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 RATES, CHARGES, AND TARIFFS FOR RETAIL ELECTRIC SERVICE IN OKLAHOMA	))))))	CASE NO. PUD 2023-000087

RESPONSIVE TESTIMONY

OF

WILLIAM W. DUNKEL

APRIL 26, 2024

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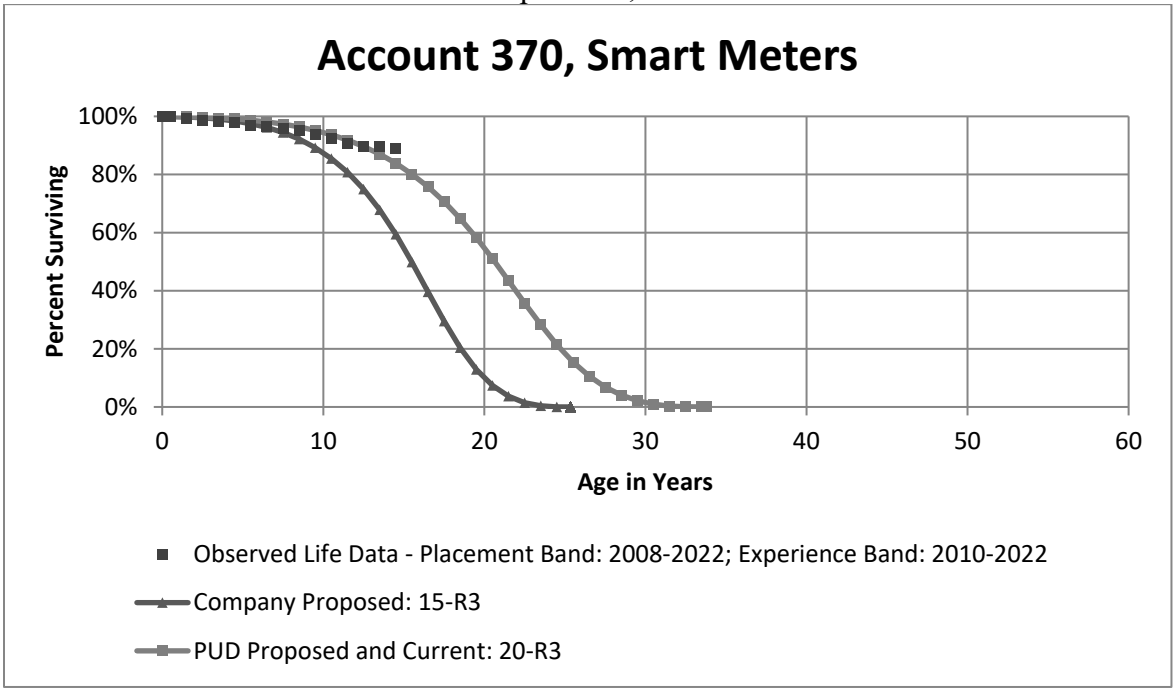
1. For several accounts, PUD recommends an average service life closer to OG&E's actual data, than the life proposed by OG&E.

- For example, for **Account 370, Smart Meters,** the currently approved average service life is 20 years. Mr. Watson proposes to shorten that to 15 years. The currently approved 20-year average service life is closer to the actual OG&E experience, as shown below:



2. OG&E proposes to shorten the life span for wind farms from the currently approved 30 years to 25 years.

- For wind production, the currently approved life span is 30 years. OG&E proposes to shorten this to 25 years.
- For wind production, OG&E uses a 30-year life in its IRP cost analyses.
- The survey of Anticipated Wind Project Lifetimes sponsored by the U.S. Department of Energy found that "[p]roject developers, sponsors, and long-term owners now most-commonly assume 30-year useful project lives."
- PUD recommends the continued use of the 30-year life for wind farms.

3. OG&E proposes to shorten the life span for solar production from the currently approved 30 years, to 25 years.

- For solar production, OG&E uses a 30-year life in its IRP cost analyses.
- In the survey sponsored by the U.S. Department of Energy for utility-scale solar production projects, the average life was 32.5 years.
- PUD recommends the continued use of the 30-year life for the largest solar production account.

4. Capitalized Software.

- The OG&E investment in the Customer Care System (CCS) is more than $20 million. This software was installed in 1998. In response to discovery, OG&E stated that:

> "a. The Customer Care System software is still in-use and remains in Plant In-Service, however the asset is fully amortized as of 2004.
> b. The asset is fully amortized as of 2004 but has not been retired on the books."[1]

- This software is still in service after more than two decades, but the investment was recovered from the ratepayers over only 6 years.
- There are many other software investments in which the investment is recovered over a much shorter period than its useful life.
- PUD recommends the recovery period for software be adjusted to use a 10-year amortization period, which is what the Commission ordered pertaining to PSO in PUD 201700151.

5. As a new policy, OG&E witness Mr. Watson proposes to use the interim removal cost percentage as a "proxy" for the terminal dismantlement cost.

- Mr. Watson states:

> "While dismantling costs for production facilities are not supported by a dismantling study, interim removal cost percentages are used over the life of each generating unit **as a proxy** to a dismantling study."[2] (Emphasis added).

- Mr. Watson's proposal is an improper "proxy". The per component costs to remove a component as part of a terminal dismantlement is much smaller than the cost to remove that component as part of an interim removal.
- An interim removal requires much more labor per component removed than does a terminal dismantlement. I will use "boiler tubes" to demonstrate the difference in labor.
- In a "terminal" dismantlement the "building/structure which contained the boiler", which includes the boiler tubes, is brought down to the ground level using "explosives".[3] Heavy equipment then cuts and loads the material for transport.
- There is much more labor in an "interim" removal. In an "interim" removal of boiler tubes (1) workers assemble a scaffolding inside the boiler, (2) workers use handheld tools to remove the boiler tubes, (3) the boiler tubes are lowered to ground level on a cable, and (4) other workers working at the ground level disconnect the boiler tubes from the cable.[4] The labor required to remove the boiler tubes as part of an interim retirement is much more than the labor required to remove them as part of a terminal retirement.
- Because of the differences in the labor involved, interim retirement costs are not a valid "proxy" for terminal retirement costs. Adopting this improper "proxy" would overcharge ratepayers.

