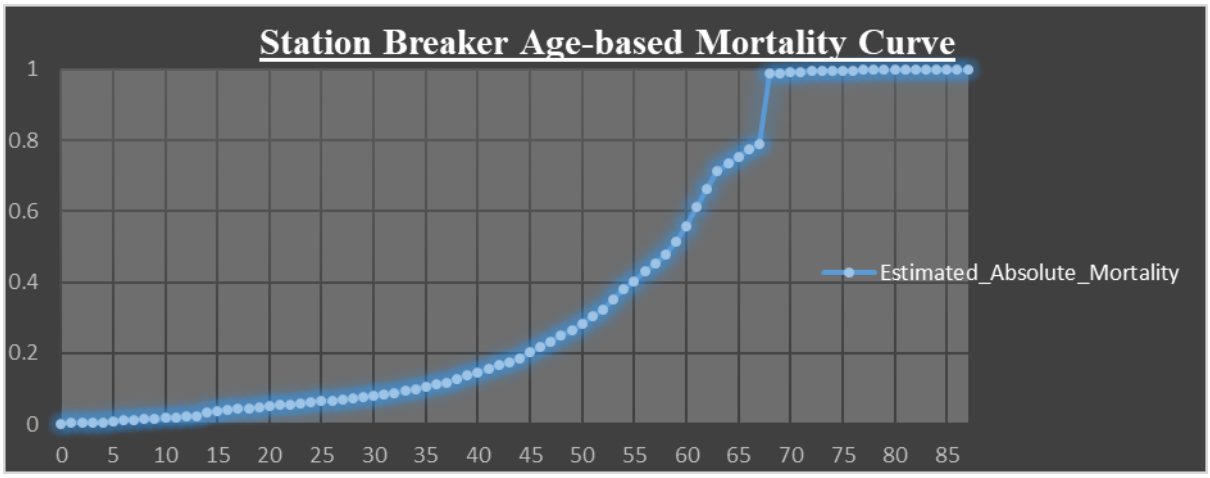


Figure 25 Station Transformers

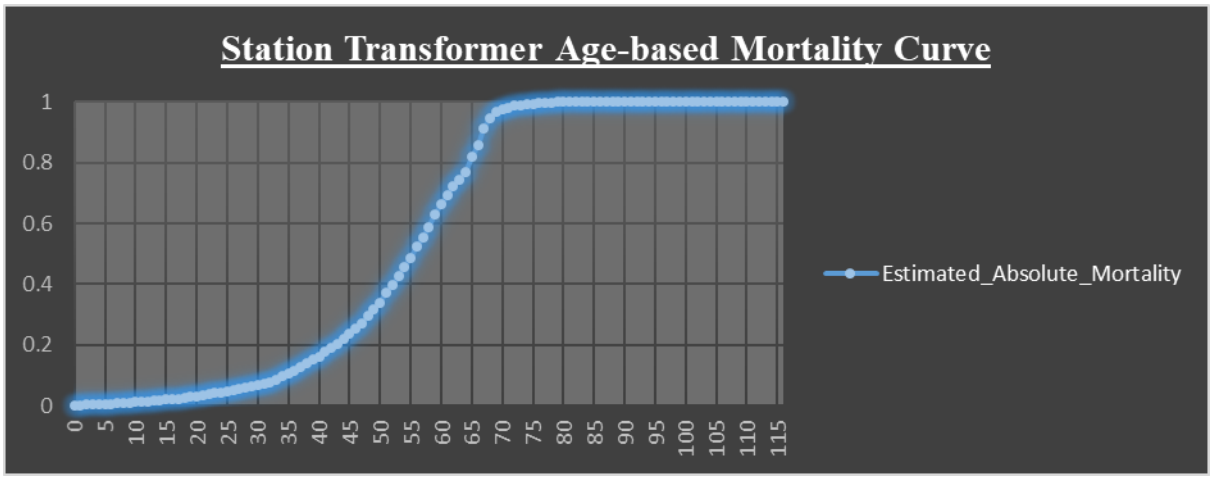
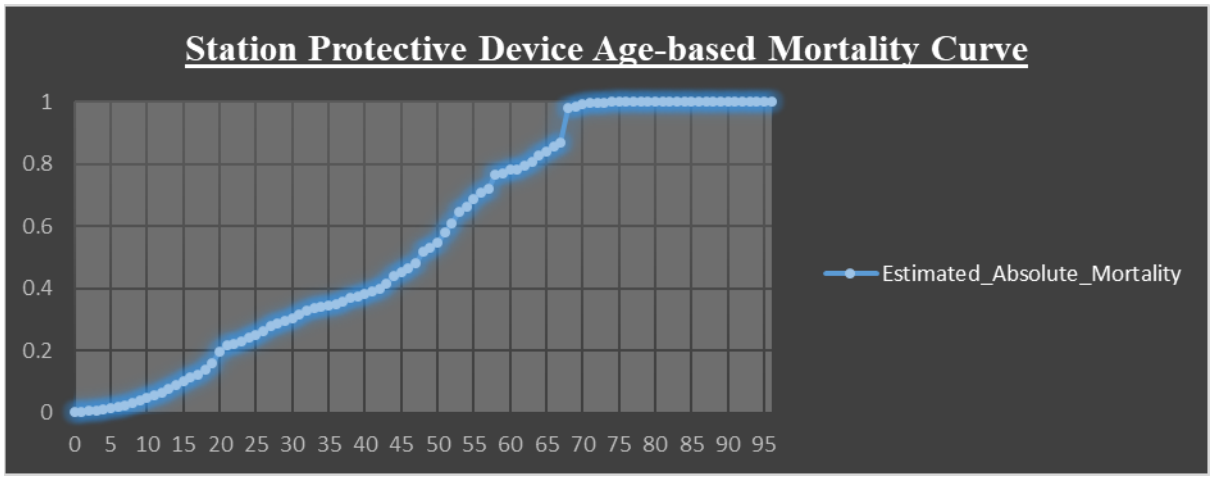


Figure 26 Station Protective Devices (Relays)



Q. WHAT ARE THE SPECIFIC ELEMENTS OF PSO'S PLAN TO REVITALIZE AND TRANSFORM ITS ELECTRIC DISTRIBUTION GRID?

A. PSO's multi-year grid transformation and revitalization plan (Plan) includes the following components:

1) Distribution Automation Circuit Reconfiguration (DA/CR)
2) Technology Deployment D-Line
3) Deploy Reclosing Technology D-Line
4) Deploy Sensors and Predictive Analysis Technology
5) Install MicroGrid Installation
6) Harden/Renew Distribution Line Infrastructure
7) Harden/Renew Substation Infrastructure
8) Technology Deployment D-Station

While planning will guide the implementation of these programs, they are subject to change as dictated by customer needs, technological advancements, lessons learned during deployment, and other market factors.

Distribution Automation and Circuit Reconfiguration (DA/CR) - The installation of distribution automation and circuit reconfiguration schemes (DA/CR) on looped

distribution circuits. The DA/CR scheme functions by monitoring electric current levels at multiple points along the circuit and will automatically communicate between switching points via radio communications and distributed control equipment to "self-heal" the grid when a fault is detected within the switching points. Once a fault is detected, the automated switches on either side of the faulted section or "zone" of the circuit are automatically opened and the normally open switch positioned between the affected circuit and the backup or adjacent circuit closes. Customers on both sides of the fault location experience a brief interruption but avoid a sustained outage. The automated switches isolate the faulted section and pinpoint the damaged area for repair crews, which can have an impact on the time it takes to address the outage and restore service. Additionally, the DA/CR distribution control scheme monitors pre-fault loading on each automated switching zone. Prior to shifting load for unaffected circuit zones to an adjacent circuit, the DA/CR control logic compares the pre-fault load conditions with the calculated, pre-determined load limits of the backup source. The capacity of the backup sources is determined by the thermal limits of the circuit conductor, substation exit cables and substation transformer capacity. The component with the lowest thermal rating becomes the limiting factor and determines the available spare capacity or "contingent capacity" available for load transfer that is loaded into the DA/CR control logic to establish pre-determined capacity limits. If the pre-fault zone loads are lower than the pre-determined capacity limits of the backup source, the normally open circuit loop switch will close and restore service to customers impacted by the circuit fault. If the pre-fault zone loads exceed the pre-determined capacity limits of the backup source,

the switch remains open. Under PSO's plan, DA/CR would be installed on approximately 200 additional circuits that are well suited for this technology.

In addition to the immediate improvements to reliability, the implementation of DA/CR schemes will also facilitate the operational integration of DER interconnections to the grid by automatically reconfiguring the distribution system in response to unexpected load shifts resulting from cloud cover with photovoltaic solar arrays, wind variations, customer-owned DER failures or unreported capacity increases. Without DA/CR schemes in place where applicable (looped distribution circuits), PSO's customers will experience reduced levels of reliability and power quality, which will ultimately be amplified by the effects of DER interconnections along the grid.

Technology Deployment D Line – This program focuses on upgrading the existing distribution infrastructure to utilize technology necessary to modernize PSO's grid. This includes new feeder ties and upgrades to existing facilities required to support automated load transfers and capacity requirements including the interconnection of customer-owned generating devices to the grid and conversion of 4kV circuits to higher voltages to prepare these portions of line for the installation of smart switches. This program will target the replacement and upgrade of grid components such as poles, cross arms, overhead and underground conductors and pole and pad-mounted transformers. This equipment must be replaced and upgraded to take advantage of technological improvements to materials and equipment, improve reliability and power quality for customer and enable customer-owned DER (Distributed Energy Resources) interconnections to the grid. DER devices include, but are not limited to,

rooftop solar, storage devices, electric vehicles and fuel cells. PSO will utilize asset records, field inspections and system performance data to prioritize the replacement of aging distribution system components that have exceeded operational life and are prone to failure.

It is important to realize that it is much more efficient and cost effective to replace equipment before failure than after failure. Planned replacement before failure yields the lowest replacement cost because the work is scheduled during normal business hours and the pre-planning ensures optimal efficiency. When equipment fails during adverse conditions, the restoration work may require higher labor costs for overtime, additional crew hours, and multiple trips to the work site to assess the damage and determine the needed materials and equipment to complete the work.

Deploy Reclosing Technology D-Line – PSO would focus on replacing existing lateral fuses with reclosing devices, which would allow for temporary faults to clear before customers experienced a sustained longer duration outage. Approximately 75% of electrical faults are temporary in nature. PSO currently uses a fuse saving scheme to attempt to clear these temporary faults. However, if a temporary fault is experienced behind a lateral fuse, it weakens the fuse link and the benefit of this scheme is reduced and less likely to clear any subsequent temporary faults, thus resulting in a sustained outage to customers. Reclosing technology is designed to clear these temporary faults without significantly weakening the device.

Deploy Sensor and Predictive Analysis Technology - PSO would deploy smart sensors on existing circuits. The first installations would be focused on those circuits where DA/CR is not a viable option. These circuits are primarily radial and lack the

ability to recover from an outage through either automated or manual switching. These installations would be followed by those areas with long lateral lines that are on circuits where other technology exists, but would still benefit by better pinpointing the location of the fault.

This technology will further enable the grid for the ability for two-way power flows to accommodate DER installations.

The program would also utilize on predictive analysis tools/technology that would focus on providing insight to a fault before it occurs. Development of this technology could prevent customer outages before they occur.

Install Micro-Grid Technology – Utilize micro grids in targeted areas to provide the ability to recover outages where no circuit ties exist. The micro grid would consist of nontraditional generation, such as solar, wind, or a micro-turbine, paired with a battery for storage. In some applications, this technology would not only improve the resiliency of the distribution grid, but could also offset the cost of a substation as load grows on the circuit.

Overhead to Underground Conversions - PSO would take a targeted approach to bury existing overhead facilities underground. This approach would reduce the likelihood of a major weather event impacting customers served in these areas.

Harden/Renew Distribution Line Infrastructure - PSO would focus on hardening its existing overhead and underground facilities to better withstand weather events. This would include installing stronger structures, lessening the span length on existing distribution circuits to reduce tension on existing poles, increasing the strength of down guys and anchors on dead ends.

Harden/Renew Distribution Substation Infrastructure - PSO would upgrade existing substation hardware such as transformers, switch gears, breakers and other equipment to better withstand weather related events. Emphasis would be placed starting in those areas where equipment may no longer be available for repairing minor components. This approach would not only help prevent the outage but also would eliminate a lengthy outage due to the availability of parts for older equipment.

Technology Deployment D-Station - PSO would install smart relays, RTUs, communicating devices for monitoring and security, and necessary equipment to allow transformers to recover if the transmission source is lost or if there is an equipment failure. Additionally, PSO would install and/or upgrade existing transformers, breakers, or switch gears to allow for the full transfer of load at the distribution station

