

BEFORE THE CORPORATION COMMISSION OF THE STATE OF OKLAHOMA

IN THE MATTER OF THE APPLICATION OF)
OKLAHOMA GAS AND ELECTRIC COMPANY)
FOR AN ORDER OF THE COMMISSION)
AUTHORIZING APPLICANT TO MODIFY ITS) CASE NO. PUD 2023-000087
RATES, CHARGES, AND TARIFFS FOR RETAIL)
ELECTRIC SERVICE IN OKLAHOMA)

Direct Testimony

of

Brian C. Huckabay

On behalf of

Oklahoma Gas and Electric Company

December 29, 2023

Brian C. Huckabay
Direct Testimony

1 Q. **Please state your name and business address.**

2 A. My name is Brian Huckabay. My business address is 321 North Harvey, Oklahoma City,
3 Oklahoma 73102.

4
5 Q. **By whom are you employed and in what capacity?**

6 A. I am employed by Oklahoma Gas and Electric Company (“OG&E” or “Company”) as
7 Director, Distribution Engineering Technical Services.

8
9 Q. **Please summarize your professional and educational background.**

10 A. I earned a Bachelor of Science degree in Mechanical Engineering from Oklahoma State
11 University, and a Master of Business Administration degree from Oklahoma City
12 University. I began my career with OG&E in 2007 as a Plant Engineer at the Sooner Power
13 Plant. In 2011, I became the Maintenance Manager at Redbud Power Plant, a position I
14 held until 2014. In 2014, I became the Manager of Engineering and Inspection Services.
15 In June 2015, I became the Director of the Horseshoe Lake Plant, where I was responsible
16 for the daily operations and maintenance of the power plant. In October 2017, I became
17 the Director of Power Supply Asset Management, where I was responsible for leading the
18 asset management programs for the power generation fleet. In May 2018, I transitioned to
19 the role of Director of Power Supply Services, where I was responsible for the operations
20 and maintenance engineering functions, asset management programs, condition
21 monitoring, and management of capital projects for all the OG&E thermal generation fleet.
22 In February 2021, I transitioned roles to become the Director of Distribution Engineering
23 and Technical Services. In my current role, I lead the teams responsible for distribution
24 design engineering, asset management programs, distribution project management,
25 vegetation management and business analytics.

1 Q. **Have you previously testified before the Oklahoma Corporation Commission?**

2 A. Yes, I previously filed testimony before the Oklahoma Corporation Commission (“OCC”
3 or “Commission”) in several causes on behalf of OG&E and the Arkansas Public Service
4 Commission on behalf of OG&E in ASPC Docket No. 18-046-FR.
5

6 Q. **What is the purpose of your testimony?**

7 A. The purpose of my testimony is to support the reasonable and prudent investments made
8 to the Transmission and Distribution systems included for recovery in this case.
9

10 Q. **How much investment has OG&E made in the transmission and distribution systems
11 since the last rate review?**

12 A. OG&E has completed investments totaling approximately \$987 million to the
13 Transmission and Distribution systems in Oklahoma between April 1, 2022, through
14 September 30, 2023. The distribution system investments total approximately \$825
15 million, and the transmission investments total approximately \$161 million.
16

17 Q. **How important is reliability to OG&E customers?**

18 A. Our customers rely on a variety of devices to power their lives, homes, and businesses
19 every day. In a recent survey, we asked our customers to select from a list of options what
20 should be “a very high priority” for the Company. Of those surveyed, 71% selected;
21 “Continue to repair and maintain the energy grid to ensure reliability.” As shown in Table
22 1 below. The top four priorities customers have for the Company are related to reliability,
23 resiliency, and energy security. To better meet the needs of those we serve and to mitigate
24 the impact of increasing extreme weather, the Company continues to invest in a more
25 resilient electric grid while balancing affordability.