6. Mr. Watson proposes charging ratepayers 11 times the actual cost incurred.

- For Account 356, Overhead Conductors and Devices, the net Cost of Removal costs OG&E actually incurs on average is less than $500,000 per year. However, Mr. Watson recommends

[1] OGE response to PUD 08-01. Attached as Exhibit WWD-9.
[2] Direct Testimony of Dane A. Watson, p. 7, L. 21-23.
[3] See part (b) of PUD 07-03, a copy of this response is attached as Exhibit WWD-3.
[4] OGE response to PUD 07-03. A copy of this response is attached as Exhibit WWD-3.

$5,420,551 per year be collected from ratepayers for the net Cost of Removal for this account. Mr. Watson proposes to collect from ratepayers **11 times** the average net Removal Costs actually incurred.
- Mr. Watson's proposal to charge ratepayers 11 times the actual cost incurred is not a reasonable balancing of the investor and the consumer interests.
- The PUD recommends more reasonable net salvages for several accounts.

7. Mr. Watson proposes to charge current ratepayers for future inflation.

- One of the reasons Mr. Watson is proposing to charge ratepayers 11 times the actual cost incurred, is because he is charging current ratepayers for future inflation.
- Mr. Watson states:

> "Inflation from the time of installation of the asset until the time of its removal must be considered in the calculation of the removal cost percentage"[5]

- For the largest distribution account, Account 365, the "Remaining Life" shown in Mr. Watson's study is 53 years. The expected average "time of its removal" is 53 years in the future. Including "[i]nflation from the time of installation of the asset until the time of its removal" is including 53 years of **future inflation** in his "calculation of the removal cost percentage." This is improper.
- The highly respected *Public Utility Depreciation Practices* published by NARUC states:

> "5. A cost depreciation base conforms to the accepted accounting principle that operating expenses should be based on cost and **not** be influenced by fair value estimates **nor by what costs may be at some future date**."[6] (Emphasis added)

Mr. Watson's proposal to charge current ratepayers for future inflation violates proper depreciation requirements.
- Only in a monopoly market can customers be charged for future inflation. Assume in a competitive market, an item that sells for $10 in most stores. However, that item is priced at $100 in one store, because that is what the price will be 50 years in the future, due to future inflation. In a competitive market, customers would not pay the inflated price of $100 from decades in the future. Instead, they would buy from a different store that charges $10.
- In another "original cost" jurisdiction, the Superior Court determined that the same net salvage treatment Mr. Watson proposes:

> "in our opinion, represents the recovery of something in the nature of a future reproduction cost"[7]

- Mr. Watson's example on page 17 of his testimony can be used to demonstrate charging current ratepayers for future inflation is unreasonable.
- His example is based on a year-1947 dollar having 21 times the value of a year-2022 dollar. His example produces the following information:

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[5] Direct Testimony of Dane A. Watson, p. 17, L. 11-14.
[6] *Public Utility Depreciation Practices*, published by the National Association of Regulatory Utility Commissioners, August 1996, p. 22. Attached as Exhibit WWD-16.
[7] *Penn Sheraton Hotel v. Pennsylvania Public Utility Commission*, p. 627. Recent filings in Pennsylvania indicate they follow the net salvage requirements which resulted from this Superior Court order.

Straight Line Recovery of Removal Cost Over 75 Year Life			
	In Year 1947 Dollars		In Year 2022 Dollars
Removal Cost	$2.34		$50.00
Divide by 75 Years	75		75
Recovery Per Year	$0.03		$0.67

- The annual Removal Cost recovery is $0.67 **in year-2022 dollars**; Mr. Watson would improperly use that as an excuse to charge the year-1947 ratepayers $0.67 **in the more valuable year-1947 dollars**. That is an overcharge. Remember, his example is based on the fact that the year-1947 dollar is worth 21 times as much as the year-2022 dollar.
- Current customers can only be charged for future inflation when there is monopoly power. This proposed abuse of monopoly power should be rejected.

8. For almost one-half of all families, their marginal cost of money is over 20 percent per year.

- The Federal Reserve shows that 45 percent of families carry a credit card balance, and the average interest charged on credit card balances is 20.40 percent. Every extra dollar that is taken from these families because of depreciation rates being higher than they should be, is one less dollar they could have used to pay down their credit card balance, which is costing them over 20 percent per year in interest.

9. The two new policies Mr. Watson proposes would improperly add $100s of millions to future cases.

- We have discussed Mr. Watson's proposals to (1) charge current ratepayers for future inflation and (2) to use interim cost of removal percentage as a "proxy" for terminal dismantlement cost.
- These two improper policy changes would increase the depreciation expense by approximately $400 million per year, when fully implemented. But in this case, Mr. Watson does not disclose the full impact of his proposed policy changes. His rates in this case are only a tiny fraction of the full impact. They are "introductory" rates.
- The "introductory" rate is analogous to a cellular carrier or video service which presents an "introductory" price to get you to change services, without disclosing what the price will be after the "introductory" price expires. This is like what Mr. Watson is attempting to do in this case.
- Mr. Watson does not show the full impact of his proposals. For example, for the largest account, Account 312, Boiler Plant Equipment, Mr. Watson's interim net salvage calculations range from -109% to -43% as shown on page 120 of his depreciation study.
- However, in this case, he filed using -5% to calculate the rate he presents for Account 312. The -5% "introductory" rate is a tiny fraction of the -109% to -43% numbers which result from his proposed policies.
- The primary reason Mr. Watson filed -5%, instead of filing in the -109% to -43% range he calculated, is to make his proposal appear reasonable compared to the currently approved rates. Had he filed in the -109% to -43% range he calculated, that would have been a huge increase, which would have shown the unreasonableness of his proposed policy changes. The -5% he filed is just the "introductory" rate.
- In total, Mr. Watson's proposals to (1) charge current ratepayers for future inflation and (2) using the interim cost of removal percentage as a "proxy" for terminal dismantlement cost, would improperly increase the depreciation expense by approximately $400 million per year when fully

implemented. If adopted, these two improper policies would greatly and improperly increase the depreciation expense in future cases.