Q. HOW WILL PSO PRIORITIZE THE PROGRAM COSTS WITHIN THE GRID TRANSFORMATION AND REVITALIZTION PLAN?

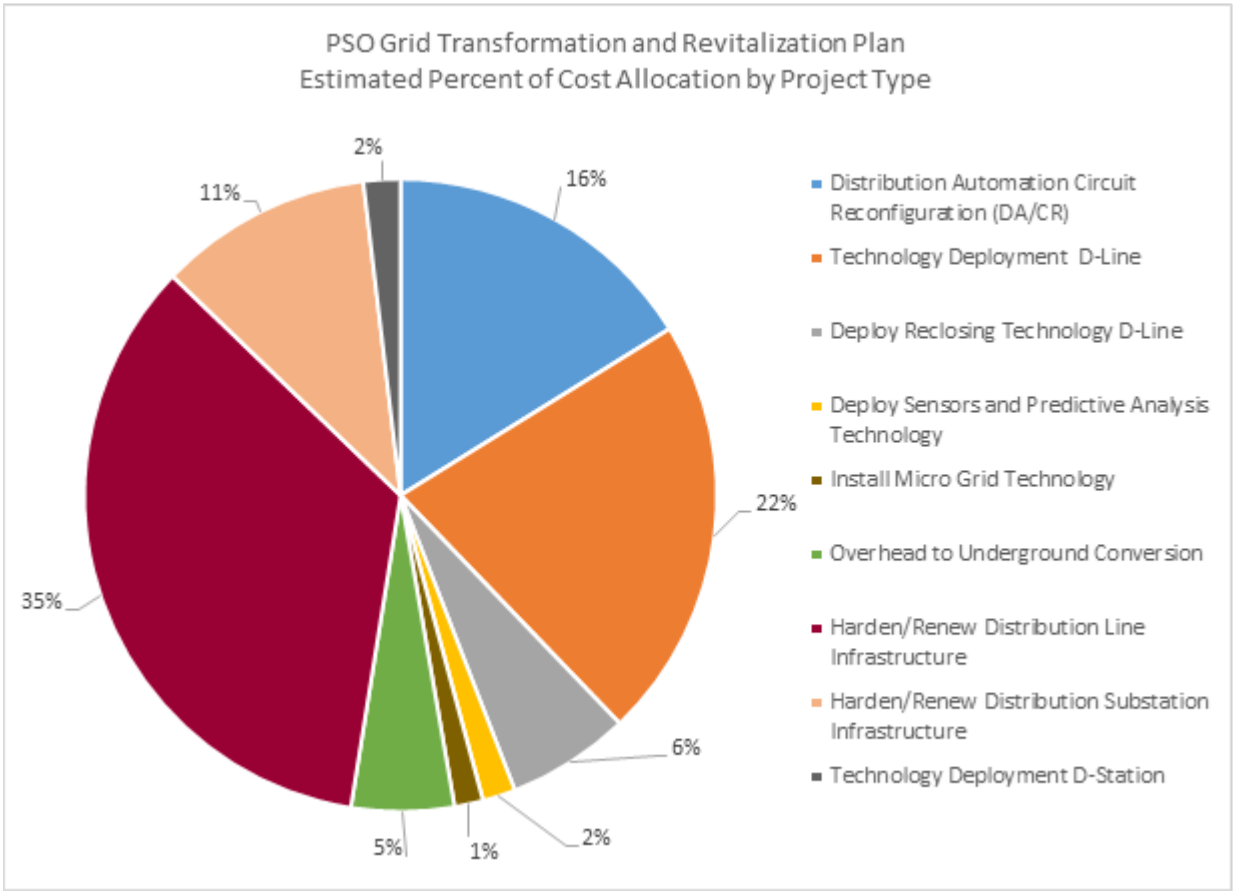
A. The expected expenditures required for each program within PSO's grid transformation and revitalization plan are shown in Figure 27 and Figure 28. This breakdown assumes PSO will invest approximately $500 million over a five-year period (2022-2026) to complete the programs outlined earlier in testimony. The annual program cost may vary based on several factors including the availability of incremental capital, worsening system reliability performance that exceeds PSO's current projections for aging equipment, or higher than expected adoption rates of customer-owned DER.

Figures 27 and 28 represent the relative prioritization of program costs based on the best information available at the time this testimony was filed. The same issues listed previously that could impact year-over-year spending could also modify the distribution of funding within the programs.

Figure 27

PSO Grid Transformation and Revitalization Plan	
Project Type	***Estimated Spend (Millions $)***
Distribution Automation Circuit Reconfiguration (DA/CR)	77.0
Technology Deployment D-Line	103.0
Deploy Reclosing Technology D-Line	30.0
Deploy Sensors and Predictive Analysis Technology	8.0
Install Micro Grid Technology	7.0
Overhead to Underground Conversion	25.0
Harden/Renew Distribution Line Infrastructure	165.0
Harden/Renew Distribution Substation Infrastructure	52.0
Technology Deployment D-Station	9.0
Total	**476.0**

Figure 28 Percent Expenditures by Program Type



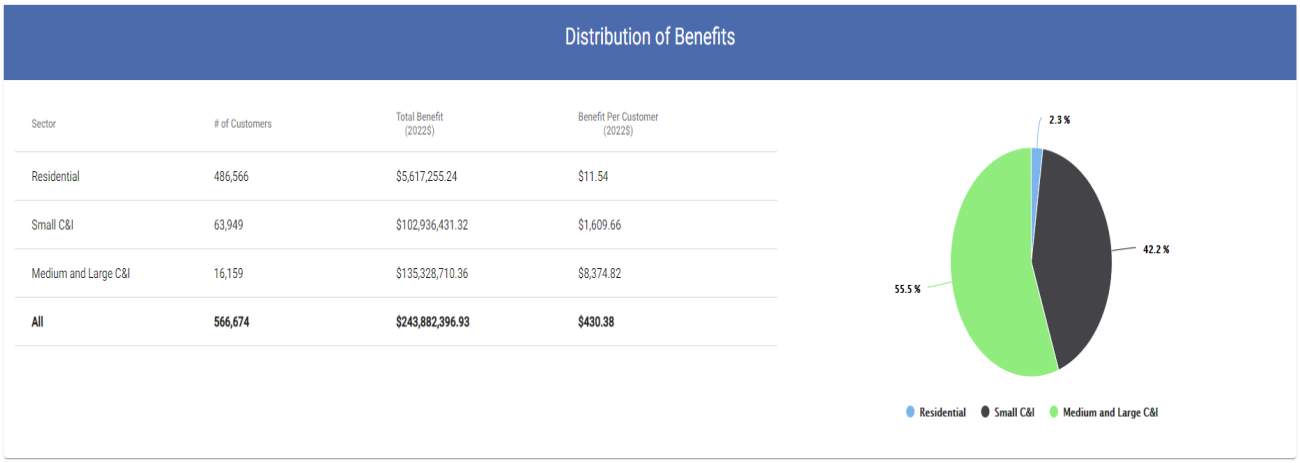
Q. DID PSO PERFORM A BENEFIT ANALYSIS REGARDING ITS PROPOSED PLAN?

A. Yes, PSO did perform an analysis based upon the estimated cost of the proposed plan as it relates to the estimated reliability benefit and avoided costs to PSO customers due to power outages.

Q. WHAT ARE THE BENEFITS ASSOCIATED WITH PSO'S PROPOSED PLAN?

A. As shown in Figure 29, PSO a benefit of approximately $244M assuming a 2% inflation factor and 7.33% discount rate over a thirty-year period.

Figure 29 ICE Model Results for Plan Implementation



Q. HOW DID PSO DETERMINE BENEFITS ASSOCIATED WITH THE PLAN?

A. PSO utilized the Interruption Cost Estimator (ICE) calculator that was developed by the Lawrence Berkley National Laboratory and Nexant, Inc. The ICE calculator is funded by the Energy Resiliency Division of the US Department of Energy's Office of Electricity.

Q. WHAT IS THE ICE CALCULATOR?

A. The ICE calculator is a tool designed to estimate interruption costs and/or the benefits associated with reliability improvements.

Q. HOW DOES THE ICE CALCULATOR DETERMINE BENEFITS?

A. The ICE calculator estimates were derived from analyzing results from twenty-eight customer value of service studies conducted by 10 major utilities over a 16-year period from 1989 to 2005. The results were compiled and integrated into a data set and a two-part regression model is used to estimate the customer damage functions that can generally be applied to calculate customer interruption costs. The calculator was updated in 2015 and included the following revisions of note: to incorporate more recent utility cost studies, and to provide estimates for outages lasting over 8 hours.

Q. HOW DID PSO CALCULATE THE RELIABILITY BENEFITS AND OTHER INPUTS TO THE ICE MODEL?

A. PSO utilized a three-year average data set for the years 2018-2020 as a starting point for the reliability calculation. This information was used because it is a known data point and reflects actual performance. PSO utilized existing customer count estimates as of March 2021 by category for residential customers and commercial/industrial customers. PSO utilized 7.33% for the discount rate and assumed a 2% inflation rate. PSO also assumed a 30-year useful life for the equipment.

To ensure that the model did not overestimate the benefit for the installation of the DA/CR technology, PSO did not claim a SAIFI reduction for the purposes of the inputs for the ICE calculator in those areas where a customer would experience a momentary service interruption due to automatic switching to isolate an electrical

fault. However, it is important to note that although the customers in these areas would experience a momentary interruption due to switching, they would not experience a sustained outage.

Q. DOES THE ICE MODEL ACCOUNT FOR ALL OF THE BENEFITS OF THE PROPOSED PLAN?

A. No, it only accounts for a portion of the benefits of the proposed plan. The ICE calculator only reflects benefits during normal weather conditions. It does not account for either the cost of extended outages lasting for long durations, such as the major ice storm that occurred in PSO's Lawton District in October of 2020. That storm caused extended outages for many PSO customers.

Likewise, the model does not account for the societal cost of the utility costs to repair damages and restore power for these types of events. Both the societal costs and the costs to the utility, which are ultimately recovered, can be significant.

PSO is not aware of a standard tool that exists to calculate the benefit of investments required resulting from a long duration weather related outages.

Finally, the model does not account for other intangible benefits of a reliable power source. Not only do individual customers expect a reliable power source, but it can also help attract industry into the state, which translates to jobs and economic growth for Oklahomans.

IX. MUNICIPAL STREET LIGHT TARIFFS

Q. WHAT IS PSO PROPOSING WITH REGARDS THE CURRENT LIGHTING TARIFFS?

A. PSO is proposing to close all high-intensity discharge (HID) offerings to new installations. HID options in the current lighting tariffs include mercury vapor, high-pressure sodium, and metal halide fixtures. These fixtures are currently offered on the Municipal Street Lighting (MSL), Government Street Lighting (GSL), Non-Roadway Lighting (NL), and Security Lighting (SL) tariffs. In place of these types of fixtures, PSO will only offer Light-Emitting Diode (LED) fixtures to new installations as well as when current obsolete fixtures need replacing.

Q. PLEASE EXPLAIN PSO'S REASONING FOR DISCONTINUING THESE LIGHTING OPTIONS.

A. There are several industry drivers that influenced PSO's decision to discontinue offering HID lighting options. Those include:

- The suppliers of HID lighting components either have (or will soon) convert production lines to LED only;
- HID lighting will gradually phase out and replacement parts will become more expensive and increasingly difficult to obtain;
- LED lights require less energy per lumen, which means less fuel burned, deferred capacity investments, and less environmental impacts;
- Our customers prefer and are frequently requesting LED vs HID lighting.

Q. WHAT ARE THE CONSEQUENCES OF RETAINING HID MSL RATE OFFERINGS?

A. Failure to close the HID MSL rate offerings for new installations will result in an increase in the number HID MSLs in service. Each new HID MSL installed adds to

total number of lights that will inevitably require conversion to LED. As outlined previously, HID components will become less available and more expensive to purchase in the near future. This will drive up operating costs and impact customer bills. Additionally, continued installation of new HID MSLs will also increase impacts to the environment and require more electric capacity investments.

Q. HOW MANY EXISTING HID MSLS ARE IN SERVICE IN PSO TODAY?

A. PSO has approximately 73,000 HID MSLs in service today.

Q. IS PSO WITHDRAWING EXISTING LIGHTING TARIFFS?

A. No. PSO plans to begin converting failed in-service HID fixtures to LED fixtures and to offer only LED tariffs to new customers. For example, if the failure issue can be resolved with a simple bulb replacement and PSO has access to that type of bulb, PSO will replace the bulb under its existing tariffs. However, if PSO does not have the bulbs or if the issue is with the fixture, PSO will convert the installation to an equivalent LED lighting fixture under the newly proposed LED lighting tariff. Company witness Jennifer Jackson will explain the details of the LED lighting tariffs.

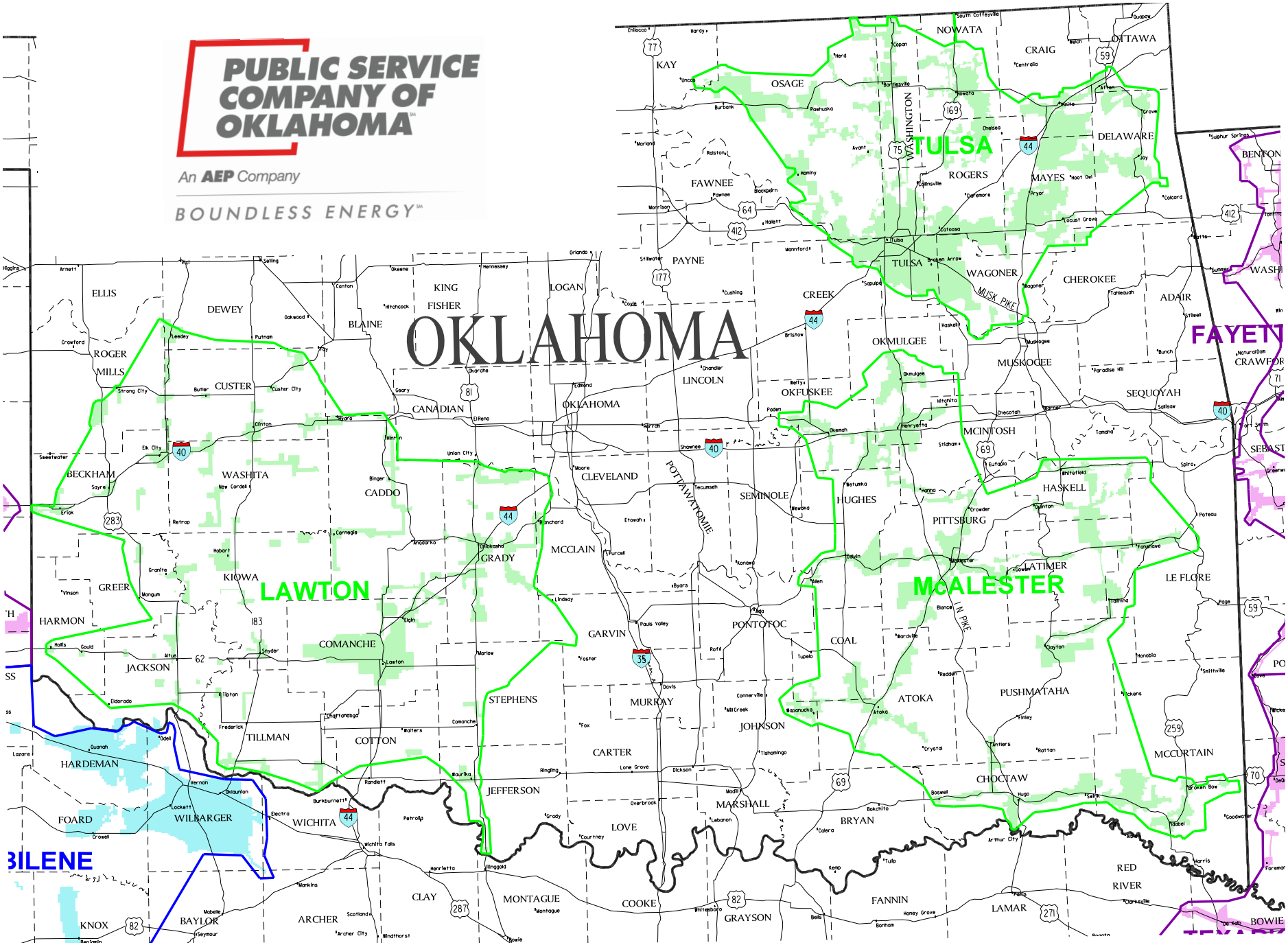
Q. WILL CUSTOMER COSTS INCREASE FROM THE CURRENT HID MSL OFFERINGS TO THE EQUIVALENT LED OPTION?