Table 1 – Customer Priorities

Data based on % selecting each option as “a very high priority”

Continue to repair and maintain the energy grid to ensure reliability	71%
Make our energy supply more secure	70%
Reduce dependence on foreign energy sources	68%
Make the energy grid more resilient to extreme weather	68%
Expand programs that provide assistance for people in need	62%
Keep bills as low as possible	60%
Make energy costs more predictable	53%
Increase the amount of energy from clear and renewable sources	52%

Source: 2022 Survey of OG&E Customers

1 Q. **Please briefly describe the actions OG&E is taking to improve the reliability and**
 2 **resiliency of the grid.**

3 A. OG&E is continuing to execute our investment in Oklahoma Grid Enhancement projects,
 4 a planned investment of more than \$800 million. OG&E designs these projects to improve
 5 reliability, offer greater resilience, and increase flexibility while offering enhanced
 6 customer benefits and balancing affordability. The Oklahoma Grid Enhancement projects
 7 provide present and future benefits to our customers and stakeholders by focusing on
 8 investments in Grid Resiliency, Weather Hardening, Grid Automation, Communications
 9 Systems, and Technology Platforms and Applications.

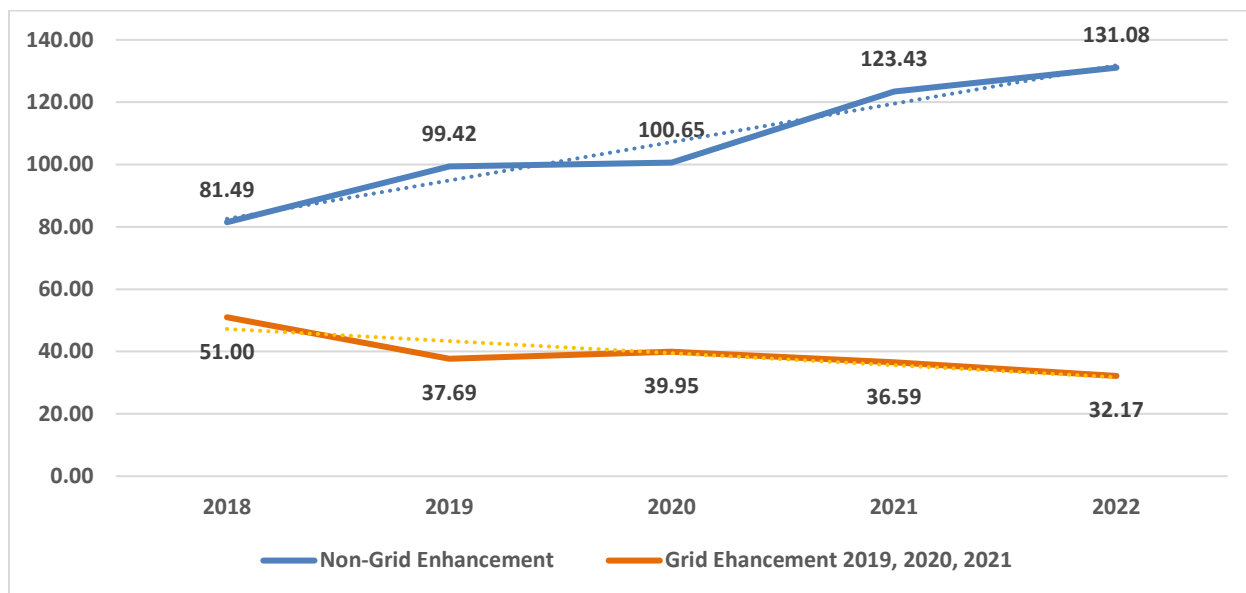
10 OG&E has completed 525 Grid Enhancement projects across 193 circuits and 35
 11 substations impacting almost 250,000 customers. OG&E has also deployed over 5,700
 12 Grid Automation devices that sense and isolate disruptions on our system. Our previous
 13 investments in technology have and will continue to automatically reroute power for as
 14 many customers as possible, minimizing the impact of an outage when one occurs. For
 15 those impacted by an outage, OG&E technology and data has given and will continue to
 16 provide more accurate outage locations so crews can restore service for remaining
 17 customers more efficiently.