9. For the reasons presented in this testimony, I recommend the adoption of the depreciation rates shown in the PUD columns on Exhibit WWD-19.

- I also recommend that the final order entered in this Case be careful not to imply acceptance of Mr. Watson's proposals (1) to charge current ratepayers for future inflation and (2) to use the interim cost of removal percentage as a "proxy" for terminal dismantlement cost.

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is William W. Dunkel. My business address is 8625 Farmington Cemetery Road, Pleasant Plains, Illinois 62677.

Q. Have you prepared a summary of your qualifications and experience, including a list of prior regulatory proceedings in which you have participated?

A. Yes. Exhibit WWD-1 is a summary of my qualifications, experience, and a list of prior testimonies before state utility regulatory agencies. As shown in Exhibit WWD-1, I have participated in numerous state regulatory proceedings nationwide, including my testimony on depreciation rates in several prior proceedings before the Oklahoma Corporation Commission ("Commission"). Previous cases in which I have filed expert depreciation testimony before this Commission include the three prior OG&E proceedings (Cause No. PUD 2017-000496, Cause No. PUD 2018-000140 and Cause No. PUD 2021-000164), and four prior Public Service Company of Oklahoma ("PSO") proceedings (Cause No. PUD 2017-000151, Cause No. PUD 2018-000097, Cause No. 2021-000055, and Case No. 2022-000093). I also addressed depreciation rates pertaining to Oklahoma Natural Gas Company in Cause No. PUD 2021-000063.

I graduated from the University of Illinois with a Bachelor of Science Degree in Engineering. For several years, I was a design engineer designing electric watt-hour meters used in the electric utility industry. I was granted patent No. 3822400 for a solid-state meter pulse initiator which was used in electric utility metering.

Q. Have you participated in field visits to some of OG&E's facilities in Oklahoma?

A. Yes. While preparing my analysis for Cause No. PUD 2021-00164, on March 24, 2022, I participated in a field visit to some of OG&E's facilities located in Oklahoma. As requested, knowledgeable OG&E personnel were made available at each site to answer questions and discuss the operations and facilities.

In addition, as part of a prior OG&E proceeding, on March 27 and 28, 2018, I participated in a field visit to some of OG&E's facilities located in Oklahoma.[8] As requested, OG&E personnel were made available to discuss OG&E's operations and facilities.

Q. Are you a member of a depreciation professional organization?

A. Yes. I am a member in good standing of the Society of Depreciation Professionals. My firm was invited to make a presentation to the Society of Depreciation Professionals annual convention in Indianapolis, Indiana, pertaining to depreciation issues in state proceedings, which I co-presented on September 17, 2018.

Q. On whose behalf are you providing testimony?

A. I am testifying on behalf of the Public Utility Division ("PUD") of the Oklahoma Corporation Commission ("OCC" or "Commission").

Q. What is the purpose of your testimony?

A. The purpose of this testimony is to address depreciation rates and to recommend appropriate depreciation rates for OG&E. This testimony responds to the Direct Testimony

[8] I participated in this field visit as part of a prior OGE proceeding, Cause No. PUD 201700496.

of Dane A. Watson, the OG&E Depreciation Rate Study (Direct Exhibit DAW-2), and associated workpapers, discovery responses, and other related information. I also recommend specific, appropriate depreciation rates for OG&E.

Q. Could you please provide the definition of depreciation?

A. Yes. The definition contained in the FERC Uniform System of Accounts states the following:

> 12. Depreciation, as applied to depreciable electric plant, means the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of electric plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among the causes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand and requirements of public authorities.[9]

Q. Are the procedures and techniques you utilized consistent with prior Commission orders?

A. Yes. My recommended depreciation rates are determined based on the straight-line method, average life group procedure, and the remaining life technique.[10] This is consistent with prior depreciation rates adopted by the Commission. I follow the requirements of the FERC Uniform System of Accounts.[11] My proposed depreciation rates are consistent with

[9] Uniform System of Accounts Prescribed for Public Utilities and Licensees Subject to the Provisions of the Federal Power Act, 18 C.F.R. pt. 101(12).
[10] These are the same methods, procedures, and techniques used by Mr. Watson, as stated on page 7, lines 26-27 of his direct testimony.
[11] Uniform System of Accounts Prescribed for Public Utilities and Licensees Subject to the Provisions of the Federal Power Act, 18 C.F.R. pt. 101.

recommendations contained in "Public Utility Depreciation Practices," published by the National Association of Regulatory Utility Commissioners (NARUC).[12]

Q. Are your proposed depreciation rates just and reasonable?

A. Yes. I am familiar with preparing just and reasonable rates. Nationwide, in the past ten years, my firm has participated on behalf of the commission or commission staff in approximately half of our proceedings. The U.S. Supreme Court stated:

> "the fixing of 'just and reasonable' rates, involves a balancing of the investor and the consumer interests."[13]

I prepare depreciation rates which are proper and reasonably balance investor and the consumer interests.

II. USING INTERIM REMOVAL COST AS A "PROXY" FOR TERMINAL DISMANTLING COSTS

Q. How does Mr. Watson propose the dismantlement cost for production facilities be determined in this proceeding?

A. In his testimony Mr. Watson states:

> "While dismantling costs for production facilities are not supported by a dismantling study, interim removal cost percentages are used over the life of each generating unit as a proxy to a dismantling study."[14]

[12] "Public Utility Depreciation Practices", published by the National Association of Regulatory Utility Commissioners. (1996).
[13] *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944) at 603.
[14] Direct Testimony of Dane A. Watson, p. 7, L. 21-23.

I will refer to this as Mr. Watson's "proxy" proposal.

Q. Is Mr. Watson's "proxy" proposal a new proposal?

A. Yes. Mr. Watson's "proxy" proposal is a new proposal which is drastically different than what has previously been adopted by the Commission. I do not recall ever having seen this "proxy" proposal presented in a case anywhere in the nation.