A. In most cases, the monthly rate for the equivalent LED MSL will be lower than the current HID MSL rate. The monthly cost related to the transition to LED for decorative or specialty MSLs will increase. Company witness Jennifer Jackson will discuss the specifics related to the MSL tariffs.

X. SUMMARY AND CONCLUSIONS

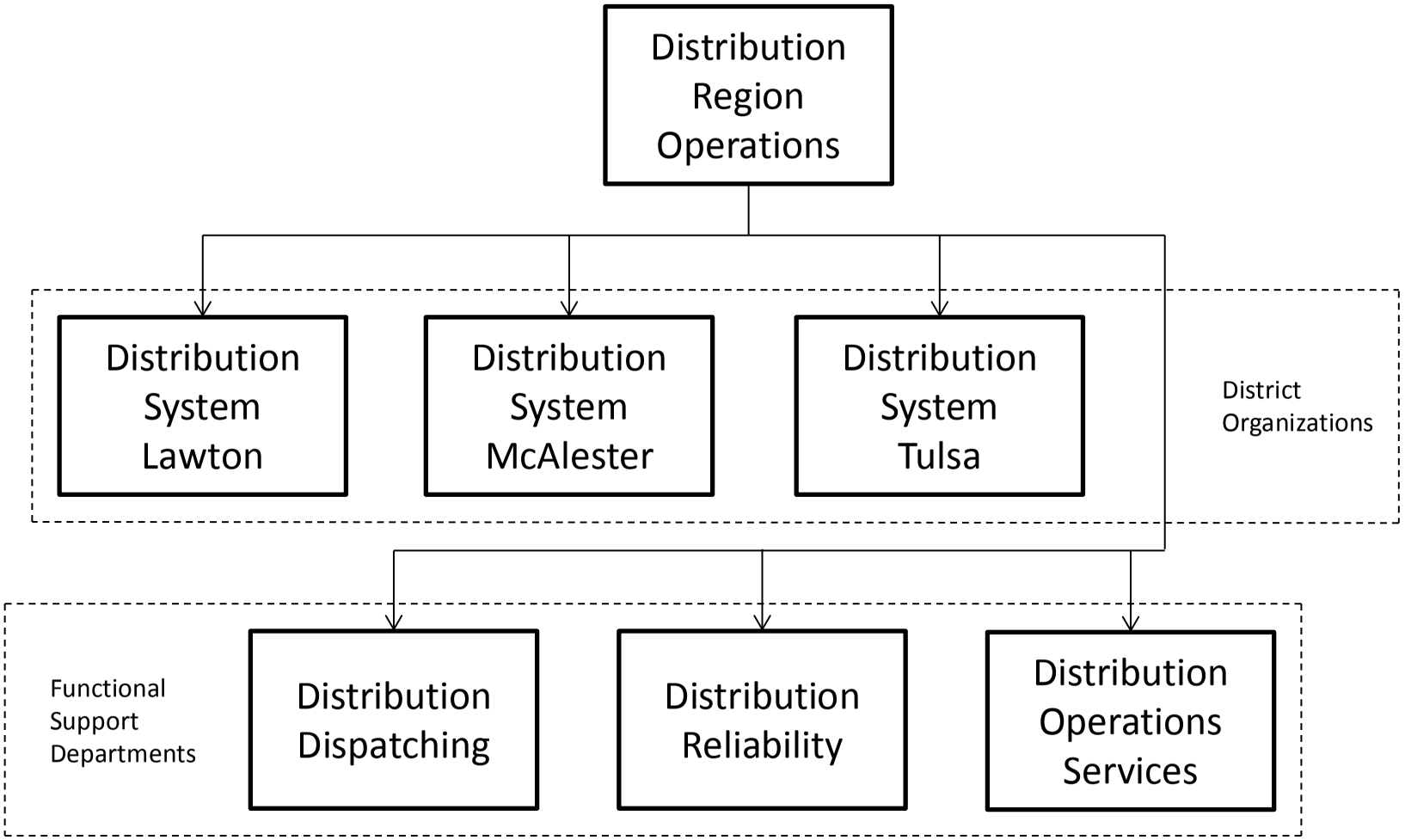
Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. PSO is committed to providing safe, clean, reliable and cost effective electric service to our 563,000 customers in 232 communities across Oklahoma. Oklahomans depend upon electric service for all aspects of life and commerce, and it has been a competitive advantage when competing for business opportunities with other states. The weather is not changing in Oklahoma so the grid must evolve to limit the impacts of future significant weather events that produce multiple day outages. In the near future, the electric distribution grid will be required to function much differently than designed. As customers adopt electric vehicles and DER devices such as rooftop solar, battery storage and mirco-grids, the electric distribution system will become a two-way power flow network that will require significant upgrades to capacity, structural strength, real-time monitoring and automation to keep pace. Failure to make these investments will keep Oklahoma from realizing its full potential in terms of economic growth and our ability to compete for businesses and jobs with surrounding states. The time to act and change course from our traditional approach to grid investments is now. In order to maintain and/or improve the performance of our electric system during all weather conditions and meet the changing demands of our customers, the impacts of technology and the changing electric utility marketplace, PSO must be allowed and encouraged to increase investments to transform and revitalize the electric distribution system.



Cause No. PUD 202100055
EXHIBIT SFB-1

Public Service Company of Oklahoma
Distribution System Operations Organizational Chart



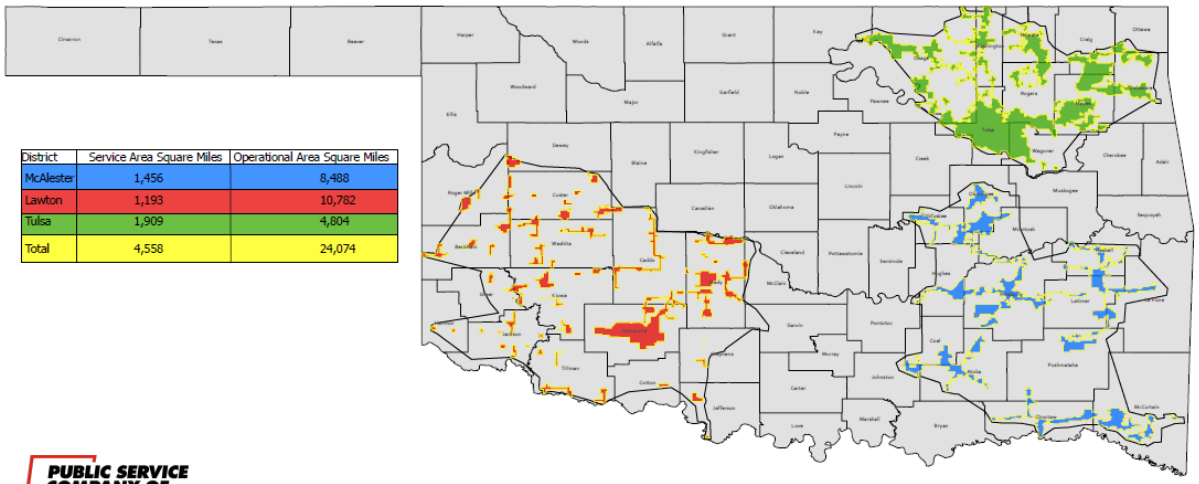
Cause No. PUD 202100055
EXHIBIT SFB-2

1.0 Service Territory Map

Rule Requirement (165:35-25-20(b)(6)):

Provide a map identifying service territory.

Public Service Company of Oklahoma
Operations Area
February 2021



District	Service Area Square Miles	Operational Area Square Miles
McAlester	1,456	8,488
Lawton	1,193	10,782
Tulsa	1,909	4,804
Total	4,558	24,074

PUBLIC SERVICE COMPANY OF OKLAHOMA
An AEP Company
BOUNDLESS ENERGY

2.0 Annual Vegetation Management Plan ("Plan")

Rule Requirement (165:35-25-20(b)(1)):

Provide a description of all vegetation management performed for the previous calendar year and planned for the current year.

Please See Appendix 1: "PSO 2021 Annual Vegetation Management Plan" for the annual vegetation management plan for 12 months ending December 2021 and Appendix 2: "PSO Vegetation Management Performance Summary Cycle 4" for results through December 2020 of PSO's fourth vegetation management cycle.

The following provides an explanation of the columns in Appendices 1 and 2:

- **District:** Identifies the Operating District within which the targeted circuit is located.
- **Station:** Identifies the Substation with which the targeted circuit is associated.
- **Location:** Identifies the general location of the substation associated with the targeted circuit.
- **Circuit Name:** Provides the PSO Circuit identification number.
- **Percent Complete:** This column indicates the percent of the total circuit miles for each circuit completed through December 2020.
- **Date Complete:** Included in Appendix 2 only, this column indicates the actual date the planned work for each circuit was completed.

Rule Requirements (165:35-25-15):

Provide the following components of PSO's Plan:

1. *Definitions of activities;*
2. *Calendar activities;*
3. *Implementation Plan;*
4. *Criteria to assess results of the Plan; and*
5. *Name and contact information of a company representative for the Plan*

Definitions of Activities:

- **Tree Clearing:** Removal of large maturing trees that may interfere with power lines, and pruning of trees in proximity to power lines to provide a minimum of four years clearance between the tree and the conductor.
- **Herbicide Application:** The use of safe, approved and effective materials to control undesirable vegetation that has the potential to interfere with overhead power lines.
- **Growth Regulation:** The application of safe, approved and effective materials to inhibit the rapid re-sprouting of trees after line clearance work has been performed. Tree growth regulators are proven to benefit the health of trees.
- **Circuit Clearing:** The removal and pruning of trees along an entire electrical circuit from the substation to the last span of overhead conductor.

- **Geographical Clearing:** The removal and pruning of trees within recognizable or defined boundaries. These areas will include at least one entire circuit, but will also encompass portions of other circuits.

Calendar Activities:

Each year's annual work plan is developed in the fourth quarter of the previous year. This plan is continually re-evaluated and adjusted as needed. Various factors may impact crew staffing and efficiency over the course of the calendar year. Tree trimming activities will take place over the course of the year and herbicide will be applied as needed to control vegetation. Herbicide applications will have a base level associated with tree trimming activities, but may grow, peak, and decline in some areas with the presence of foliage on the trees.

Implementation Plan:

PSO completed its third 4-year vegetation management cycle in May of 2018, and began its fourth in June of 2018.

PSO contracts with several companies to perform the majority of the vegetation management activities on its system. Prior to their arrival in an area, PSO notifies customers that vegetation management activities will be taking place. If a homeowners association represents an area, PSO will contact the association's president and offer to attend the association's next meeting, which the Company targets approximately six weeks prior to any vegetation management activities. Approximately five weeks prior to the target date, PSO notifies by letter customers who will be impacted. This letter includes the PSO forestry information telephone number in case the customer has any questions about the work to take place on their property.

Approximately ten days prior to the projected work start date, each customer is contacted by an automated phone call that provides an overview of the scope of work to be performed and the PSO Forestry Department contact information. In general, trees must be pruned to provide approximately 10 to 15 feet of clearance from the nearest power line, and all branches overhanging the power lines must be removed. Trees growing directly underneath or hazardously close to the power lines will be removed. Stumps and small seedlings/saplings will be treated to control re-sprouting and growth. Vines growing on poles will be cut at ground level and treated with an approved herbicide application.

Select trees that remain in close proximity to power lines may be candidates for treatment with growth regulators to slow their growth toward conductors. Growth regulators are used to help ensure clearance efforts result in trees remaining away from power lines at least until the next trimming cycle.

Once the circuits are cleared of tree interference, herbicides will be applied to prevent future encroachment. The initial application is done concurrently with the clearing operation, treating stumps to prevent re-sprouting. Small seedlings and saplings are also treated to prevent them from growing into power lines. The cleared circuit will be revisited between clearing cycles to treat any volunteer trees that may have taken root in the area where

vegetation management activities have occurred. Since birds, squirrels, and wind deposit seeds along lines that have been cleared, a diligent herbicide program is required to change the vegetation type along line rights-of-way to grasses and low vegetation.

In addition, PSO provides customers options for tree trimming and tree removal work. When PSO notifies a property owner that a particular tree on their property needs to be removed or significantly trimmed, the owner will have the option to hire a private tree maintenance contractor at their own expense. By using this option, arrangements can be worked out to allow for a more frequent trim of the trees.

PSO also has a Tree Voucher Program for homeowners with yards where a tree needs to be removed to maintain reliability of PSO's electrical system. The voucher can be used by the homeowner at participating tree nurseries for a discount on the purchase of a suitable replacement tree or other shrubbery.

Criteria to assess results of the Plan:

PSO completed its third 4-year cycle of vegetation management activities on its distribution system in May of 2018 and began working on the fourth in June of 2018. This cycle-based vegetation management program has successfully improved PSO's reliability since its inception. While tree-related outages still occur on PSO's system, their impact on overall service reliability is minimal.

Technical results are measured by crew visits and work inspections performed by foresters and arborists. It is important that proper pruning cuts are made on the trees which will remain near the power lines. Adequate clearance from conductors depends on tree species and environmental conditions. Professionals who monitor the tree work on a routine basis make those assessments.

Customer satisfaction results are measured by ongoing surveys, supplemented by the postage paid reply cards left in the neighborhoods where tree crews work. These cards solicit the opinions of customers directly affected by line clearance work. The response cards are left at locations where PSO tree crews have performed work, and provide a means for customers to grade the results, ask for follow-up contact, and/or receive tree care information from PSO. Each of these measures is important to assess the PSO Vegetation Management Plan results.

Name and contact information of a company representative for the Plan:

Primary Contact:
Jennifer Leber
Director – Reliability and Grid Modernization
Public Service Company of Oklahoma
212 East 6th Street
Tulsa, Oklahoma 74119
918-599-2513

Alternate Contact:
Steven Baker
Vice President – Distribution Region Operations
Public Service Company of Oklahoma
212 East 6th Street
Tulsa, Oklahoma 74119
918-599-2145

Additionally, each utility shall:

1. *At a minimum, perform vegetation management on a 4-year cycle or request an exemption; and*
2. *Track and record all costs associated with the Plan.*

Vegetation management 4-year cycle Plan:

See "Implementation Plan" section of this report for a description of PSO's 4-year cycle vegetation management plan.

Track and record all costs associated with the Plan:

PSO will track and record all costs associated with this Plan and will provide information to the Public Utility Division of the Oklahoma Corporation Commission upon request.