18 OG&E is upgrading and installing new equipment on overhead and underground
 19 power lines as part of our Grid Resilience and Weather Hardening investments to reduce

1 service interruptions caused by wildlife, severe weather, and equipment failures. Since
 2 April 2022, OG&E replaced over 3,000 distribution line poles and increased the strength
 3 of more than 24,000 poles by the installation of cost-effective steel trusses and
 4 undergrounded 42 highway crossings as part of our Grid Enhancement investments.

5 We are already seeing significant improvements on upgraded circuits. As shown
 6 below in Figure 1, Circuits that have had Grid Enhancement Investments completed on
 7 them show an improving circuit System Average Interruption Duration Index (“SAIDI”)¹
 8 trend of almost four minutes a year, where circuits that have not had Grid Enhancement
 9 investments completed on them have a degrading circuit SAIDI on average of over twelve
 10 minutes per year.

Figure 1 – Grid Enhancement vs. Non-Grid Enhancement SAIDI Trend



11 **Q. Please provide an overview of the investments made to the Distribution System in**
 12 **Oklahoma.**

13 **A.** Table 2 provides an overview of different investment categories that have been made to
 14 the distribution system since the last rate review.

¹ System Average Interruption Duration Index (“SAIDI”) measures the total time an average customer experiences a non-momentary (five minutes or greater) power interruption in a one-year period.

1

Table 2 – 2023 Rate Case Distribution Capital Investments

Investment Category	*Placed in Service:
New Business	\$ 264,312,688
Grid Enhancement	\$ 176,969,842
Storm Response/Restoration	\$ 132,336,240
Failed in Service	\$ 67,218,250
Lighting	\$ 60,764,424
Fleet/Facilities/Tools	\$ 43,823,550
Asset Improvement	\$ 37,240,893
Relocates	\$ 19,826,195
Intangible Assets/General Plant	\$ 3,942,607
Projects under \$500k	\$ 19,285,654
Grand Total	\$ 825,720,344

*April 1, 2022 through September 30, 2023

2 **Q. Please describe the different investment categories made to the Distribution System.**

3 **A.** Investments have been made to the following categories:

4 • New Business – Investments required to provide service to new customers or
 5 customers increasing their load. These projects install the required infrastructure
 6 to connect the customer to the OG&E distribution system and if required, make
 7 upgrades to existing assets on the distribution system to ensure safe and reliable
 8 service, not only for new customers but all customers in the same geographic area
 9 as the new customer. Since the last rate review, OG&E has executed over 5,000
 10 New Business projects.

11 • Grid Enhancement – Investments that have been made as part of the Oklahoma
 12 Grid Enhancement projects. The investments contained in the Grid Enhancement
 13 projects are made up of weather hardening investments, underground highway
 14 crossings, grid resiliency investments, distribution circuit automation investments,
 15 substation automation investments, communications systems investments,
 16 technology platforms and applications investments. Some of these investments
 17 receive more timely recovery through the Grid Enhancement Mechanism
 18 (“GEM”), while others do not qualify pursuant to the terms of that tariff or were
 19 otherwise not included for recovery in prior GEM investment plans or factor
 20 updates. As required by the GEM Tariff, eligible investments have been submitted
 21 and approved by the PUD and all parties of record in Cause No. PUD 202100164.