A. Terminal Dismantling Costs Are Lower than Interim Costs

Q. Are "interim removal cost percentages" a valid "proxy" for terminal dismantling cost percentages?

A. Absolutely not. The cost to remove a component as part of an interim retirement is much higher than the cost to remove that same component as part of a terminal dismantlement. Adopting this proposed "proxy" would greatly overstate the net terminal dismantling cost.

An interim removal occurs when the production unit will continue in service. For example, OG&E might shut down a production unit for a limited time to do maintenance, replace components, etc. After that the plant goes back online. An interim retirement of a component must be done in such a way that it does not damage the other components of the production unit.

On the other hand, in a terminal dismantlement, the unit will not go back into service. In a terminal dismantlement, the entire building is often brought to the ground with explosives.[15]

[15] After appropriate preparations. See PUD 07-04, which is attached as Exhibit WWD-2.

Q. Please use a specific component to demonstrate the difference in the labor used to remove that component as an interim removal, as compared to the labor needed as part of a terminal dismantlement.

A. I will use "boiler tubes" to demonstrate the difference in labor between an interim retirement and a terminal dismantlement. "Boiler tubes" are basically pipes which are inside the boiler in a steam production plant. The water inside the boiler tubes is heated by fire and creates the steam which drives the turbine.

Q. What are some of the steps to remove the boiler tubes, when those boiler tubes are being removed as part of an <u>interim</u> retirement?

A. In response to a discovery request, OG&E admitted that some of the

> "steps to remove the boiler tubes when those boiler tubes are being replaced as part of an interim retirement (the plant will go back in service) include, but are not necessarily limited to, the following:
> 1. workers assemble a scaffolding up inside the boiler,
> 2. workers (working on the scaffolding) use handheld tools to remove the boiler tubes which will be retired,
> 3. the boiler tubes that have been removed are lowered to grade level on a cable using a winch or similar equipment,
> 4. other workers working at the grade level disconnect the boiler tubes from the winch or cable."[16]

This labor is required for an **<u>interim</u>** removal.

[16] OGE response to PUD 07-03. A copy of this response is attached as Exhibit WWD-3.

Q. When those boiler tubes are being removed as part of a terminal retirement, do "workers assemble a scaffolding up inside the boiler" and "use handheld tools to remove the boiler tubes" and lower the boiler tubes "to grade level on a cable"?

A. No. In the last four actual terminal demolitions of OG&E steam production units, the "building/structure which contained the boiler" [which includes the boiler tubes], was brought down to grade level using "explosives". [17]

In a **terminal** dismantlement, below are pictures of a retired OG&E production unit being brought to grade level using explosives.[18]

[17] After appropriate preparations. OGE response to PUD 07-04, a copy of this response is attached as Exhibit WWD-2.
[18] *Old power plant unit intentionally imploded*, 2 News, Oklahoma. Posted Mar 23, 2016.

Q. In the interim retirement as previously discussed, the workers used "handheld tools to remove the boiler tubes". In a terminal dismantlement, after the boiler structure has been brought to the ground using explosives, are the materials then primarily cut by workers using "handheld tools"?

A. No. In a terminal demolition, after the structure has been brought to ground level by explosives, the material is then generally cut to a size that can be transported primarily by "hydraulic shearers."

Hydraulic Shear

A hydraulic shear is a piece of heavy equipment which can reach into the pile and, using hydraulic pressure on strong shearers, can cut through a steel beam much like a person can cut through paper with a pair of scissors. The hydraulic shear can then pick up the freed piece and place it in the proper location for transport.

Q. What is another difference between interim retirements and terminal retirements?

A. The terminal dismantlement of a major production plant produces gross salvage, including scrap metals worth millions of dollars. How much that scrap is worth depends on the market prices at the time of demolition. These millions of dollars of gross salvage offset some, or potentially all, of the dismantlement cost (depending on, among other things, the market price of scrap at the time of dismantlement).[19]

[19] The cost of removing asbestos from the production units is recovered outside of the depreciation rates, in an ARO (OGE response to PUD 07-06).

The currently approved OG&E depreciation rates, approved in the 2021 case, effectively assume the gross salvage value will be approximately equal to the dismantlement cost.[20] This same position on terminal net salvage has been used in the depreciation rates approved for OG&E in each of the four most recent cases (the 2015 case, 2017 case, 2018 case[21] and the previously discussed 2021 case).

Q. What do you recommend for the production plant net salvage percents?

A. I recommend that the same production plant net salvage percents that are used in the currently approved OG&E depreciation rates be used in this case.[22] The production plant net salvage percents used in the current OG&E depreciation rates are shown on pages 9-14 of Exhibit WWD-29 in Cause No. PUD 202100164.

[20] The Final Order (Order No. 728277) in Cause No. PUD 202100164 adopted a Stipulation which stated:
> "OG&E shall utilize depreciation rates as recommended by the Attorney General in his responsive testimony with the exception of depreciation rates for transmission and general plant accounts. Transmission and general plant accounts shall be based on the rates recommended by OIEC in responsive testimony."

(Page 4 of Final Order). The AG rates were adopted for production plant. The AG witness's responsive testimony stated:
> "The currently approved OGE depreciation rates effectively takes the second, middle-of-the-road possibility stated above. The currently approved OGE depreciation rates effectively assume the salvage value will be approximately equal to the decommissioning cost…. I recommend the current treatment continue. The currently approved rates take what is the middle-of-the-road position."

Cause No. PUD 202100164, page 81-82 *Responsive Testimony of William W. Dunkel* on behalf of the AG.

[21] In Cause No PUD201500273, for production plant, the Commission adopted the depreciation rates proposed by OIEC/OER witness Jacob Pous (page 8, Order No. 662059 in Cause No PUD201500273). In that case, witness Pous recommended that the inclusion of the OGE proposed dismantlement cost in that proceeding "be denied." Direct Test. of Jacob Pous 28:30–31, Okla. Gas. & Elec. Co. Rates, Charges, & Tariffs for Elec. Serv., No. PUD 201500273 (Okla. Corp. Comm'n Mar. 21, 2016). In both Cause No. PUD 201700496 and Cause No. PUD 201800140 the settlement adopted by the Commission continued to use depreciation rates from Cause No. PUD 201500273 [that do not incorporate any OGE decommissioning cost estimates].