3.0 2018 Service Territory Reliability Performance

Rule Requirements (165:35-25-20(b)(2)(3)(4)); (165:35-25-20(d)):

1. *Provide the Company's service territory SAIDI, SAIFI and MAIFI (to the extent practicable);*
2. *Provide the Utility's defined Region/District/Area's SAIDI, SAIFI and MAIFI (to the extent practicable);*
3. *Provide detailed report on each major event excluded from Items 1 and 2; and*
4. *Provide progress toward attainment of additional technologies.*

Company and Operating Area Reliability Statistics:

Public Service Company of Oklahoma's Year 2020 Overall Reliability Indices							
Company	**Customers Served**	**Customers Interrupted**	**Customer-Minutes**	**SAIFI**	**SAIDI**	**CAIDI**	**MAIFI***
PSO	559,804	554,599	50,607,447	0.991	90.40	91.25	N/A

***Please see the discussion on MAIFI later in this section.**

Public Service Company of Oklahoma's Year 2020 Operating Area Reliability Indices							
District	**Service Area**	**Customers Served**	**Customers Interrupted**	**Customer-Minutes**	**SAIFI**	**SAIDI**	**CAIDI**
Lawton	Chickasha	21,835	44,885	4,877,844	2.056	223.4	108.7
Lawton	Clinton	6,334	8,534	831,239	1.347	131.2	97.4
Lawton	Duncan	5,081	5,563	498,201	1.095	98.1	89.6
Lawton	Elk City	11,252	15,556	1,701,309	1.383	151.2	109.4
Lawton	Hobart	6,008	12,698	1,009,953	2.114	168.1	79.5
Lawton	Lawton	44,849	27,491	3,030,516	0.613	67.6	110.2
Lawton	Tipton	4,347	7,206	528,438	1.658	121.6	73.3
Lawton	Weatherford	9,745	7,362	504,738	0.755	51.8	68.6
McAlester	Atoka	5,400	11,723	1,422,271	2.171	263.4	121.3
McAlester	Henryetta	5,204	3,328	215,171	0.640	41.3	64.7
McAlester	Hugo	6,815	8,758	1,450,997	1.285	212.9	165.7
McAlester	Idabel	8,856	9,192	1,157,676	1.038	130.7	125.9
McAlester	McAlester	17,726	39,531	3,763,877	2.230	212.3	95.2
McAlester	Okemah	3,074	2,208	244,925	0.718	79.7	110.9
McAlester	Okmulgee	7,945	8,197	861,335	1.032	108.4	105.1
McAlester	Stigler	3,597	5,324	288,560	1.480	80.2	54.2
McAlester	Wilburton	5,264	6,801	435,052	1.292	82.6	64.0
Tulsa	Bartlesville	24,611	20,842	1,990,091	0.847	80.9	95.5
Tulsa	Chouteau	8,891	12,441	1,158,349	1.399	130.3	93.1
Tulsa	Grove	9,587	22,530	1,750,239	2.350	182.6	77.7
Tulsa	Nowata	4,236	2,210	280,087	0.522	66.1	126.7
Tulsa	Tulsa Northeast	69,323	45,180	3,611,524	0.652	52.1	79.9
Tulsa	Tulsa Northwest	54,140	72,495	5,289,687	1.339	97.7	73.0
Tulsa	Tulsa Southeast	122,759	71,253	6,062,853	0.580	49.4	85.1
Tulsa	Tulsa Southwest	83,935	72,223	6,912,949	0.860	82.4	95.7
Tulsa	Vinita	8,990	11,068	729,566	1.231	81.2	65.9

Reliability indices are based on 12 months of system performance data for the 12 months ending December 2020 and exclude "Major Events" as defined by the Oklahoma Reliability Rules.

The table below shows PSO's 2019 reliability performance. PSO's SAIFI, SAIDI, and CAIDI performance was better in 2020 when compared to 2019 performance by 13.5%, 17.2%, and 4.3%, respectively.

Public Service Company of Oklahoma's Year 2019 Overall Reliability Indices						
Company	**Customers Served**	**Customers Interrupted**	**Customer-Minutes**	**SAIFI**	**SAIDI**	**CAIDI**
PSO	553,971	634,613	60,516,121	1.146	109.24	95.36

MAIFI:

PSO has suspended its reporting of momentary interruption information due to various recording and reporting challenges. The Commission can be reassured that this is not an indication that PSO is not concerned about the reliability of service that it provided to its customers in 2020. Momentary operations can often be a precursor to sustained outage events—which are captured in PSO's annual SAIFI measurements.

Detailed Report on Major Event(s) Excluded:

Affected Area	Start Date/ Time	End Date/ Time	Last Customer Restored	Approximate Period of 10% Customers Interrupted	Total Customers Affected	Percent Affected	Cause
Tulsa District	7/11/2020 18:00	7/13/2020 13:59	7/13/2020 19:30	7/11/2020 18:00 to 7/12/2020 9:00	41,208	10.7%	Thunderstorms/High Winds
Lawton District	10/26/2020 9:00	10/31/2020 14:00	11/2/2020 14:01	10/26/2020 9:00 to 10/26/2020 18:00	122,049	111.5%	Ice Storm
Stigler OMS Area	10/26/2020 19:00	10/27/2020 21:00	10/27/2020 21:04	10/26/2020 19:00 to 10/26/2020 20:00	3,585	99.7%	Equipment Failure

"Percent Affected" values can be greater than 100% because customers can experience multiple sustained interruptions throughout the storm period.

Some customers that had electric service before a major event are incapable of receiving service at the end of the event. Examples would be homes destroyed by tornados or homes that have had the service point of attachment stripped from the house and an electrician's work is required before PSO can restore service. The indicated "End Date/Time" is the time when fewer than 100 customers affected by the event, and that are able to receive electric service, remain without power. All interruption records that begin between the "Start Date/Time" and the "End Date/Time" are coded as occurring during the major event. The "Last Customer Restored" indicates the Date/Time that the last customer capable of receiving service is restored.

Other Significant Events:

During 2020, there were no storm events that had a notable impact to SAIDI, but did not meet the major weather event exclusion criteria.

Comparison of 2020 Performance to Base and Minimum Performance Levels:

The following compares PSO's 2020 year-end reliability performance to PSO's base and minimum performance levels:

	SAIFI	SAIDI
Base Performance Level*	1.162	113.41
Minimum Performance Level*	1.220	119.33
PSO 2020 Year-End Performance	0.991	90.40

* The PSO base performance levels are the averages of the reliability indices plus one standard deviation on the annual values for the five years 2015 – 2019. The minimum performance levels are the averages plus two standard deviations from those five years.

For 2020, both PSO's SAIDI and SAIFI were better than the minimum performance level and the base performance level.

Calculation of Base and Minimum Performance Levels for the Five Years Beginning 2020:

OAC 165:35-25-18(b) states that new performance levels for SAIDI and SAIFI will be recomputed every fifth year following adoption of the rule. PSO calculated the base performance levels for the current five-year period in the 2020 Rule 35 filing for years 2020-2024. PSO will recalculate the base and minimum performance base levels again in 2024 for the five-year period beginning in 2025.

Attainment of Additional Technologies:

PSO does not need new technologies to provide the information required for this Chapter 35 report. PSO will continue to evaluate cost effective measures that become available to measure MAIFI.

4.0 Individual Circuit Report

Rule Requirements (165:35-25-19&20(b)(5)):

Establish a 5% Worst Performing Circuit List based on circuit SAIDI and SAIFI (and to the extent practicable MAIFI). Provide a description of the program for improving these circuits. Summarize results for the reporting year.

Worst Performing Circuit Plan:

PSO's 5% Worst Performing Circuit List was developed by sorting all PSO distribution circuits by 2020 SAIDI performance. SAIFI has influence in this ranking since SAIDI = SAIFI x CAIDI.

A patrol will be conducted to identify equipment that needs to be replaced such as cross-arms, transformers, insulators, guy wire, etc. Animal guards and lightning protection will be installed on an as needed basis to mitigate animal and lightning related outages.

Provided below are two tables. Table 1 is the PSO "Year 2020 5% Worst Performing Circuit List (of 787 Total Circuits)", ranked by SAIDI and excluding major events. This table lists the 39 circuits (serving 10 customers or more) with the highest measured SAIDI. Table 2 is PSO's "Performance Improvement on Year 2019 5% Worst Performing Circuits" list, ranked by SAIDI and excluding major events. The summary of results in Table 2 includes targeted reliability improvement for each of the circuits, percent of reliability activity completed on each circuit, and subsequent circuit SAIDI and SAIFI performance.

Table 1: Year 2020 5% Worst Performing Circuit List (of 787 Total Circuits)

Ranked by SAIDI - Excluding Major Events
This Table Shows the 39 Highest SAIDIs of Circuits Serving 10 or More Customers

Circuit ID	Station Name	District	Customers Served	Customers Interrupted	Customer-Minutes	SAIDI	SAIFI
95SW-12	Southwestern Power Station	Lawton	574	2515	708617	1234.52	4.382
9583431	Craig Junction	McAlester	214	282	233177	1089.61	1.318
95ZC-1	Coweta Junction	Tulsa	343	2008	320126	933.31	5.854
95SC-01	Strong City	Lawton	35	139	28072	802.06	3.971
9518831	Lane	McAlester	409	1176	313103	765.53	2.875
9576731	Heritage Trail	Tulsa	149	863	111631	749.20	5.792
95ZL-2	Wekiwa	Tulsa	698	3815	516898	740.54	5.466
95CH-02	Cheyenne	Lawton	319	1033	231158	724.63	3.238
95DC-01	Dill City	Lawton	288	2346	205240	712.64	8.146
9586032	Allen 138	McAlester	524	1144	365431	697.39	2.183
95CH-11	Cheyenne (34/13kV Stepdown)	Lawton	55	172	38310	696.55	3.127
95EM-11	Elmer Junction	Lawton	100	401	69514	695.14	4.010
9509931	Fort Towson	McAlester	583	1597	403374	691.89	2.739
95EJ-15	Elgin Junction	Lawton	1722	7591	1120429	650.66	4.408
9533306	Clinton City	Lawton	29	224	18760	646.90	7.724
9576733	Heritage Trail	Tulsa	29	122	17319	597.21	4.207
95CU-01	Custer City	Lawton	255	1980	152028	596.19	7.765
95ZL-1	Wekiwa	Tulsa	1134	4763	675034	595.27	4.200
95GF-11	Grandfield	Lawton	602	1892	355608	590.71	3.143
9521852	Lehigh	McAlester	821	3334	464672	565.98	4.061
9570852	McAlester Industrial	McAlester	353	451	196531	556.75	1.278
95ZC-2	Coweta Junction	Tulsa	1188	3603	650583	547.63	3.033
9517731	Darby	Tulsa	253	898	138498	547.42	3.549
95BT-01	Butler	Lawton	187	560	94528	505.50	2.995
95NR-11	Norge Road	Lawton	1769	5600	883082	499.20	3.166
9533304	Waurika	Lawton	21	33	10413	495.86	1.571
9585331	Barnsdall Tap	Tulsa	376	892	183004	486.71	2.372
9519631	Pittsburg 69kV	McAlester	692	2495	335305	484.54	3.605
95CH-01	Cheyenne	Lawton	255	640	118304	463.94	2.510
9585651	Lone Oak	McAlester	525	1746	234339	446.36	3.326
95CO-11	Corn Colony	Lawton	519	2157	222445	428.60	4.156
9583832	Hugo	McAlester	1016	1386	434911	428.06	1.364
95DD-11	Davidson	Lawton	200	829	83889	419.45	4.145
9507531	Atoka Caney	McAlester	206	1049	86197	418.43	5.092
9516335	Shidler	Tulsa	28	88	11610	414.64	3.143
9533301	Altus Junction	Lawton	19	69	7877	414.58	3.632
95TL-11	Terral	Lawton	246	263	100924	410.26	1.069
95DD-15	Davidson	Lawton	43	145	17579	408.81	3.372
95XH-4	116th And Peoria	Tulsa	1102	3414	449408	407.81	3.098

Table 2: Performance Improvement on Year 2019 5% Worst Performing Circuits								
Circuit ID	**Station Name**	**District**	**Y2019 SAIDI**	**Y2019 SAIFI**	**Y2020 SAIDI**	**Y2020 SAIFI**	**% Comp-lete***	**Comments/Maintenance Summary**
9533304	Waurika	Lawton	1874.50	2.09	495.86	1.57	100%	Maintenance activities complete, with an approximate 74% improvement to SAIDI and 25% improvement to SAIFI.
95TL-11	Terral	Lawton	1787.00	2.04	410.26	1.07	100%	Maintenance activities complete, with an approximate 77% improvement to SAIDI and 48% improvement to SAIFI.
95NW-03	Duncan Northwest	Lawton	1678.21	14.71			100%	Facilities serving customers on circuit 95NW-03 have been retired. All customers formerly served by 95NW-03 are now served by an adjacent 13 kV circuit.
95CS-15	Clinton Sherman AFB	Lawton	1593.02	6.78	47.66	1.06	100%	Maintenance activities complete, with an approximate 97% improvement to SAIDI and 84% improvement to SAIFI.
9507433	Okemah	McAlester	1246.40	4.55	182.11	1.16	100%	Maintenance activities complete, with an approximate 85% improvement to SAIDI and 75% improvement to SAIFI.
95CL-11	Clinton City	Lawton	1196.15	5.16	131.91	1.19	100%	Maintenance activities complete, with an approximate 89% improvement to SAIDI and 77% improvement to SAIFI.
9516335	Shidler	Tulsa	1123.13	6.03	414.64	3.14	100%	Maintenance activities complete, with an approximate 63% improvement to SAIDI and 48% improvement to SAIFI.
9582633	Chouteau	Tulsa	1099.15	8.13	133.84	2.27	100%	Maintenance activities complete, with an approximate 88% improvement to SAIDI and 72% improvement to SAIFI.
9509931	Fort Towson	McAlester	1019.21	1.45	691.89	2.74	100%	Maintenance activities complete, with an approximate 32% improvement to SAIDI. SAIFI worsened primarily due to weather related outages in April and May prior to maintenance activities being completed and an equipment failure in August that has been repaired.
9507432	Okemah	McAlester	948.55	3.90	18.68	0.25	100%	Maintenance activities complete, with an approximate 98% improvement to SAIDI and 94% improvement to SAIFI.
9507431	Okemah	McAlester	890.32	3.31	23.64	0.26	100%	Maintenance activities complete, with an approximate 97% improvement to SAIDI and 92% improvement to SAIFI.