- 1 • Storm Response/Restoration– Investments that have been made to respond, repair,
2 and/or rebuild areas of the distribution system to restore service to our customers
3 when damaged by storms passing through the OG&E Oklahoma service territory.
- 4 • Lighting – Investments that have been made to install new lights as requested by
5 customers and investments to convert existing obsolete lights to new Light
6 Emitting Diode (“LED”) lighting. Since April 2022, OG&E installed over 57,000
7 LED lights.
- 8 • Failed in Service – Investments that have been made to repair/replace assets on the
9 distribution system that have been determined to be defective and require
10 replacement. Some examples of investments to repair/replace equipment include
11 replacement of a failed overhead or pad mounted transformer, replacement of a
12 failed substation transformer, replacement of a failed substation circuit breaker,
13 replacement of failed overhead or underground conductor, replacement of a failed
14 cross arm, replacement of a failed insulator. See Direct Exhibit BCH-1 for
15 examples of common failures found on the distribution system.
- 16 • Fleet/Facilities/Tools – Investments that have been made in OG&E Fleet assets,
17 Facilities, and Tools. Investments in this category include items like purchase of
18 new bucket trucks, purchase of new pickup trucks and sedans, capital facilities
19 purchase/repair/remodel/replacement projects, as well as purchase of new tools.
20 Since April 2022, OG&E purchased and placed into service 222 vehicles and
21 equipment assets and completed 160 capital facilities projects. 217 of the 222 fleet
22 vehicles/equipment assets were purchased to replace existing fleet assets. The
23 average age of the 217 existing fleet vehicles/equipment assets that were replaced
24 was almost 15 years old and had an average of over 220,000 miles.
- 25 • Asset Improvement – Investments that have been made to improve the
26 performance of the distribution system, prevent outages from occurring, address
27 known reliability issues. These projects focus on improving reliability and are
28 necessary investments needed to maintain safe and reliable electric service. Most
29 investments included in this category are associated with the regular inspection
30 and restoration/replacement of assets on the distribution system. These assets are
31 inspected on a cycle and determined if restoration/replacement is required by

1 Industry and OG&E standards. These are reliability investments that are not
2 eligible for recovery under the GEM.

- 3 • Relocates – Investments that have been made to relocate existing distribution
4 assets from their current location in a public right of way. Examples of these
5 investments include relocating a distribution line when a municipality widens a
6 public road or when the Oklahoma Department of Transportation (“ODOT”)
7 widens a state highway. In the last two years, OG&E completed 815 projects to
8 relocate assets.
- 9 • General Plant – Examples of General Plant investments include purchase of
10 critical spares and long lead time spares.
- 11 • Projects under \$500k – This is a group of investments made up of all the previously
12 mentioned categories and the total investment was under \$500,000 per line item.
13

14 **Q. What was the purpose of the Grid Enhancement Projects?**

15 A. The purpose of the Grid Enhancement projects was to invest in the distribution system to
16 create a grid that is more reliable, resilient, flexible, and efficient, while focusing on
17 affordability and improving customer experiences.
18

19 **Q. How much did OG&E propose investing in the Oklahoma Grid Enhancement
20 Projects?**

21 A. OG&E estimated that it would invest approximately \$800 million in the Oklahoma
22 Distribution System as part of the Oklahoma Grid Enhancement Projects.
23

24 **Q. How else are the Oklahoma Grid Enhancement investments benefiting customers?**

25 A. The Structural Resiliency Investments authorized for recovery under the GEM Tariff in
26 Cause No. PUD 202100164 have begun increasing the resiliency of the distribution system.
27 This was on display on August 13, 2023, when severe weather moved through the
28 Hennessey area with estimated wind speeds exceeding eighty-five (85) miles per hour
29 (MPH). These high winds impacted the Hennessey 23 circuit that had been evaluated and
30 upgraded as part of the Oklahoma Grid Enhancement Structural Resiliency Investments.
31 With these upgrades there were no poles that required replacement and only two cross arms

1 that required replacement. In comparison, Hennessey 22 and Turkey Creek 21 were also
2 impacted by the high wind speeds and did not perform to the same level. There were over
3 fifty poles requiring replacement across the two circuits. OG&E estimates that without the
4 Structural Resiliency Investment upgrades, the Hennessey 23 circuit restoration would
5 have taken three to seven times longer and costs for restoration in the area would have been
6 two to five times higher.