[22] This does not imply that the production plant depreciation rates would be the same as the currently approved depreciation rates. There are other factors, other than the net salvage percent, which are used in calculating the depreciation rate.

The Final Order in Cause No. PUD 202100164 is dated September 8, 2022,[23] which is only one year and eight months ago.[24] Using these recently approved production plant net salvages is far more reasonable than the "proxy" Mr. Watson has proposed, which is to incorrectly pretend the terminal removal cost percents are the same as the interim removal cost percents.

In addition, Mr. Watson admits that currently approved production plant net salvage percents are relevant in this case. In response to a discovery request, he said:

> **"Given that overall approved (via settlement) net salvage rates for this account are between 0 and negative 4 percent** and experienced net salvage seen in recent years was much greater than the approved amounts, **this study's recommendation is based on a conservative projection of negative 5 percent**."[25] (Emphasis added)

[23] ORDER NO. 728227 in Cause No. PUD 202100164.
[24] For the interim part of the calculation, I use the same interim net salvage percent that was accepted in the 2021 case. For example, for the largest account, Account 312 I use the interim net salvage of -21%, which is what was accepted in the 2021 case. In this proceeding Mr. Watson filed a -5% interim net salvage for Account 312. Had I used that -5% as the interim net salvage, the depreciation rates would have been lower than what I am proposing (the OGE response to PUD 7-07 shows a comparison of the interim net salvage percents filed by OGE in the 2021 case and in this case).
[25] From the OGE response to PUD 07-02. This response is attached as Exhibit WWD-4.

III. NET SALVAGE OF DISTRIBUTION, TRANSMISSION, AND GENERAL PLANT

A. Collecting 11 Times the Actual Cost

Q. What costs does OG&E actually incur for net salvage in Account 356, Overhead Conductors and Devices?

A. Below I have copied the actual negative net salvage costs incurred for several past years from page 128 of the OG&E depreciation study.[26] I have added the averages for several different groups of years.

Figure 1.

Account 356, Overhead Conductors and Devices	Negative Net Salvage Actually Incurred
2009	814,217
2010	1,243,525
2011	(3,249)
2012	87,560
2013	167,562
2014	193,268
2015	525,452
2016	1,733,434
2017	178,611
2018	237,807
2019	8,034
2020	16,294
2021	1,019,886
2022	903,602
Last 5 Years Average	437,124
Last 10 Years Average	498,395
Last 14 Years Average	509,000

[26] Direct Exhibit DAW-2. P. 128, Account 356.

As you can see, the net salvage costs OG&E actually incurs in this account average around $500,000 per year, with the exact number depending on what years are included in the average.

Q. In Account 356, how much does Mr. Watson recommend be collected from ratepayers, just for net salvage?

A. Just for net salvage, Mr. Watson recommends $5,420,551 per year be collected from ratepayers for this account. Mr. Watson proposes to collect from ratepayers **11 times** the average net salvage incurred costs.[27]

Q. Can you demonstrate that Mr. Watson recommends $5,420,551 per year be collected from ratepayers just for net salvage in this Account 356?

A. Yes. This number was provided by Mr. Watson in discovery. The amount of $5,420,551 for net salvage in Account 356 under Mr. Watson's proposal, was directly provided by OG&E in response to PUD 06-02. This response is attached as Exhibit WWD-5.[28]

Q. Should the net salvage that witness Watson has proposed for Account 356 be accepted**?**

A. No. Charging ratepayers 11 times as much as the average cost OG&E incurs for net salvage is excessive. The U.S. Supreme Court stated:

> "the fixing of 'just and reasonable' rates, involves a balancing of the investor and the consumer interests."[29]

[27] $5,420,551/ $437,124 [5-year average cost] = 12 times. $5,420,551/ $498,395 [10-year average cost] = 11 times. $5,420,551/ $509,000 [14-year average cost] = 11 times.

[28] In this response, Mr. Watson refers to the $5,420,551 in Account 356 as "COR Annual Accrual $". In response to discovery request PUD 11-08 Mr. Watson agreed this is his proposed Net Salvage amount, not just the COR amounts.

[29] *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944) at 603.

Charging ratepayers 11 times as much as the average cost OG&E incurs per year for net salvage, is not a reasonable "balancing of the investor and the consumer interests."

B. Recommendation on Net Salvage

Q. What do you recommend for net salvage?

A. Regarding net salvage, the NARUC *Public Utility Depreciation Practices* states:

> "Normally, the process should start by analyzing past salvage and cost of removal data and by using the results of this analysis to project future gross salvage and cost of removal." [30]

A net salvage recommendation requires judgment. I recommend the judgments made in setting these rates should be fair to all parties, including investors, current ratepayers, and future ratepayers. The transmission, distribution, and general plant accounts for which my net salvage recommendation differs from witness Watson's filing are listed below:[31]

[30] NARUC *Public Utility Depreciation Practices*, pages 157 to 158.

[31] Production net salvage is address in a different section of this testimony. All accrual amounts are on investments as of December 31, 2022. For those accounts for which my net salvage recommendation is the same as Mr. Watson's, that indicates I found the filed percent acceptable based upon my analysis. That the numeric value of our recommendations is the same does not imply I have accepted Mr. Watson's concepts or methods.

Figure 2.