Table 2: Performance Improvement on Year 2019 5% Worst Performing Circuits								
Circuit ID	**Station Name**	**District**	**Y2010 SAIDI**	**Y2019 SAIFI**	**Y2020 SAIDI**	**Y2020 SAIFI**	**% Comp-lete***	**Comments/Maintenance Summary**
95NW-01	Duncan Northwest	Lawton	875.27	3.89			100%	Facilities serving customers on circuit 95NW-01 have been retired. All customers formerly served by 95NW-01 are now served by an adjacent 13 kV circuit.
95CS-11	Clinton Sherman AFB	Lawton	786.87	4.20	190.23	1.36	100%	Maintenance activities complete, with an approximate 76% improvement to SAIDI and 68% improvement to SAIFI.
9576733	Heritage Trail	Tulsa	781.00	5.85	597.21	4.21	100%	Maintenance activities complete, with an approximate 24% improvement to SAIDI and 28% improvement to SAIFI.
95CS-19	Clinton Sherman AFB	Lawton	779.60	4.17	54.52	0.48	100%	Maintenance activities complete, with an approximate 93% improvement to SAIDI and 88% improvement to SAIFI.
95DB-01	Duncan Bois d`Arc	Lawton	777.92	3.43	1.50	0.02	100%	Maintenance activities complete, with an approximate 99% improvement to SAIDI and 99% improvement to SAIFI.
95CO-11	Corn Colony	Lawton	760.19	7.86	428.60	4.16	100%	Maintenance activities complete, with an approximate 44% improvement to SAIDI and 47% improvement to SAIFI.
9583031	Weleetka Power Station	McAlester	663.22	5.69	228.22	1.94	100%	Maintenance activities complete, with an approximate 66% improvement to SAIDI and 66% improvement to SAIFI.
95WK-09	Waurika	Lawton	657.87	5.10	1.03	0.01	100%	Maintenance activities complete, with an approximate 99% improvement to SAIDI and 99% improvement to SAIFI.
95GF-11	Grandfield	Lawton	641.94	3.09	590.71	3.14	100%	Maintenance activities complete, with an approximate 8% improvement to SAIDI. SAIFI worsened primarily due to a weather related outage in April prior to maintenance activities being completed. There were two additional outages due to outages on the source circuit in June and July. Additional targeted maintenance on the source circuit was completed in October 2020.
95ER-11	Erick	Lawton	640.76	5.40	24.85	0.24	100%	Maintenance activities complete, with an approximate 96% improvement to SAIDI and 95% improvement to SAIFI.

Table 2: Performance Improvement on Year 2019 5% Worst Performing Circuits								
Circuit ID	**Station Name**	**District**	**Y2019 SAIDI**	**Y2019 SAIFI**	**Y220S AIDI**	**Y2020 SAIFI**	**% Comp -lete***	**Comments/Maintenance Summary**
953601	Highland	Tulsa	621.22	2.03	0.39	0.01	100%	Maintenance activities complete, with an approximate 99% improvement to SAIDI and 99% improvement to SAIFI.
95ZY-1	Cherokee Ind Park	Tulsa	593.00	2.50	0.00	0.00	100%	Maintenance activities complete, with an approximate 100% improvement to SAIDI and 100% improvement to SAIFI.
95CU-01	Custer City	Lawton	581.61	7.01	596.19	7.76	100%	Maintenance activities complete, SAIDI and SAIFI both worsened primarily due to weather related outages to the source circuits.
95WB-01	Willow Brinkman	Lawton	558.49	5.06	371.57	2.23	100%	Maintenance activities complete, with an approximate 33% improvement to SAIDI and 56% improvement to SAIFI.
95U-2	North Mingo	Tulsa	532.73	3.10	134.81	1.00	100%	Maintenance activities complete, with an approximate 75% improvement to SAIDI and 68% improvement to SAIFI.
9533306	Clinton City	Lawton	529.64	6.39	646.90	7.72	100%	Maintenance activities complete. SAIDI and SAIFI both worsened primarily due to high winds during a construction project. Construction was completed in December of 2020.
953602	Highland	Tulsa	525.91	1.88	45.20	1.03	100%	Maintenance activities complete, with an approximate 91% improvement to SAIDI and 45% improvement to SAIFI.
9586531	Pryor Junction	Tulsa	524.73	5.66	110.55	1.41	100%	Maintenance activities complete, with an approximate 79% improvement to SAIDI and 75% improvement to SAIFI.
95CV-19	Cornville	Lawton	518.51	4.65	49.44	1.22	100%	Maintenance activities complete, with an approximate 90% improvement to SAIDI and 74% improvement to SAIFI.
95CR-01	Carter	Lawton	512.46	5.03	190.10	1.41	100%	Maintenance activities complete, with an approximate 63% improvement to SAIDI and 72% improvement to SAIFI.

Table 2: Performance Improvement on Year 2019 5% Worst Performing Circuits								
Circuit ID	**Station Name**	**District**	**Y2019 SAIDI**	**Y2019 SAIFI**	**Y2020 SAIDI**	**Y2020 SAIFI**	**% Comp-lete***	**Comments/Maintenance Summary**
9528231	Sawyer	McAlester	511.93	3.28	29.59	0.13	100%	Maintenance activities complete, with an approximate 94% improvement to SAIDI and 96% improvement to SAIFI.
9586431	Northeast Power Station 138	Tulsa	508.74	6.71	165.74	0.90	100%	Maintenance activities complete, with an approximate 67% improvement to SAIDI and 87% improvement to SAIFI.
95D-9	Tulsa Southeast	Tulsa	506.07	3.22	86.45	0.57	100%	Maintenance activities complete, with an approximate 83% improvement to SAIDI and 82% improvement to SAIFI.
9507531	Atoka Caney	McAlester	505.55	2.00	418.43	5.09	100%	Maintenance activities complete, with an approximate 17% improvement to SAIDI. SAIFI worsened due to a weather related outage in May, an outage caused by another utility, and an equipment failure that occurred prior to maintenance activities being completed on this circuit.
9532432	Dewey Bluestem	Tulsa	496.97	4.03	10.49	0.11	100%	Maintenance activities complete, with an approximate 98% improvement to SAIDI and 97% improvement to SAIFI.
9521852	Lehigh	McAlester	482.60	3.58	565.98	4.06	100%	Maintenance activities complete. SAIDI and SAIFI both worsened primarily due to weather related outages in April and May prior to maintenance being completed. There was one additional piece of major equipment that failed in September that could not be identified as a result of the patrol. The equipment has since been repaired.
9536532	Inola	Tulsa	482.31	3.58	28.44	0.28	100%	Maintenance activities complete, with an approximate 94% improvement to SAIDI and 92% improvement to SAIFI.
95PH-15	Porter Hill	Lawton	475.90	3.84	21.63	0.29	100%	Maintenance activities complete, with an approximate 95% improvement to SAIDI and 92% improvement to SAIFI.

* % complete represents the total percentage of planned 2020 maintenance activities completed. Planned maintenance activities include both distribution line maintenance and vegetation management.

The aggregate SAIFI and SAIDI performance improvement of the Y2019 Worst Performing Circuits was 68.4% and 76.1%, respectively.

Aggregated Indices of Year 2019 Worst Performing Circuits		
Year	**SAIFI**	**SAIDI**
2019	4.635	734.55
2020	1.463	175.50
% Improvement	68.4%	76.1%

Appendix 1
PSO 2021 Annual Vegetation Management Plan

District	Station	Location	Circuit Name	Percent Complete
First Quarter Plan				
Lawton	BINGER 69	BINGER	BG-11	
Lawton	CARNEGIE SOUTH	HWY 58 & 1350 RD	CG-11	
Lawton	CLINTON CITY	CLINTON	CL-13	
Lawton	HINTON	HINTON	HN-11	
Lawton	HOBART CITY	HOBART	HO-17	
Lawton	53 & CACHE ROAD	53 & CACHE ROAD	LC-15	
Lawton	LAWTON GORE	N RAILROAD & GORE	LG-19	
Lawton	MARTHA SUB	HWY 283 & E 1585 RD	MA-11	
Lawton	PORTER HILL	PORTER HILL	PH-11	
Lawton	TUTTLE	TUTTLE	TU-11	
McAlester	OKMULGEE CITY	OKMULGEE	05836	
McAlester	ANTLERS	ANTLERS	09332	
McAlester	IDABEL	IDABEL	09531	
McAlester	IDABEL	IDABEL	09532	
McAlester	WILBURTON	WILBURTON	14532	
Tulsa	KNOXVILLE	PINE & KNOXVILLE	1101	
Tulsa	RED FORK	RED FORK	1801	
Tulsa	NORTH HARVARD & 34TH	NORTH HARVARD & 34TH	2902	
Tulsa	WHITE CITY	8TH & YALE	3502	
Tulsa	TPS	W 36TH & ELWOOD	A-13	
Tulsa	DAWSON	PINE & MINGO	E-1	
Tulsa	DAWSON	PINE & MINGO	E-3	
Tulsa	MOHAWK PUMP STATION	41ST ST NO & LOUISVILLE	F-1	
Tulsa	MOHAWK PUMP STATION	41ST ST NO & LOUISVILLE	F-3	
Tulsa	SAND SPRINGS 138	SAND SPRINGS	K-8	
Tulsa	NORTH MINGO	30TH ST NO & MINGO	U-6	
Tulsa	NORTH MINGO	30TH ST NO & MINGO	U-7	
Tulsa	61ST & 89TH	61ST & 89TH	W-2	
Tulsa	KENOSHA	4TH & LANSING	XA-2	
Tulsa	81ST & GARNETT	81ST & GARNETT	XB-5	
Tulsa	SOUTH HUDSON	51ST & HUDSON	Y-6	
Tulsa	46TH ST. NORTH	46TH STREET NORTH & ROCKFORD	ZD-4	
Tulsa	FORD GLASS	56TH & 129TH E AVE	ZF-6	
Tulsa	BROKEN ARROW 101ST	101ST S & ASPEN	ZJ-5	
Tulsa	MINGO	36TH & MINGO	ZK-5	
Tulsa	77TH & MEMORIAL	77TH & MEMORIAL	ZM-6	
Tulsa	OWASSO	86TH ST NO & GARNETT	ZN-2	
Tulsa	OWASSO	86TH ST NO & GARNETT	ZN-4	
Tulsa	OWASSO	86TH ST NO & GARNETT	ZN-5	
Tulsa	52ND & DELAWARE	52ND & DELAWARE	ZP-2	
Tulsa	52ND & DELAWARE	52ND & DELAWARE	ZP-3	

Appendix 1
PSO 2021 Annual Vegetation Management Plan

District	Station	Location	Circuit Name	Percent Complete
Tulsa	52ND & DELAWARE	52ND & DELAWARE	ZP-5	
Tulsa	ONETA 138	HWY 51 & ONETA RD	ZQ-3	
Tulsa	ORAL ROBERTS UNIVERSITY	81ST & DELAWARE	ZR-6	
Tulsa	ORAL ROBERTS UNIVERSITY	81ST & DELAWARE	ZR-7	
Tulsa	BROKEN ARROW 81ST	81ST & ASPEN	ZV-6	
Tulsa	BIXBY 111TH	111TH SO & MEMORIAL	ZX-2	
Tulsa	BIXBY 111TH	111TH SO & MEMORIAL	ZX-5	
Tulsa	CHEROKEE IND PARK	CHEROKEE IND PARK	ZY-4	
Tulsa Rural	BARTLESVILLE COMANCHE	N COMANCHE & FRANK PHILLIPS	15531	
Tulsa Rural	BARTLESVILLE COMANCHE	N COMANCHE & FRANK PHILLIPS	15535	
Tulsa Rural	BARTLESVILLE COMANCHE	N COMANCHE & FRANK PHILLIPS	15537	
Tulsa Rural	VINITA	VINITA	82831	
Tulsa Rural	PRYOR JUNCTION	PRYOR	86531	55%
Second Quarter Plan				
Lawton	CHICKASHA NORTH 29TH ST	CHICKASHA	CN-11	
Lawton	CHICKASHA NORTH 29TH ST	CHICKASHA	CN-14	
Lawton	CUSTER CITY	CUSTER CITY	CU-01	
Lawton	CYRIL	CYRIL	CY-11	
Lawton	LAWTON DISPOSAL PLANT	SE TINNEY RD & SE 15TH ST	LD-11	
Lawton	SOUTHWESTERN POWER	E 1320 Rd & N2605 Rd	SW-12	
Lawton	SAYRE	SAYRE	SY-11	
McAlester	WRIGHT CITY	WRIGHT CITY	30531	
McAlester	MCALESTER INDUSTRIAL	MCALESTER INDUSTRIAL	70852	
McAlester	MCALESTER INDUSTRIAL	MCALESTER INDUSTRIAL	70854	
McAlester	MCALESTER CITY	N 6TH & E LINCOLN	80303	
McAlester	MCALESTER CITY	N 6TH & E LINCOLN	80352	
McAlester	VALLIANT 345	N4490 & 2089 RD	81531	
Tulsa	YALE & ARCHER	YALE & ARCHER	701	
Tulsa	YALE & ARCHER	YALE & ARCHER	703	
Tulsa	MARY FRANCIS	21ST & SHERIDAN	2402	
Tulsa	TPS	W 36TH & ELWOOD	A-10	
Tulsa	TPS	W 36TH & ELWOOD	A-5	
Tulsa	TPS	W 36TH & ELWOOD	A-8	
Tulsa	1ST & DENVER	1ST & DENVER	B-1	
Tulsa	1ST & DENVER	1ST & DENVER	B-5	
Tulsa	BROKEN ARROW 71ST	71ST ST S & 241ST E	BA-1	
Tulsa	BROKEN ARROW 71ST	71ST ST S & 241ST E	BA-7	
Tulsa	DAWSON	PINE & MINGO	E-5	
Tulsa	SAND SPRINGS 138	SAND SPRINGS	K-1	
Tulsa	SAND SPRINGS 138	SAND SPRINGS	K-6	
Tulsa	21ST & 89TH EAST AVE	21ST & 89TH EAST AVE	Q-5	
Tulsa	SOUTH HUDSON	51ST & HUDSON	Y-2	
Tulsa	CARSON	11TH & CARSON	ZA-2	