7
8 **Q. Table 2 shows approximately \$132 million was spent for Storm Response/Restoration.
9 Can you please provide details of OG&E's storm response efforts?**

10 **A.** Since the last rate review, OG&E activated our T&D incident command system ("ICS")
11 twenty-three times in preparation for predicted weather events or in response to impacts
12 from weather events. During this same period, seventeen of the weather events met the
13 Major Storm exclusion criteria as defined by IEEE 1366 and OAC 165:35-25-13.
14 Additionally, OG&E responded to numerous minor storm events since April 2022
15 throughout our Oklahoma service territory. In total, over 3600 poles, 4000 crossarms,
16 1300 transformers, and over 130 miles of wire/cable were replaced in the response to these
17 weather events. See Table 3 below for breakdown of the costs by storm event.

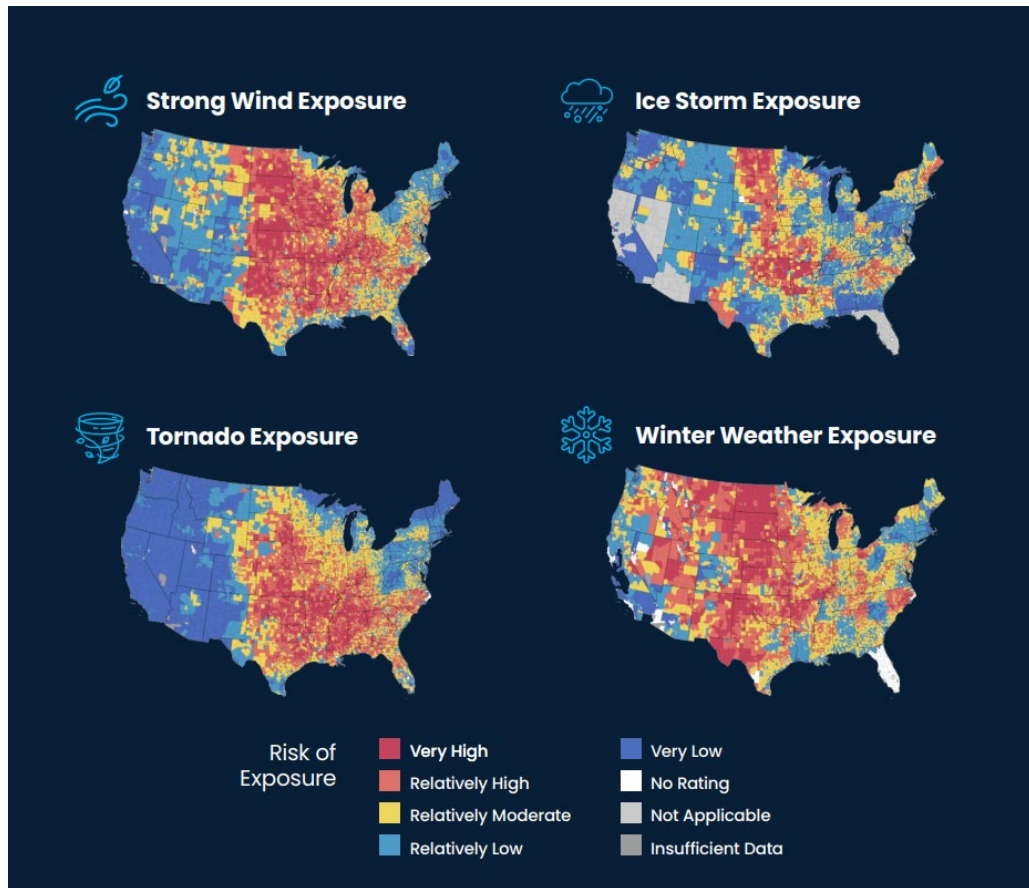
Table 3 – Storm Cost Details

Project Definition	Storm	Total Cost
L:02203	Winter Storm Landon	\$ 1,617,515
L:02205	Feb 23 2022 Winter Storm Oaklee	\$ 838,729
L:02206	Mar 21 2022 Storms/Tornado	\$ 1,484,089
L:02209	May 1 2022 Storms-Seminole Tornado	\$ 8,382,185
L:02210	May 15 2022 Storms	\$ 1,492,279
L:02212	June 7-10 2022 Storms	\$ 1,339,415
L:02301	Jan 30 2023 Ice Storm	\$ 3,310,090
L:12200	2022 Minor Storms	\$ 6,776,643
L:12300	2023 Minor Storms	\$ 4,092,687
L:22201	July 8 2022 Storms	\$ 9,403,095
L:22202	July 18 Ft Smith Storm	\$ 130,414
L:22203	July 21 2022 Storms	\$ 548,712
L:22204	July 28-31 Storms	\$ 774,043
L:22205	Aug 28 2022 Storms	\$ 2,500,271
L:22207	Freezing Temperatures	\$ 987,450
L:22301	Jan 24 2023 Winter Storm	\$ 373,062
L:22302	Feb 14 2023 Wind	\$ 749,853
L:22303	Feb 26 2023 Severe-Norman Tornado	\$ 12,789,127
L:22305	Mar 31 2023 Wind	\$ 1,261,779
L:22306	April 19 2023 - Shawnee Tornado	\$ 21,125,614
L:22308	June 15 2023 - Derecho Wind Event	\$ 39,674,572
L:22309	June 27 2023 Storms	\$ 594,709
L:22310	July 7-11 Storms	\$ 8,177,536
L:22312	August 13 2023 Wind	\$ 3,379,101
L:32306	April 19 2023 - Shawnee Service Center Tornado Damage	\$ 533,269
	Grand Total	\$ 132,336,240

1 Q. Is OG&E's service territory significantly impacted by an increased risk of severe
2 weather?

3 A. Yes. The OG&E service area in Oklahoma and western Arkansas has long been impacted
4 by extreme weather. Our regional historical weather extremes have required a resilient grid,
5 responsive and reliable generation, and storm preparedness. The Federal Emergency
6 Management Agency's ("FEMA") National Risk index ranks Oklahoma second and