		Negative Net Salvage Actually Incurred (5-year Average)	OG&E PROPOSED			PUD PROPOSED	
			OG&E Proposed Net Salvage Annual Accrual	Ratio: OG&E Proposed Accrual / Actually Incurred		PUD Proposed Net Salvage Annual Accrual	Ratio: PUD Proposed Accrual / Actually Incurred
		A	B	C=B/A		D	E=D/A
Transmission							
354.0	Towers and Fixtures	31,811	500,578	15.7		340,191	10.7
355.0	Poles and Fixtures	3,140,069	9,553,821	3.0		6,162,119	2.0
356.0	Overhead Cond.& Dev.	437,124	5,420,551	12.4		1,970,096	4.5
352.0	Structures and Improv.						
361.0	Structures and Improv.						
Total 361 +352		29,403	27,575	0.9		58,801	2.0
Distribution							
365.0	Overhead Cond. & Dev.	3,559,706	10,600,643	3.0		9,568,984	2.7
366.0	Underground Conduit	470,484	1,316,170	2.8		1,000,349	2.1
367.0	Underground Cond. & Dev.	4,946,708	12,287,147	2.5		11,104,620	2.2
368.0	Line Transformers	5,814,470	16,279,796	2.8		15,198,617	2.6
369.0	Services	487,344	1,639,899	3.4		1,347,258	2.8
Total		18,917,120	57,626,180			46,751,035	

Q. In the future, will the net salvage accruals (depreciation expense) for net salvage stay at the fixed dollar amounts shown on the prior Table?

A. No. There is not a fixed dollar amount each year. What is approved are depreciation rates. In the future OG&E will multiply the approved depreciation rate times the Plant in Service investment that exists at that time. At a fixed depreciation rate, the accrual dollar amount for net salvage will change in the future in proportion to the change in Plant in Service investment in the account.

For example, for Account 368, the above Table shows my recommended net salvage accrual of $15,198,617, which is based on the investment as of December 31, 2022. At my recommended depreciation rate, if at some time in the future, the Plant in Service investment is 10% higher than it was on December 31, 2022, then the annual depreciation accrual for net salvage will then be 10% higher than $15,198,617 which would be $16,718,479.

IV. LIFE OF WIND PRODUCTION FACILITIES

Q. What change does Mr. Watson propose pertaining to the life of the wind production facilities?

A. Mr. Watson proposes to shorten the life of the wind production facilities from the currently approved 30-year life[32] to a 25-year life.[33]

[32] In the 2021 case the AG witness's responsive testimony stated: "I recommend a 30-year service life be used in calculating the depreciation rates for wind farms." (Cause No. PUD 202100164, Responsive Testimony of William W Dunkel on behalf of the AG, page 44). The AG rates were adopted for production plant. The Final Order (Order No. 728277) in Cause No. PUD 202100164 adopted a Stipulation which stated:

> "OG& E shall utilize depreciation rates as recommended by the Attorney General in his responsive testimony with the exception of depreciation rates for transmission and general plant accounts. Transmission and general plant accounts shall be based on the rates recommended by OIEC in responsive testimony."

(Page 4 of Final Order).

[33] The Retirement Year Mr. Watson used is shown on page 118 of Direct Exhibit DAW-2. For Solar and Wind production, the retirement year is 25 years after the first year in service.

Q. What life for wind production facilities does OG&E use in its integrated resource plan ("IRP")?

A. For IRP purposes, OG&E uses "30 years for the life of wind" production facilities to calculate the depreciation cost of wind farms in its cost analyses in its most recent IRP in 2021.[34]

Q. What is the average service life of wind production facilities according to the survey sponsored by the U.S. Department of Energy?

A. The survey of Anticipated Wind Project Lifetimes sponsored by the U.S. Department of Energy found that "[p]roject developers, sponsors, and long-term owners now most-commonly assume 30-year useful project lives." The average life in the survey was 29.6 years. This survey states:

> We find that most wind project developers, sponsors, and long-term owners have increased project-life assumptions over time, from a typical term of ~20 years in the early 2000s to ~25 years by the mid-2010s and ~30 years more recently.[35]

Q. Do the land leases for the wind farms limit the life to less than 30 years?

A. No. The term of the land lease can be extended up to a total term of 50 years, according to an OG&E discovery response.[36]

[34] From the OGE response to PUD O6-08.
[35] Ryan Wiser and Mark Bolinger, "Benchmarking Anticipated Wind Project Lifetimes: Results from a Survey of U.S. Wind Industry Professionals" 1, Lawrence Berkeley National Laboratory (September 2019), attached as Exhibit WWD-6. The report was sponsored by the U.S. Department of Energy
[36] The Crossroad Wind Farm went into service in 2011. The public statements in the OGE response to PUD 06-10 include the following: "Date Contract Expires – Term limits start in 2011 and run through 2041, Date 1st 10 Year Extension – 2051, Date 2nd 10 Year Extension – 2061. The public response to PUD 06-10 has been attached as Exhibit WWD-7.

Q. What life do you recommend for determining the depreciation rates for wind farms?

A. I recommend the currently approved 30-year life continue to be used in calculating the depreciation rates for wind farms. OG&E uses a 30-year life in its IRP cost analyses. In addition, the survey of Anticipated Wind Project Lifetimes sponsored by the U.S. Department of Energy found that "[p]roject developers, sponsors, and long-term owners now most-commonly assume 30-year useful project lives."

V. LIFE FOR SOLAR PRODUCTION FACILITIES

Q. What change does Mr. Watson propose pertaining to the life of solar production facilities?

A. Mr. Watson proposes to shorten the life of the solar production facilities from the currently approved 30-year life[37] to a 25-year life. [38]

[37] The AG witness's responsive testimony stated: "I recommend a 30-year average service life for Account 344, Generators – Solar, which contains the solar panel modules." (Cause No. PUD 202100164, Responsive Testimony of William W Dunkel on behalf of the AG, page 47). The AG rates were adopted for production plant. The Final Order (Order No. 728277) in Cause No. PUD 202100164 adopted a Stipulation which stated:

> "OG& E shall utilize depreciation rates as recommended by the Attorney General in his responsive testimony with the exception of depreciation rates for transmission and general plant accounts. Transmission and general plant accounts shall be based on the rates recommended by OIEC in responsive testimony."

(Page 4 of Final Order).

[38] The Retirement Year Mr. Watson used is shown on page 118 of Direct Exhibit DAW-2. For Solar and Wind production, the Retirement Year is 25 years after the first year in service.

Q. What average service life did OG&E use in the cost studies for solar production in its most recent IRP?

A. OG&E uses "30 years for the life of wind and solar" production facilities to calculate the depreciation cost in its cost analyses in its most recent IRP in 2021.[39] OG&E had also used a 30-year service life for solar production facilities in its cost analyses in it's 2018 IRP.

