BEFORE THE CORPORATION COMMISSION OF THE STATE OF OKLAHOMA

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)	CASE NO. PUD 2023-000087
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Rebuttal Testimony

of

Ryan Einer

on behalf of

Oklahoma Gas and Electric Company

May 17, 2024

Ryan Einer Rebuttal Testimony

1		QUALIFICATIONS, EXPERIENCE AND PURPOSE
2	Q.	Please state your name and business address.
3	A.	My name is Ryan Einer. My business address is 321 N. Harvey Ave., Oklahoma City,
4		Oklahoma 73102.
5		
6	Q.	What position do you hold with OG&E?
7	A.	I hold the position of Manager of Operations Support. My staff is responsible for
8		providing engineering and technical support to our T&D Operations field members in the
9		areas of Meter Maintenance and Operations, Substation Maintenance and Operations, and
10		Substation Commissioning.
11		
12	Q.	Briefly summarize your education and professional qualifications.
13	A.	After graduating from the University of Oklahoma with a bachelor's degree in electrical
14		engineering, I joined OG&E in 2006 as an electrical engineer in distribution design. While
15		working at OG&E, I earned my Professional Engineering license and a master's degree in
16		electrical engineering from Georgia Tech. I have experience in Distribution Design,
17		Transmission Planning, Protection & Control Design, Substation Commissioning and
18		Testing, and Operations.
19		
20	Q.	Have you ever filed testimony before the Oklahoma Corporation Commission?
21	A.	No.
22		
23	Q.	Please state the purpose of your Rebuttal Testimony.
24	A.	The purpose of my Rebuttal Testimony is to respond to the recommendations of PUD
25		witness William Dunkel to extend the life of account 370-Smart Meters from 15 years to
26		20 years.

1		ACTUAL SERVICE LIVES OF SMART METERS
2	Q.	Please describe the type of meters contained in FERC account 370.
3	А.	The meters contained in FERC account 370 include Smart Meters.
4		
5	Q.	Please explain the typical life expectancy for the items in FERC account 370?
6	A.	For OG&E the average age at replacement for smart meters has been 10.01 years.
7		OG&E began to deploy smart meters in 2010. Smart Meters contain both digital metrology
8		as well as a wireless network card. As with any new technology, there was no real-world
9		data to estimate life expectancy. Smart meters are designed by the manufacturer for a 15-
10		year life and provide a warranty of 5 years. Within several years of the initial deployment,
11		the Company began to observe higher than expected failure rates among several series of
12		meters manufactured from 2011-2012. From 2017 to present, this trend has continued to
13		see large annual increases in the failure rate of these meters. From these replacements the
14		calculated average age at replacement is 10.01 years as can be seen in Table 1 below

Year	Meters Replaced	Percent Increase	Age at Replacement
2018	8,275		7
2019	11,706	41%	8
2020	14,148	21%	9
2021	17,083	21%	10
2022	20,318	19%	11
2023	21,655	7%	12
Grand Total	93,185		
Average Age at Failure		10.01	Years

 Table 1: OG&E Meter Replacements

As the installed meters approached 10 years of life, the remaining initial population of meters also experienced an increase in failures, although it has not been as dramatic as the previously identified populations. See below in Table 2 the data related to work orders issued to replace each of the respective smart meter series. This plot is a clear indicator of the accelerated failure rate, year to year.

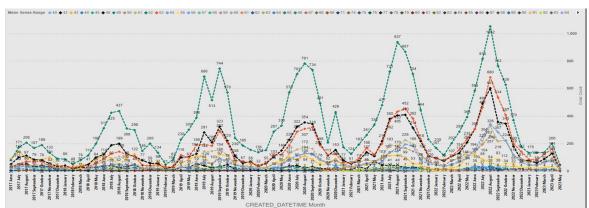


Table 2: OG&E Meters Accelerated Failure Rates

It is important to understand that this older meter population installed from 2010-2012 are the majority of meters installed and still in service. For context, the meters purchased from 2010-2012 are 75 percent of all meters purchased by the Company from 2010-2024. The series of meters with the most dramatic increase in failure rates make up 23 percent of active meters. Therefore, an accelerated failure rate of this series of meters will drive the average life of failure for the entire population.

8 Q. Would it be reasonable to use a 20-year life for FERC account 370?

9 A. No. If the Commission ordered OG&E to use a 20-year life for this account customers 10 would end up paying for assets that are no longer in use, long after they have been replaced. 11 Smart meters are designed by the manufacturer for a 15-year life. After identifying the 12 higher-than-expected failure rates within the smart meter population since 2011, the 13 Company worked with a manufacturer to identify the possible root cause at the component 14 Unfortunately, current manufacturing does not facilitate component level level. 15 replacement for repair. Without the possibility of repair, the meters have been left in service and are replaced at failure. With an average age of replacement at 10.01 years, this 16 17 results in a substantial population of assets that are no longer in use yet remain in the account continuing to depreciate years past the useful life. 18

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1		RECOMMENDATIONS
2	Q.	Please summarize your recommendations to the Commission.
3	A.	I recommend the Commission utilize a 15-year life for the meters in FERC account 370.
4		A 15-year life accurately captures the true lives of the meters contained in this account.
5		
6	Q.	Does this conclude your Rebuttal Testimony?
7	A.	Yes.