7 Arkansas third for the frequency of wind, lightning, ice, tornadoes, and hurricane impact.
8 Both states rank in the top five for heat and Arkansas ranks first for cold waves — a rapid
9 fall in temperatures within 24 hours and extreme low temperatures for an extended period.
10 OG&E has made substantial investments to maintain and enhance our grid, demonstrating
11 our commitment to addressing climate-related risks and minimizing impacts to our
12 customers.

Figure 2: FEMA National Risk Index



1 Q. **Please provide an overview of the investments made to the Transmission System.**

2 A. Table 4 provides an overview of different investment categories that have been made to
 3 the Transmission System since the last rate review.

Table 4 – 2023 Rate Case Transmission Capital Investments.

Investment Category	*Placed in Service:
Asset Improvement	\$ 50,329,376
Failed in Service	\$ 40,972,185
New Business	\$ 36,111,530
Storm	\$ 13,752,901
Tinker	\$ 11,619,488
Projects under \$500k	\$ 5,702,784
Relocates	\$ 2,666,796
Grand Total	\$ 161,155,059

*April 1, 2022 through September 30, 2023

4 Q. **Please describe the different investment categories made to the Transmission
 5 System.**

6 A. Investments have been made to the following categories:

- 7 • Asset Improvement – Investments that have been made to improve the
 8 performance of the Transmission System, prevent outages from occurring, or
 9 address known reliability issues. These projects focus on improving reliability and
 10 are necessary investments to maintain safe and reliable electric service. Most
 11 investments included in this category are associated with the regular inspection
 12 and restoration/replacement of assets on the Transmission System. These assets
 13 are inspected and determined if restoration/replacement is required by Industry
 14 and OG&E standards. In total, there were 145 Asset Improvement Projects
 15 executed since the last rate case.
- 16 • Failed in Service – Investments that have been made to repair/replace assets on the
 17 Transmission System that have been determined to be defective and require
 18 replacement. Some examples of investments to repair/replace equipment include
 19 replacement of a failed line structure, replacement of a failed bus tie transformer,
 20 replacement of a failed line switch, replacement of failed conductor, replacement
 21 of a failed cross arm, replacement of a failed insulator. In total, there were 286

1 projects executed in the Failed in Service category. See Direct Exhibit BCH-1 for
2 examples of common failures found on the transmission system.