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District	Station	Location	Circuit Name	Percent Complete
Tulsa	CARSON	11TH & CARSON	ZA-6	
Tulsa	46TH ST. NORTH	46TH STREET NORTH & ROCKFORD	ZD-1	
Tulsa	46TH ST. NORTH	46TH STREET NORTH & ROCKFORD	ZD-2	
Tulsa	OAKS 138	W 61ST SO & 44TH W AVE	ZE-2	
Tulsa	OAKS 138	W 61ST SO & 44TH W AVE	ZE-5	
Tulsa	FORD GLASS	56TH & 129TH E AVE	ZF-5	
Tulsa	BROKEN ARROW 101ST	101ST S & ASPEN	ZJ-6	
Tulsa	ONETA 138	HWY 51 & ONETA RD	ZQ-1	
Tulsa	PORT OF CATOOSA	PORT OF CATOOSA	ZW-3	
Tulsa Rural	BARTLESVILLE COMANCHE	N COMANCHE & FRANK PHILLIPS	15538	
Tulsa Rural	CHELSEA	CHELSEA	15732	
Tulsa Rural	BLAKE STATION	DEWEY	24131	
Third Quarter Plan				
Lawton	CLINTON CITY	CLINTON	CL-14	
Lawton	CORNVILLE	CORNVILLE	CV-113	
Lawton	DAVIDSON	DAVIDSON	DD-11	
Lawton	DAVIDSON	DAVIDSON	DD-15	
Lawton	DUNCAN 138	13TH & CHEROKEE	DS-13	
Lawton	HUMPHREYS	E CR 1696 & S CR 2095	HP-11	
Lawton	LAWTON SHERIDAN ROAD	NW SHERIDAN & NW KINGSBURY	LS-10	
Lawton	LAWTON SHERIDAN ROAD	NW SHERIDAN & NW KINGSBURY	LS-16	
Lawton	PORTER HILL	PORTER HILL	PH-15	
Lawton	ROCKY JUNCTION	HWY 183 & E 1290 RD	RJ-01	
Lawton	THOMAS	THOMAS	TH-11	
McAlester	HENRYETTA	HENRYETTA	06931	
McAlester	LEQUIRE	LEQUIRE	19232	
McAlester	STUART	STUART	20531	
McAlester	HUGO	HUGO	83831	
Tulsa	MAPLEWOOD & DRIVE	PINE & MAPLEWOOD	1404	
Tulsa	RIVERVIEW	56TH & QUINCY	1702	
Tulsa	RED FORK	RED FORK	1802	
Tulsa	BLOOMFIELD	E KING & N MEMORIAL	2201	
Tulsa	VILLA GROVE	51ST & HARVARD	2301	
Tulsa	APACHE	26TH PLACE NORTH & BOSTON	3201	
Tulsa	HIGHLAND	31ST & JOPLIN	3601	
Tulsa	HIGHLAND	31ST & JOPLIN	3602	
Tulsa	BROKEN ARROW WATER PLANT	S 53RD E AVE & S 360TH E AVE	BAW-1	
Tulsa	DAWSON	PINE & MINGO	E-7	
Tulsa	ZUNIS	12TH & ZUNIS	G-6	
Tulsa	SOUTHERN HILLS	65TH & LEWIS	T-8	

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District	Station	Location	Circuit Name	Percent Complete
Tulsa	53RD & GARNETT	53RD & GARNETT	XD-1	
Tulsa	53RD & GARNETT	53RD & GARNETT	XD-2	
Tulsa	53RD & GARNETT	53RD & GARNETT	XD-3	
Tulsa	53RD & GARNETT	53RD & GARNETT	XD-5	
Tulsa	53RD & GARNETT	53RD & GARNETT	XD-6	
Tulsa	53RD & GARNETT	53RD & GARNETT	XD-7	
Tulsa	116TH & PEORIA	116th & PEORIA	XH-3	
Tulsa	77TH & MEMORIAL	77TH & MEMORIAL	ZM-3	
Tulsa	77TH & MEMORIAL	77TH & MEMORIAL	ZM-5	
Tulsa	OWASSO	86TH ST NO & GARNETT	ZN-1	
Tulsa	OWASSO	86TH ST NO & GARNETT	ZN-3	
Tulsa	52ND & DELAWARE	52ND & DELAWARE	ZP-6	
Tulsa Rural	5TH STREET	W 5TH & SUNSET, BARTLESVILLE	25801	
Tulsa Rural	JOHNSTONE	E HENSLEY & JOHNSTONE, BARTLESVILLE	31301	
Tulsa Rural	GROVE	GROVE	85931	
Tulsa Rural	GROVE	GROVE	85932	
Tulsa Rural	GROVE	GROVE	85933	
Fourth Quarter Plan				
Lawton	ALEX BRADLEY	E4190 & CHITWOOD	AX-11	
Lawton	FALCON ROAD	W 7TH ST & FALCON DR	FR-13	
Lawton	LAWTON GORE	N RAILROAD & GORE	LG-11	
Lawton	LAWTON GORE	N RAILROAD & GORE	LG-16	
Lawton	MOOREWOOD	HWY 34 & E 880 RD, CLINTON DOCK	MW-11	
Lawton	LINDSAY WATER FLOOD	PURDY OIL FIELD	PD-11	
Lawton	LAWTON WOLF CREEK	SW LEE & WOLF CREEK	WC-11	
Lawton	WEATHERFORD	BRADLEY & CLARK	WF-15	
Lawton	WEATHERFORD JUNCTION	BRADLEY & CLARK	WJ-19	
McAlester	IDABEL	IDABEL	09533	
McAlester	STIGLER	STIGLER	14331	
McAlester	GEORGIA PACIFIC	GEORGIA PACIFIC	66931	
McAlester	ALLEN	ALLEN	86031	
Tulsa	MAPLEWOOD & DRIVE	PINE & MAPLEWOOD	1402	
Tulsa	1ST & PEORIA	1ST & PEORIA	1505	
Tulsa	MARY FRANCIS	21ST & SHERIDAN	2401	
Tulsa	ZUNIS	HASKELL & ZUNIS	3402	
Tulsa	TPS	W 36TH & ELWOOD	A-1	
Tulsa	TPS	W 36TH & ELWOOD	AU-4	
Tulsa	DAWSON	PINE & MINGO	E-2	
Tulsa	DAWSON	PINE & MINGO	E-8	
Tulsa	SAND SPRINGS 138	SAND SPRINGS	K-4	
Tulsa	OWASSO 88TH & MINGO	88TH ST NO & MINGO	OW-1	

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District	Station	Location	Circuit Name	Percent Complete
Tulsa	OWASSO 88TH & MINGO	88TH ST NO & MINGO	OW-3	
Tulsa	21ST & 89TH EAST AVE	21ST & 89TH EAST AVE	Q-7	
Tulsa	FULTON	15TH & FULTON	V-8	
Tulsa	KENOSHA	4TH & LANSING	XA-4	
Tulsa	MAYO ROAD	36TH & 129TH E AVE	ZB-1	
Tulsa	OAKS 138	W 61ST SO & 44TH W AVE	ZE-3	
Tulsa	PRATTVILLE	PRATTVILLE	ZH-1	
Tulsa	ONETA 138	HWY 51 & ONETA RD	ZQ-6	
Tulsa	BROKEN ARROW 81ST	81ST & ASPEN	ZV-3	
Tulsa Rural	VINITA	VINITA	82832	
Tulsa Rural	VINITA	VINITA	82833	
Tulsa Rural	VINITA JUNCTION	E 240 RD & S 240 RD	87731	
Tulsa Rural	VINITA JUNCTION	E 240 RD & S 240 RD	87733	

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District	Station	Location	Circuit Name	Percent Complete	Date Complete
Tulsa	81ST & YALE	81ST & YALE	P-8	100%	7/2/2018
Tulsa	96TH & YALE	96TH & YALE	XE-1	100%	3/12/2020
Tulsa	96TH & YALE	96TH & YALE	XE-2	100%	6/25/2020
Tulsa	96TH & YALE	96TH & YALE	XE-3	100%	12/29/2020
Tulsa	96TH & YALE	96TH & YALE	XE-4	100%	12/13/2019
Tulsa	96TH & YALE	96TH & YALE	XE-5	100%	11/14/2019
Tulsa	96TH & YALE	96TH & YALE	XE-6	100%	3/12/2020
Tulsa	BELLAIRE	45TH & PEORIA	3702	100%	3/18/2020
Tulsa	BIXBY 111TH	111TH SO & MEMORIAL	ZX-1	100%	7/6/5050
Tulsa	BIXBY 111TH	111TH SO & MEMORIAL	ZX-3	100%	4/3/2020
Tulsa	BIXBY 111TH	111TH SO & MEMORIAL	ZX-4	100%	4/3/2020
Tulsa	BIXBY 111TH	111TH SO & MEMORIAL	ZX-6	100%	5/6/2020
Tulsa	BROKEN ARROW 101ST	101ST SO & ASPEN	ZJ-1	100%	3/30/2020
Tulsa	BROKEN ARROW 101ST	101ST SO & ASPEN	ZJ-2	100%	2/17/2020
Tulsa	BROKEN ARROW 101ST	101ST SO & ASPEN	ZJ-3	100%	4/27/2020
Tulsa	BROKEN ARROW 101ST	101ST SO & ASPEN	ZJ-4	100%	3/27/2020
Tulsa	BROKEN ARROW 101ST	101ST SO & ASPEN	ZJ-7	100%	7/1/2019
Tulsa	BROKEN ARROW 101ST	101ST SO & ASPEN	ZJ-8	100%	1/29/2019
Tulsa	BROKEN ARROW 81ST	81ST & ASPEN	ZV-1	100%	6/22/2020
Tulsa	BROKEN ARROW 81ST	81ST & ASPEN	ZV-2	100%	6/26/2020
Tulsa	BROKEN ARROW 81ST	81ST & ASPEN	ZV-4	100%	4/20/2020
Tulsa	BROKEN ARROW 81ST	81ST & ASPEN	ZV-5	100%	4/27/2020
Tulsa	BROKEN ARROW NORTH	61ST & LYNN LANE	L-1	100%	8/19/2019
Tulsa	BROKEN ARROW NORTH	61ST & LYNN LANE	L-2	100%	5/3/2019
Tulsa	BROKEN ARROW NORTH	61ST & LYNN LANE	L-3	100%	6/21/2019
Tulsa	BROKEN ARROW NORTH	61ST & LYNN LANE	L-4	100%	4/8/2019
Tulsa	BROKEN ARROW NORTH	61ST & LYNN LANE	L-5	100%	8/19/2019
Tulsa	BROKEN ARROW NORTH	61ST & LYNN LANE	L-6	100%	12/31/2018
Tulsa	BROKEN ARROW NORTH	61ST & LYNN LANE	L-7	100%	7/6/2018
Tulsa	BROKEN ARROW NORTH	61ST & LYNN LANE	L-8	100%	10/19/2018
Tulsa	CATOOSA	193RD & PINE	O-1	100%	3/23/2020
Tulsa	CATOOSA	193RD & PINE	O-2	100%	12/18/2019
Tulsa	CATOOSA	193RD & PINE	O-3	100%	11/8/2019
Tulsa	CHEROKEE IND PARK	CHEROKEE IND PARK	ZY-1	100%	11/23/2020
Tulsa	CHEROKEE IND PARK	CHEROKEE IND PARK	ZY-2	100%	11/23/2020
Tulsa	CHEROKEE IND PARK	CHEROKEE IND PARK	ZY-3	100%	4/24/2020
Tulsa	COLLEGE	4TH & INDIANAPOLIS	2501	100%	11/17/2020
Tulsa	COLLEGE	4TH & INDIANAPOLIS	2502	100%	11/17/2020
Tulsa	COWETA JUNCTION	COWETA	ZC-2	100%	10/17/2019
Tulsa	DAWSON	PINE & MINGO	E-6	100%	3/20/2019
Tulsa	EAST 121ST STREET	121ST ST S & 116TH E	XK-1	100%	5/29/2019
Tulsa	EAST 121ST STREET	121ST ST S & 116TH E	XK-3	100%	12/27/2019
Tulsa	EAST 121ST STREET	121ST ST S & 116TH E	XK-5	100%	5/29/2019

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District	Station	Location	Circuit Name	Percent Complete	Date Complete
Tulsa	FAIRGROUNDS	TULSA FAIRGROUNDS	801	100%	10/31/2018
Tulsa	FAIRGROUNDS	TULSA FAIRGROUNDS	802	100%	11/12/2018
Tulsa	FAIRGROUNDS	TULSA FAIRGROUNDS	804	100%	6/4/2019
Tulsa	FAIRGROUNDS	TULSA FAIRGROUNDS	805	100%	12/12/2018
Tulsa	FULTON	15TH & FULTON	V-1	100%	3/21/2020
Tulsa	FULTON	15TH & FULTON	V-2	100%	12/8/2020
Tulsa	FULTON	15TH & FULTON	V-3	100%	11/16/2020
Tulsa	FULTON	15TH & FULTON	V-4	100%	10/17/2019
Tulsa	FULTON	15TH & FULTON	V-5	100%	1/31/2020
Tulsa	FULTON	15TH & FULTON	V-6	100%	11/6/2019
Tulsa	JENKS	96TH & ELWOOD	ZG-1	100%	4/13/2019
Tulsa	JENKS	96TH & ELWOOD	ZG-2	100%	10/29/2019
Tulsa	KENOSHA	4TH & LANSING	XA-3	100%	12/5/2018
Tulsa	LYNN LANE	21ST & 193RD E AVE	ZS-1	100%	6/3/2020
Tulsa	LYNN LANE	21ST & 193RD E AVE	ZS-2	100%	11/17/2020
Tulsa	MAPLEWOOD & DRIVE	PINE & MAPLEWOOD	1401	100%	3/29/2019
Tulsa	MAYO ROAD	36TH & 129TH E AVE	ZB-3	100%	2/1/2019
Tulsa	MAYO ROAD	36TH & 129TH E AVE	ZB-6	100%	6/21/2019
Tulsa	MAYO ROAD	36TH & 129TH E AVE	ZB-8	100%	6/21/2019
Tulsa	MIDLAND	21ST & CINCINATTI	3101	100%	11/5/2019
Tulsa	MINGO	36TH & MINGO	ZK-1	100%	9/6/2019
Tulsa	MINGO	36TH & MINGO	ZK-2	100%	11/19/2019
Tulsa	MINGO	36TH & MINGO	ZK-6	100%	6/21/2019
Tulsa	MOHAWK PUMP STATION	41ST ST NO & LOUISVILLE	F-2	100%	11/26/2018
Tulsa	NORTH MINGO	30TH ST NO & MINGO	U-2	100%	11/13/2020
Tulsa	NORTH MINGO	30TH ST NO & MINGO	U-4	100%	11/13/2020
Tulsa	OAKS 138	W 61ST SO & 44TH W AVE	ZE-1	100%	8/19/2019
Tulsa	OAKS 138	W 61ST SO & 44TH W AVE	ZE-4	100%	12/31/2019
Tulsa	OAKS 138	W 61ST SO & 44TH W AVE	ZE-6	100%	9/26/2019
Tulsa	ONETA 138	HWY 51 & ONETA RD	ZQ-2	100%	6/25/2020
Tulsa	ONETA 138	HWY 51 & ONETA RD	ZQ-5	100%	4/4/2019
Tulsa	ORAL ROBERTS UNIVERSITY	81ST & DELAWARE	ZR-8	100%	3/18/2020
Tulsa	OWASSO	86TH ST NO & GARNETT	ZN-6	100%	1/21/2019
Tulsa	OWASSO 109TH ST NORTH	109TH ST NO & 145TH E AVE	XG-3	100%	1/22/2019
Tulsa	OWASSO 109TH ST NORTH	109TH ST NO & 145TH E AVE	XG-4	100%	1/21/2019
Tulsa	PINE & PEORIA	PINE & PEORIA	C-1	100%	2/27/2019
Tulsa	PINE & PEORIA	PINE & PEORIA	C-2	100%	12/19/2019
Tulsa	PINE & PEORIA	PINE & PEORIA	C-3	100%	4/9/2019
Tulsa	PINE & PEORIA	PINE & PEORIA	C-4	100%	3/13/2019
Tulsa	PINE & PEORIA	PINE & PEORIA	C-5	100%	4/1/2019
Tulsa	PINE & PEORIA	PINE & PEORIA	C-6	100%	3/20/2020
Tulsa	PORT OF CATOOSA	PORT OF CATOOSA	ZW-2	100%	1/23/2020
Tulsa	PORT OF CATOOSA	PORT OF CATOOSA	ZW-4	100%	6/9/2020