Q. What is the average life of utility-scale solar production facilities according to the survey sponsored by the U.S. Department of Energy?

A. The survey sponsored by the U.S. Department of Energy found that for utility-scale solar production projects, "17 out of 19 organizations use 30 years or more." The average life in the solar survey was about 32.5 years.[40]

Q. What lifespan is used in the currently approved OG&E depreciation rates?

A. A 30-year life span is used in the currently approved OG&E solar depreciation rates.[41]

[39] From the OGE response to PUD O6-08.

[40] Ryan Wiser and Joachim Seel, "Benchmarking Utility-Scale PV Operational Expenses and Project Lifetimes" 3, Lawrence Berkeley National Laboratory (June 2020), attached as Exhibit WWD-8. The report was sponsored by the U.S. Department of Energy.

[41] The Final Order (Order No. 728277) in Cause No. PUD 202100164 adopted a Stipulation which stated:

> "OG& E shall utilize depreciation rates as recommended by the Attorney General in his responsive testimony with the exception of depreciation rates for transmission and general plant accounts. Transmission and general plant accounts shall be based on the rates recommended by OIEC in responsive testimony."

(Page 4 of Final Order). The AG rates were adopted for production plant. The AG witness's responsive testimony stated: "I recommend a 30-year average service life for Account 344, Generators – Solar, which contains the solar panel modules." Cause No. PUD 202100164, Responsive Testimony of William W Dunkel on behalf of the AG, page 47.

Q. What lifespan does Mr. Watson use in his depreciation study for the solar production accounts?

A. Witness Watson uses a 25-year life span or less. For example, the first OG&E solar facility was installed at the Mustang plant in the year 2015. In its calculations, OGE assumes that the facility will retire in the year 2040,[42] which is a lifespan of only 25 years.

For the additional solar investments that were installed at the Mustang plant in the year 2018, OG&E also assumes they will retire in the year 2040, which is a lifespan of only 22 years.

Q. What is the manufacturer warranty period for the solar panels?

A. The manufacturer that provides the largest quantity of solar (i.e., "photovoltaic" or "PV") panel modules to OG&E warranties for 25 years that the "PV Modules shall be free from defects in materials and workmanship." They also warranty that "the power output at the end of the final year of the 25-year warranty period will be at least 82.6%."[43]

Of course, that does not mean the solar panel module's useful life ends at age 25; it is still expected (warrantied) to be operating at least at 82 percent of the initial capacity at the age of 25 years.

[42] Direct Exhibit DAW-2, page 118. For each solar facility the Average Service Life (ASL) effectively used in his calculations is shown on the Solar tab of Mr. Watson's Excel workpaper "OGE Accrual at 2022 Final". For every solar unit and vintage and account, Mr. Waston's effective ASL is 25 years or less.
[43] From the OGE response to PUD O6-09.

Q. Is a solar production facility generally expected to retire at the end of the 25-year warranty period?

A. No, according to the survey sponsored by the U.S. Department of Energy. That survey found solar projects are expected to be in service longer than the warranty period. That survey states:

> "Modules are now typically warranted for 25- or even 30-years, and are **generally expected to have some useful life after warranties expire.** Project life expectations from developers, sponsors and owners often exceed, by 5 to 10 years, these module warranty durations."[44] (Emphasis added).

Q. What service life do you recommend for the OG&E solar panels?

A. I recommend the continued use of the currently approved 30-year life. A 30-year life is consistent with the 30-year life OG&E uses in its IRP cost analyses and is less than the 32.5-year average found in the survey sponsored by the U.S. Department of Energy. For comparison, Witness Watson proposes a 25-year life. Using a 25-year life produces a higher claimed depreciation expense than produced by a 30-year life.

VI. SOFTWARE

Q. What account contains capitalized software?

A. Account 303 contains the capitalized software. A software project which costs less than $5,000 is not capitalized.[45] The software below this $5,000 cost is expensed.

[44] Ryan Wiser and Joachim Seel, "Benchmarking Utility-Scale PV Operational Expenses and Project Lifetimes" 3, Lawrence Berkeley National Laboratory (June 2020), attached as Exhibit WWD-8. The report was sponsored by the U.S. Department of Energy.
[45] OGE response to PUD 8-02.

Q. What is one example of a major problem in this account?

A. The investment in the Customer Care System (CCS) is in excess of $20 million. This software was installed in 1998. In response to a discovery request, OG&E stated that:

> "a. The Customer Care System software is still in-use and remains in Plant In-Service, however the asset is fully amortized as of 2004.
> b. The asset is fully amortized as of 2004 but has not been retired on the books."[46]

This investment was recovered over a much shorter period than its useful life. This software is still in service after more than two decades, but the investment was recovered from the ratepayers over only 6 years. This is improper.

There are many other investments in this account for which the investment is recovered over a much shorter period than its useful life.[47]

Q. What party's discovery revealed this problem?

A. Discovery conducted by OIEC first revealed this issue.[48] At the time I am writing this, I have not seen the OIEC testimony or recommendation on this issue. I remain open to considering other parties' recommendations when received.

Q. What do you recommend on this issue?

A. When faced with a similar issue pertaining to PSO in PUD 201700151, the Commission ordered the following regarding Account 303:

> "Mr. Garrett stated that this account includes PSO's software. He recommended a 10-year amortization period instead of the 5-year amortization period PSO proposed. Mr. Garrett's analysis was clear and convincing. Mr. Garrett testified that this recommendation reduces PSO's depreciation expense by $4,993,173 per year. Based upon the evidence in

[46] OGE response to PUD 08-01. This response is attached as Exhibit WWD-9.
[47] Attachment 1 to the OGE response to PUD 08-01.
[48] For example, OIEC 6-20 to 6-23.

> the record, the Commission accepts the recommendation of Mr. David Garrett pertaining to Account 303."[49]

That is reasonable and an improvement over what OG&E filed. I recommend this and have incorporated it into my proposed rates.