- 3 • New Business – These investments were made to provide service to new customers
4 or customers increasing their load. These projects installed the required
5 Transmission System infrastructure to connect the customer to the OG&E grid
6 and/or make upgrades to existing assets on the transmission system to ensure safe
7 and reliable service for not only the new customer but all customers. In total, there
8 were 14 New Business projects executed since April 2022.
- 9 • Storm Response/Restoration – Investments that have been made to
10 respond/repair/rebuild parts of the Transmission System damaged from storms
11 passing through the Oklahoma service territory. This category captures the
12 investments made for repair/replacement of transmission assets damaged in the
13 storms listed in Table 4 above.
- 14 • Tinker – Investments that have been made to safely and reliably serve Tinker Air
15 Force Base. In total, there were 2 transmission projects completed related to
16 Tinker Air Force Base since April 2022.
- 17 • Relocates – Investments that have been made to relocate and often replace existing
18 Transmission assets from their current location in a public right of way. Examples
19 of these investments are relocating a Transmission line when a municipality
20 widens a public road or when ODOT widens a state highway. In total, there were
21 3 relocation/reroute projects since April 2022.
- 22 • Projects under \$500k – This is a group of investments made up of all the previously
23 mentioned categories for which the total investment was under \$500,000 per line
24 item.

25
26 **Q. Do you believe that the aforementioned transmission and distribution projects were**
27 **prudent and designed to improve the reliability and resiliency of the power delivery**
28 **system?**

29 **A.** Yes. The projects OG&E completed since the last rate case were reasonable, prudent, and
30 are currently helping improve the resilience, reliability, and flexibility of the grid for our
31 customers.

- 1 Q. **Does this conclude your testimony?**
- 2 A. Yes.

Typical Conditions Found on Aging Transmission and Distribution Assets

Assessing Performance, Condition & Risk of Failure: Transmission Assets

Fire Damage



Pole Rot & Groundline Damage



Assessing Performance, Condition & Risk of Failure: Transmission Assets

Woodpecker Damage



Assessing Performance, Condition & Risk of Failure: Transmission Assets

Rot at Pole Top



Assessing Performance, Condition & Risk of Failure: Transmission Assets

Broken Conductor



Broken, Split Cross Arms

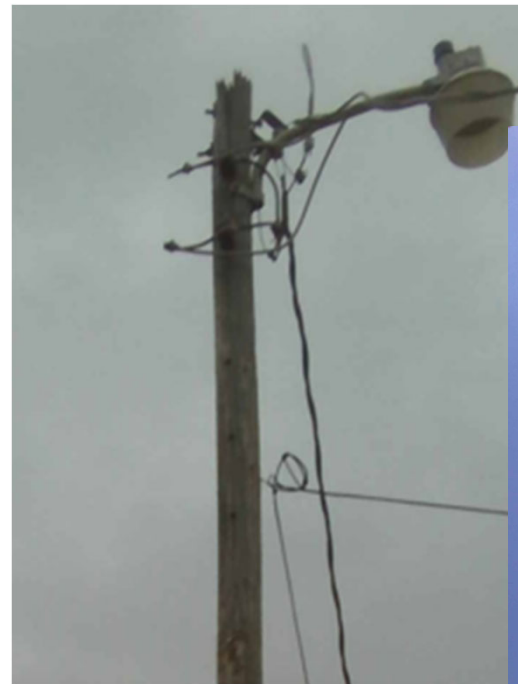


Assessing Performance, Condition & Risk of Failure: Distribution Assets

Pole Rot & Groundline Damage



Rot at Pole Top



Assessing Performance, Condition & Risk of Failure: Distribution Assets

Damaged or Frayed Conductor



Riser Damage



Assessing Performance, Condition & Risk of Failure: Distribution Assets

Transformer Damage



Assessing Performance, Condition & Risk of Failure: Distribution Assets

Insulator Damage



Split or Broken Cross Arme