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District	Station	Location	Circuit Name	Percent Complete	Date Complete
Tulsa	PORT OF CATOOSA	PORT OF CATOOSA	ZW-5	100%	6/5/2020
Tulsa	PRUE	PRUE	ZT-1	100%	3/7/2019
Tulsa	SAND SPRINGS 138	SAND SPRINGS	K-2	100%	12/11/2020
Tulsa	SAND SPRINGS 138	SAND SPRINGS	K-3	100%	12/10/2020
Tulsa	SAND SPRINGS 138	SAND SPRINGS	K-5	100%	3/7/2019
Tulsa	SOUTH HUDSON	51ST & HUDSON	Y-1	100%	5/11/2020
Tulsa	SOUTH HUDSON	51ST & HUDSON	Y-4	100%	12/8/2020
Tulsa	SOUTH HUDSON	51ST & HUDSON	Y-5	100%	3/16/2020
Tulsa	SOUTHERN HILLS	65TH & LEWIS	T-2	100%	4/21/2020
Tulsa	SOUTHERN HILLS	65TH & LEWIS	T-3	100%	11/17/2020
Tulsa	SOUTHERN HILLS	65TH & LEWIS	T-5	100%	7/26/2019
Tulsa	SOUTHERN HILLS	65TH & LEWIS	T-7	100%	11/17/2020
Tulsa	TPS	W 36TH & ELWOOD	A-11	100%	7/9/2018
Tulsa	TPS	W 36TH & ELWOOD	A-3	100%	6/27/2019
Tulsa	TPS	W 36TH & ELWOOD	A-4	100%	2/26/2020
Tulsa	TULSA NORTH 138	86TH ST NO & CINCINATTI	H-1	100%	2/25/2020
Tulsa	TULSA NORTH 138	86TH ST NO & CINCINATTI	H-2	100%	10/8/2019
Tulsa	TULSA NORTH 138	86TH ST NO & CINCINATTI	H-3	100%	9/9/2019
Tulsa	TULSA NORTH 138	86TH ST NO & CINCINATTI	H-4	100%	9/24/2019
Tulsa	TULSA NORTH 138	86TH ST NO & CINCINATTI	H-5	100%	6/8/2020
Tulsa	TULSA SOUTHEAST	41ST & SHERIDAN	D-1	100%	6/3/2020
Tulsa	TULSA SOUTHEAST	41ST & SHERIDAN	D-2	100%	9/10/2020
Tulsa	TULSA SOUTHEAST	41ST & SHERIDAN	D-3	100%	12/26/2019
Tulsa	TULSA SOUTHEAST	41ST & SHERIDAN	D-4	100%	8/26/2020
Tulsa	TULSA SOUTHEAST	41ST & SHERIDAN	D-6	100%	11/20/2020
Tulsa	TULSA SOUTHEAST	41ST & SHERIDAN	D-7	100%	2/28/2020
Tulsa	UTICA SQUARE	UTICA SQUARE	1201	100%	3/22/2019
Tulsa	WAGONER	WAGONER	S-1	100%	1/18/2019
Tulsa	WARREN MEDICAL CENTER	66TH &YALE	ZI-2	100%	4/21/2020
Tulsa	WEST EDISON	33RD W AVE & EDISON	R-1	100%	12/31/2018
Tulsa	WEST EDISON	33RD W AVE & EDISON	R-2	100%	10/30/2018
Tulsa	WEST EDISON	33RD W AVE & EDISON	R-3	100%	10/30/2018
Tulsa	WEST EDISON	33RD W AVE & EDISON	R-4	100%	7/24/2019
Tulsa	WEST EDISON	33RD W AVE & EDISON	R-5	100%	11/16/2018
Tulsa	WEST EDISON	33RD W AVE & EDISON	R-6	100%	11/9/2018
Tulsa	WHIRLPOOL	CHEROKEE IND PARK	XC-1	100%	4/7/2020
Tulsa	WHITE CITY	8TH & YALE	3501	100%	9/22/2020
Tulsa	WILDHORSE	WILDHORSE	4601	100%	12/26/2019
Tulsa	YALE & ARCHER	YALE & ARCHER	702	100%	5/11/2020
Tulsa	YALE & ARCHER	YALE & ARCHER	J-1	100%	12/31/2018
Tulsa	YALE & ARCHER	YALE & ARCHER	J-2	100%	12/14/2018
Tulsa	YALE & ARCHER	YALE & ARCHER	J-4	100%	11/19/2019
Tulsa	YALE & ARCHER	YALE & ARCHER	J-6	100%	3/29/2019

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District	Station	Location	Circuit Name	Percent Complete	Date Complete
Tulsa	ZUNIS	12TH & ZUNIS	G-3	100%	10/21/2020
Tulsa	ZUNIS	12TH & ZUNIS	G-4	100%	2/17/2020
Tulsa	121ST & LYNN LANE	121ST & LYNN LANE	XF-2	99%	
Tulsa Rural	ADAIR	ADAIR	11931	100%	3/6/2019
Tulsa Rural	ADAIR	ADAIR	11932	100%	12/31/2019
Tulsa Rural	AFTON	AFTON	11831	100%	3/31/2020
Tulsa Rural	AFTON	AFTON	11832	100%	9/12/2019
Tulsa Rural	BARNSDALL TAP	HWY 20, BARNSDALL	33013	100%	11/13/2019
Tulsa Rural	BARNSDALL TAP	HWY 20, BARNSDALL	33014	100%	11/6/2019
Tulsa Rural	BARNSDALL TAP	BARNSDALL	85331	100%	4/11/2019
Lawton	MARTHA	MARTHA	MA-15	99%	
Lawton	CLINTON JUNCTION	CLINTON	CJ-11	100%	9/23/2019
Lawton	53 & CACHE ROAD	53 & CACHE ROAD	LC-11	100%	11/13/2020
Lawton	53 & CACHE ROAD	53 & CACHE ROAD	LC-19	100%	3/25/2020
Lawton	ALTUS JUNCTION	ALTUS	33301	100%	12/3/2018
Lawton	ALTUS JUNCTION	ALTUS	AL-11	100%	11/2/2020
Lawton	BLANCHARD SOUTH	BLANCHARD	BL-11	100%	12/8/2019
Lawton	BLANCHARD SOUTH	BLANCHARD	BL-15	100%	12/13/2019
Lawton	BUTLER	BUTLER	BT-01	100%	3/29/2019
Lawton	CACHE	CACHE	CA-11	100%	12/31/2018
Lawton	CANUTE	CANUTE	CT-11	100%	3/15/2019
Lawton	CARPENTER	HWY 34 & N 2030 RD	CP-01	100%	2/14/2020
Lawton	CARTER	CARTER	CR-01	100%	7/3/2020
Lawton	CHEYENNE	7TH & SQUARETOP RD	CH-01	100%	2/14/2020
Lawton	CLINTON CITY	CLINTON	33306	100%	3/27/2019
Lawton	CLINTON CITY	CLINTON	CL-11	100%	11/15/2019
Lawton	CLINTON JUNCTION	WEST COMMERCE ST, CLINTON	CJ-15	100%	3/6/2020
Lawton	CLINTON JUNCTION	WEST COMMERCE ST, CLINTON	CJ-17	100%	11/27/2019
Lawton	CLINTON NATURAL GAS	CUSTER CITY RD & E 1050 RD	CC-01	100%	12/16/2020
Lawton	CLINTON SHERMAN AFB	5TH & SOONER DR, VLINTON	CS-13	100%	6/22/2020
Lawton	CLINTON SHERMAN AFB	5TH & SOONER DR, VLINTON	CS-15	100%	3/15/2019
Lawton	CLINTON SHERMAN AFB	5TH & SOONER DR, VLINTON	CS-19	100%	2/14/2020
Lawton	CORN COLONY	N2260 RD & E1120 RD	CO-11	100%	10/8/2019
Lawton	CORNVILLE	CORNVILLE	CV-11	100%	2/21/2019
Lawton	CORNVILLE	CORNVILLE	CV-19	100%	2/7/2020
Lawton	DILL CITY	DILL CITY	DC-01	100%	2/14/2020
Lawton	DUKE	DUKE	33312	100%	12/3/2018
Lawton	DUKE	DUKE	DK-11	100%	12/16/2020
Lawton	DUNCAN 138	6TH STREET, DUNCAN	DS-12	100%	10/7/2020
Lawton	DUNCAN 138	13TH & CHEROKEE	DS-14	100%	9/19/2019
Lawton	DUNCAN 6TH ST	6TH STREET, DUNCAN	DN-01	100%	2/24/2020
Lawton	DUNCAN 6TH ST	6TH STREET, DUNCAN	DN-02	100%	2/24/2020
Lawton	DUNCAN BOIS DARC	13TH & STEVENS	DB-01	100%	6/2/2020

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District	Station	Location	Circuit Name	Percent Complete	Date Complete
Lawton	DUNCAN EASTSIDE	EASTWOOD DR, DUNCAN	DE-14	100%	9/23/2019
Lawton	DUNCAN EASTSIDE	EASTWOOD DR, DUNCAN	DE-16	100%	11/4/2020
Lawton	DUNCAN EASTSIDE	EASTWOOD DR, DUNCAN	DE-17	100%	6/2/2020
Lawton	DUNCAN EASTSIDE	EASTWOOD DR, DUNCAN	DE-19	100%	8/24/2018
Lawton	DUNCAN NORTHWEST	HWY 81 & N 15TH, DUNCAN	NW-01	100%	7/24/2019
Lawton	DUNCAN NORTHWEST	HWY 81 & N 15TH, DUNCAN	NW-03	100%	7/1/2019
Lawton	DUNCAN TOSCO	DUNCAN	DT-11	100%	7/26/2019
Lawton	ELK CITY	ELK CITY	33310	100%	2/17/2020
Lawton	ELK CITY	ELK CITY	33311	100%	10/10/2019
Lawton	ELK CITY	ELK CITY	33316	100%	3/19/2019
Lawton	ELK CITY	ELK CITY	EC-11	100%	11/27/2019
Lawton	ELK CITY	ELK CITY	EC-13	100%	4/16/2019
Lawton	ELK CITY	ELK CITY	EC-16	100%	11/26/2019
Lawton	ELMER JUNCTION 549	ELMER	EM-11	100%	7/3/2020
Lawton	FALCON ROAD	W 7TH ST & FALCON DR	FR-11	100%	10/5/2019
Lawton	FALCON ROAD	W 7TH ST & FALCON DR	FR-15	100%	10/5/2019
Lawton	FALCON ROAD	W 7TH ST & FALCON DR	FR-19	100%	4/16/2019
Lawton	FOSS CITY	FOSS CITY	FS-11	100%	7/3/2020
Lawton	FREDERICK JUNCTION	COUNTY CLUB RD & E 1800 RD	FJ-11	100%	6/22/2020
Lawton	GOULD	GOULD	GD-01	100%	6/22/2020
Lawton	GRANDFIELD	GRANDFIELD	GF-11	100%	9/19/2019
Lawton	GRANITE	GRANITE	GN-11	100%	9/19/2019
Lawton	HEADRICK	HEADRICK	HK-11	100%	6/22/2020
Lawton	HOBART CITY	HOBART	33309	100%	6/24/2019
Lawton	HOBART CITY	HOBART	HO-11	100%	10/11/2019
Lawton	HOBART CITY	HOBART	HO-15	100%	11/25/2019
Lawton	HOLLIS	HOLLIS	HL-01	100%	11/4/2019
Lawton	HOLLIS	HOLLIS	HL-05	100%	12/26/2018
Lawton	HOLLIS	HOLLIS	HL-09	100%	9/23/2019
Lawton	LAWTON EASTSIDE	SE 60TH & GORE	LE-11	100%	4/20/2020
Lawton	LAWTON EASTSIDE	SE 60TH & GORE	LE-14	100%	3/26/2020
Lawton	LAWTON EASTSIDE	SE 60TH & GORE	LE-17	100%	6/24/2020
Lawton	LAWTON GORE	N RAILROAD & GORE	LG-13	100%	2/10/2020
Lawton	LAWTON GORE	N RAILROAD & GORE	LG-14	100%	11/13/2020
Lawton	LAWTON SHERIDAN ROAD	NW SHERIDAN & NW KINGSBURY	LS-13	100%	12/31/2018
Lawton	LAWTON SHERIDAN ROAD	NW SHERIDAN & NW KINGSBURY	LS-15	100%	8/19/2019
Lawton	LAWTON SHERIDAN ROAD	NW SHERIDAN & NW KINGSBURY	LS-17	100%	9/23/2019
Lawton	LAWTON WESTSIDE	NW 67TH & GORE	LW-110	100%	4/11/2019
Lawton	LAWTON WESTSIDE	NW 67TH & GORE	LW-13	100%	12/29/2018
Lawton	LAWTON WESTSIDE	NW 67TH & GORE	LW-14	100%	2/11/2019
Lawton	LAWTON WESTSIDE	NW 67TH & GORE	LW-16	100%	1/30/2019
Lawton	LAWTON WESTSIDE	NW 67TH & GORE	LW-17	100%	5/3/2019
Lawton	LAWTON WESTSIDE	NW 67TH & GORE	LW-19	100%	6/5/2019

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District	Station	Location	Circuit Name	Percent Complete	Date Complete
Lawton	LEEDEY	LEEDEY	LY-01	100%	11/27/2019
Lawton	LONE WOLF	LONE WOLF	LF-11	100%	7/17/2019
Lawton	MOUNTAIN VIEW	MOUNTAIN VIEW	MV-01	100%	3/29/2019
Lawton	MOUNTAIN VIEW	MOUNTAIN VIEW	MV-05	100%	3/29/2019
Lawton	NORGE RD	NORGE RD, CHICKASHA DOCK	NR-13	100%	12/21/2018
Lawton	ROOSEVELT	ROOSEVELT	RO-01	100%	12/16/2020
Lawton	RUSH SPRINGS CHESTNUT STREET	RUSH SPRINGS	RS-11	100%	12/13/2019
Lawton	SAYRE	SAYRE	SY-19	100%	11/4/2019
Lawton	SNYDER	SNYDER	SD-01	100%	2/17/2020
Lawton	SNYDER	SNYDER	SD-11	100%	2/17/2020
Lawton	STRONG CITY	N 1910 RD & E970 RD	SC-01	100%	10/11/2019
Lawton	TEMPLE	TEMPLE	TM-01	100%	11/12/2018
Lawton	TERRAL	TERRAL	TL-11	100%	12/14/2018
Lawton	THOMAS ORC	THOMAS	PT-11	100%	1/22/2019
Lawton	TIPTON CITY	TIPTON	TP-01	100%	6/18/2020
Lawton	TIPTON CITY	TIPTON	TP-05	100%	6/24/2020
Lawton	TUTTLE	TUTTLE	TU-12	100%	1/24/2020
Lawton	WALTERS JUNCTION	CR N2620 & W NORTH BOUNDARY	33305	100%	8/22/2018
Lawton	WAURIKA	WAURIKA	33304	100%	10/9/2019
Lawton	WAURIKA	WAURIKA	WK-01	100%	1/11/2019
Lawton	WAURIKA	WAURIKA	WK-05	100%	3/6/2020
Lawton	WAURIKA	WAURIKA	WK-09	100%	3/6/2020
Lawton	ERICK	ERICK	ER-11	39%	
McAlester	ANTLERS	ANTLERS	09331	100%	4/3/2020
McAlester	ATOKA 138	ATOKA	83951	100%	3/29/2019
McAlester	ATOKA 138	ATOKA	83952	100%	12/13/2019
McAlester	ATOKA CANEY	ATOKA	07531	100%	6/18/2020
McAlester	BROKEN BOW	BROKEN BOW	09631	100%	10/21/2020
McAlester	BROKEN BOW	BROKEN BOW	09632	100%	12/4/2020
McAlester	BROKEN BOW	BROKEN BOW	09633	100%	8/23/2019
McAlester	CLAYTON	CLAYTON	18131	100%	9/4/2020
McAlester	CRAIG JUNCTION	PASEO DR & CRAIG PLANT RD, IDABEL	83431	100%	12/1/2020
McAlester	CROWDER	CROWDER	13731	100%	10/27/2020
McAlester	FORT TOWSON	FORT TOWNSON	09931	100%	4/8/2019
McAlester	HENRYETTA	HENRYETTA	06932	100%	12/31/2019
McAlester	LANE	LANE	18831	100%	12/20/2019
McAlester	LEHIGH	LEHIGH	21851	100%	5/6/2020
McAlester	LEHIGH	LEHIGH	21852	100%	3/4/2019
McAlester	LEQUIRE	LEQUIRE	19231	100%	5/15/2020
McAlester	LONE OAK	LONE OAK	85651	100%	4/13/2020
McAlester	LONE OAK	LONE OAK	85652	100%	3/31/2020
McAlester	MCALESTER CHEROKEE	9TH & CHEROKEE	16601	100%	3/3/2020

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District	Station	Location	Circuit Name	Percent Complete	Date Complete
McAlester	MCALESTER CHEROKEE	9TH & CHEROKEE	16602	100%	4/7/2020
McAlester	MCALESTER CITY	N 6TH & E LINCOLN	80351	100%	3/10/2020
McAlester	MCALESTER CITY	N 6TH & E LINCOLN	80353	100%	11/13/2019
McAlester	MCALESTER CITY	N 6TH & E LINCOLN	80354	100%	7/2/2020
McAlester	MCALESTER CITY	N 6TH & E LINCOLN	80355	100%	10/3/2019
McAlester	MCALESTER INDUSTRIAL	MCALESTER	70851	100%	11/20/2018
McAlester	MCALESTER INDUSTRIAL	MCALESTER	70853	100%	11/20/2018
McAlester	MCALESTER SOUTH	HWY 69 & HARDY SPRINGS RD	18951	100%	7/18/2019
McAlester	MCALESTER SOUTH	HWY 69 & HARDY SPRINGS RD	18952	100%	6/21/2019
McAlester	OKEMAH	OKEMAH	07431	100%	12/1/2020
McAlester	OKEMAH	OKEMAH	07432	100%	2/17/2020
McAlester	OKEMAH	OKEMAH	07433	100%	12/26/2018
McAlester	OKMULGEE CITY	OKMULGEE	05801	100%	4/7/2020
McAlester	OKMULGEE CITY	OKMULGEE	05803	100%	3/5/2020
McAlester	OKMULGEE CITY	OKMULGEE	05804	100%	4/9/2020
McAlester	OKMULGEE CITY	OKMULGEE	05806	100%	12/23/2020
McAlester	OKMULGEE CITY	OKMULGEE	05831	100%	3/26/2020
McAlester	OKMULGEE CITY	OKMULGEE	05832	100%	10/3/2019
McAlester	OKMULGEE CITY	OKMULGEE	05833	100%	8/7/2020
McAlester	OKMULGEE CITY	OKMULGEE	05837	100%	4/12/2019
McAlester	STIGLER	STIGLER	14332	100%	12/18/2020
McAlester	STIGLER	STIGLER	14333	100%	1/8/2019
McAlester	TALAHINA WEST	TALIHINA	30231	100%	9/25/2020
McAlester	TALAHINA WEST	TALIHINA	30232	100%	7/1/2020
McAlester	VALLIANT 345	VALLIANT	81532	100%	12/11/2020
McAlester	WFEC CANADIAN	CANADIAN	21031	100%	4/27/2020
McAlester	WILBURTON	WILBURTON	14531	100%	9/30/2020
McAlester	WISTER	WISTER	18531	100%	10/15/2020
McAlester	WISTER	WISTER	18532	100%	4/14/2020
TULSA	CHOUTEAU	CHOUTEAU	95637	100%	11/24/2020
TULSA	CHOUTEAU	CHOUTEAU	95638	100%	11/18/2020
Tulsa	121ST & LYNN LANE	121ST & LYNN LANE	XF-1	100%	6/26/2020
Tulsa	121ST & LYNN LANE	121ST & LYNN LANE	XF-3	100%	5/3/2019
Tulsa	121ST & LYNN LANE	121ST & LYNN LANE	XF-4	100%	9/18/2020
Tulsa	136TH & YALE	136TH & YALE	X-1	100%	2/17/2020
Tulsa	141ST & PINE	141ST & PINE	ET-1	100%	3/13/2020
Tulsa	141ST & PINE	141ST & PINE	ET-3	100%	3/13/2020
Tulsa	15TH & PEORIA	15TH & PEORIA	3003	100%	3/15/2019
Tulsa	21ST & 89TH EAST AVE	21ST & 89TH EAST AVE	Q-2	100%	6/5/2019
Tulsa	21ST & 89TH EAST AVE	21ST & 89TH EAST AVE	Q-3	100%	12/31/2018
Tulsa	21ST & 89TH EAST AVE	21ST & 89TH EAST AVE	Q-4	100%	3/27/2020
Tulsa	36TH & LEWIS	36TH & LEWIS	N-1	100%	3/3/2020
Tulsa	36TH & LEWIS	36TH & LEWIS	N-2	100%	2/26/2020

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District	Station	Location	Circuit Name	Percent Complete	Date Complete
Tulsa	36TH & PITTSBURG	36TH & PITTSBURG	1602	100%	6/3/2020
Tulsa	36TH & PITTSBURG	36TH & PITTSBURG	1605	100%	11/9/2020
Tulsa	52ND & DELAWARE	52ND & DELAWARE	ZP-1	100%	11/4/2019
Tulsa	52ND & DELAWARE	52ND & DELAWARE	ZP-4	100%	4/23/2019
Tulsa	61ST & 89TH	61ST & 89TH	W-6	100%	12/6/2019
Tulsa	72ND & ELWOOD	72ND & ELWOOD	XJ-1	100%	4/5/2019
Tulsa	72ND & ELWOOD	72ND & ELWOOD	XJ-3	100%	5/10/2019
Tulsa	77TH & MEMORIAL	77TH & MEMORIAL	ZM-1	100%	3/27/2020
Tulsa	77TH & MEMORIAL	77TH & MEMORIAL	ZM-4	100%	6/18/2019
Tulsa	81ST & YALE	81ST & YALE	P-1	100%	12/13/2019
Tulsa	81ST & YALE	81ST & YALE	P-2	100%	4/1/2020
Tulsa	81ST & YALE	81ST & YALE	P-3	100%	5/12/2020
Tulsa	81ST & YALE	81ST & YALE	P-4	100%	6/8/2020
Tulsa	81ST & YALE	81ST & YALE	P-5	100%	4/5/2019
Tulsa	81ST & YALE	81ST & YALE	P-6	100%	6/8/2020
Tulsa	81ST & YALE	81ST & YALE	P-7	100%	5/6/2020
Tulsa Rural	BARNSDALL TAP	HWY 20, BARNSDALL	85332	100%	4/5/2019
Tulsa Rural	BARNSDALL TAP	BARNSDALL	85333	100%	4/8/2019
Tulsa Rural	BARTLESVILLE COMANCHE	N COMANCHE & FRANK PHILLIPS	15532	100%	8/7/2020
Tulsa Rural	BARTLESVILLE COMANCHE	N COMANCHE & FRANK PHILLIPS	15533	100%	11/20/2018
Tulsa Rural	BARTLESVILLE COMANCHE	N COMANCHE & FRANK PHILLIPS	15534	100%	5/10/2019
Tulsa Rural	BARTLESVILLE COMANCHE	N COMANCHE & FRANK PHILLIPS	15536	100%	5/28/2020
Tulsa Rural	BIRD HOLLOW	LANGLEY	69431	100%	4/13/2020
Tulsa Rural	CARNES	HWY 99 & CR 5790	32931	100%	8/1/2018
Tulsa Rural	CARNES	HWY 99 & CR 5790	32932	100%	8/29/2018
Tulsa Rural	CHELSEA	CHELSEA	15731	100%	6/3/2020
Tulsa Rural	CHOUTEAU	CHOUTEAU	82631	100%	12/10/2018
Tulsa Rural	DARBY	DARBY	17731	100%	10/10/2018
Tulsa Rural	DEWEY BLUESTEM	DEWEY	32431	100%	7/30/2020
Tulsa Rural	DEWEY BLUESTEM	DEWEY	32432	100%	9/16/2020
Tulsa Rural	DEWEY BLUESTEM	DEWEY	32433	100%	10/28/2020
Tulsa Rural	GROVE	GROVE	85934	100%	6/2/2020
Tulsa Rural	HERITAGE TRAIL	COUNTY RD 2809 & HWY 60	76731	100%	2/15/2019
Tulsa Rural	HOMINY PRISON	HOMINY	26131	100%	11/5/2019
Tulsa Rural	HOMINY PRISON	HOMINY	26132	100%	1/22/2020
Tulsa Rural	INOLA	INOLA	36532	100%	12/31/2018
Tulsa Rural	JAY	JAY	24632	100%	2/14/2020
Tulsa Rural	LOCUST GROVE	LOCUST GROVE	12033	100%	2/14/2020
Tulsa Rural	MOUND ROAD	SW ADAMS & MOUND RD	35431	100%	2/5/2019
Tulsa Rural	MOUND ROAD	SW ADAMS & MOUND RD	35432	100%	2/8/2019
Tulsa Rural	MOUND ROAD	SW ADAMS & MOUND RD	35433	100%	5/4/2020
Tulsa Rural	MOUND ROAD	SW ADAMS & MOUND RD	35437	100%	11/6/2018
Tulsa Rural	NORTHEASTERN POWER	OOLOGAH	86431	100%	11/20/2018

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District	Station	Location	Circuit Name	Percent Complete	Date Complete
Tulsa Rural	NORTHEASTERN POWER	OOLOGAH	86432	100%	6/26/2020
Tulsa Rural	NOWATA	NOWATA	31431	100%	12/11/2020
Tulsa Rural	NOWATA	NOWATA	31433	100%	12/29/2020
Tulsa Rural	PRYOR JUNCTION	PRYOR	86532	100%	10/23/2020
Tulsa Rural	RAMONA	RAMONA	24831	100%	8/19/2019
Tulsa Rural	SAILBOAT BRIDGE	HWY 59 NORTH	11531	100%	6/8/2020
Tulsa Rural	SAILBOAT BRIDGE	HWY 59 NORTH	11532	100%	4/5/2019
Tulsa Rural	SHIDLER	SHIDLER	16331	100%	6/4/2019
Tulsa Rural	SHIDLER	SHIDLER	16332	100%	12/26/2019
Tulsa Rural	SHIDLER	SHIDLER	16333	100%	6/4/2019
Tulsa Rural	SHIDLER	SHIDLER	16334	100%	6/4/2019
Tulsa Rural	SHIDLER	SHIDLER	16335	100%	6/4/2019
Tulsa Rural	PRYOR JUNCTION	PRYOR	86531	55%	

AFFIDAVIT OF STEVEN F. BAKER

STATE OF OKLAHOMA)

COUNTY OF TULSA)

On the 26 day of April 2021, before me appeared Steven F. Baker, to me personally known, who, being by me first duly sworn, states that he is Vice President of Distribution Operations for Public Service Company of Oklahoma and acknowledges that he has read the above and foregoing document and believes that the statements therein are true and correct to the best of his information, knowledge and belief.

Steven F. Baker

Subscribed and sworn to before me this 26 day of April, 2021.

BARBARA A. POSTOAK NOTARY PUBLIC Commission # 08011506 My Commission Expires 11-12-2024 STATE OF OKLAHOMA

Notary Public

My commission expires: 11-12-2024