VII. LIFE ANALYSIS

Q. What is a key step in a life analysis?

A. A key step in a life analysis utilizes the actual life experience data in that account. The respected NARUC Public Utilities Depreciation Practices states the following:

> Knowing what happened yesterday may help one to better understand what is happening today and what may happen tomorrow. This is also true with depreciation studies. Historical life analysis is the study of past occurrences that may be used to indicate the future survivor characteristics of property.[50]

Regulated utilities maintain records of facilities actually in service, from which actual observed life data is determined.

A. Life of Account 370-Smart Meters

Q. What does Mr. Watson propose for the life of Account 370-Smart Meters**?**

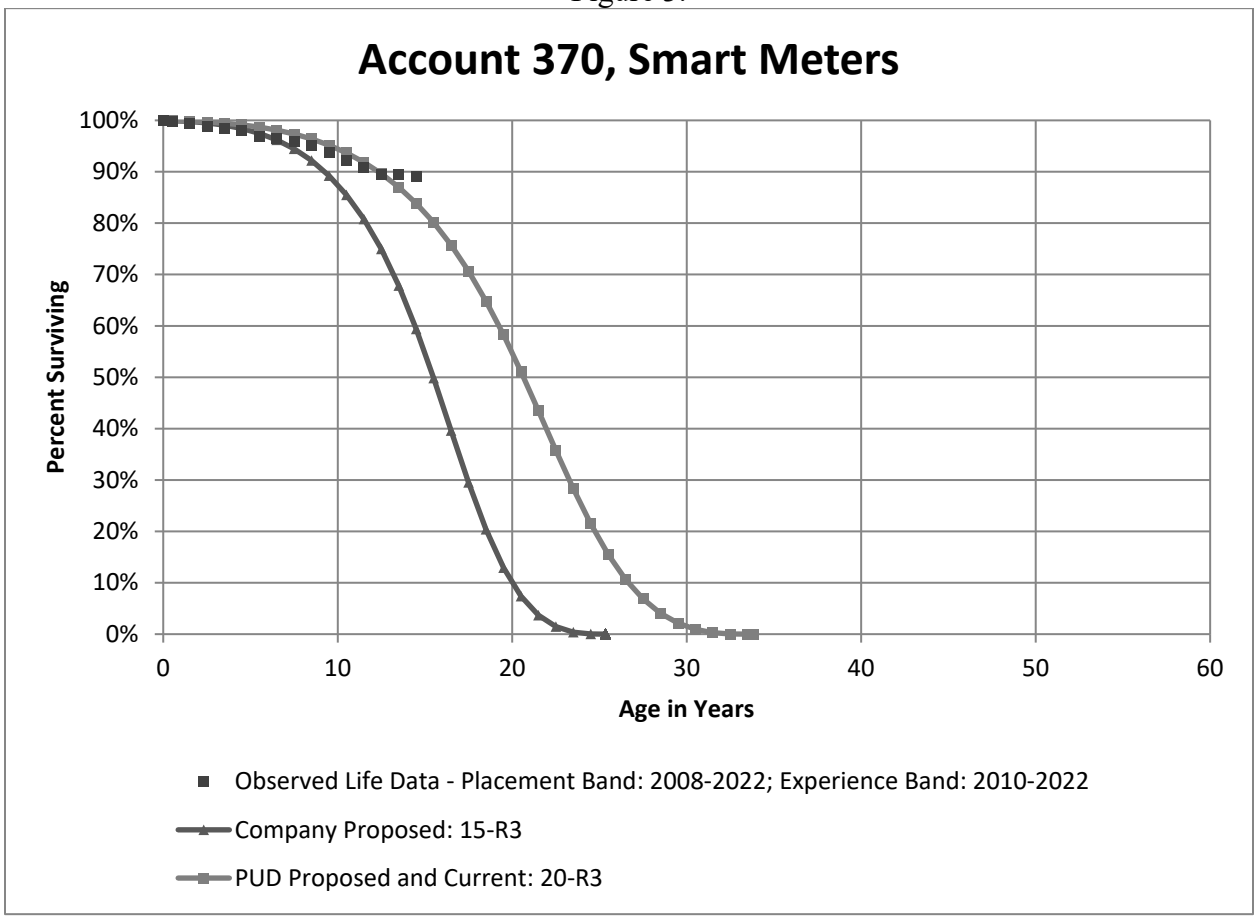
A. Mr. Watson proposes to shorten the currently approved 20-year Average Service Life to a 15-year Average Service Life.

[49] PUD 20170015, Final Order, Order No. 672864, page 29.
[50] National Association of Regulatory Utility Commissioners ("NARUC"), *Public Utilities Depreciation Practices* p. 111 (1996).

Q. Please compare witness Watson's and your life recommendations to the OG&E actual experience data for Account 370-Smart Meters.

A. Figure 3 below compares witness Watson's and my life recommendations, to the OG&E actual experience data for Account 370-Smart Meters.

Figure 3.



The Observed Life Data is the actual percentage of the investment surviving at the various ages, as determined from OG&E's own records. "15-R3" graphs the percent of the investment surviving at the various ages that witness Watson assumes for purposes of calculating his recommended depreciation rate. "20-R3" graphs the percent of the

investment surviving at the various ages incorporated into the current approved depreciation rate, and in the depreciation rate PUD recommends.

As can be seen, witness Watson's recommendation is less consistent with OG&E's actual experience with these facilities.

In addition to the visual comparison, there is an accepted mathematical analysis which determines how close a proposed survivor curve is to the observed life data. The accepted mathematical analysis[51] demonstrates that the current-approved/PUD's recommendation is a much better fit to the actual data than is the Watson's recommendation, as is shown below:

Figure 4.

Sum of Square Difference ("SSD") Comparison
Account 370, Smart Meters

Observed Life Data - Placement Band: 2008-2022; Experience Band: 2010-2022

	SSD
Company Proposed: 15-R3	1,744
PUD Proposed and Current: 20-R3	52

Note: A lower number indicates a better fit to the actual data (Observed Life Data)

The currently approved 20-R3 survivor curve is a much better fit to the actual data than is the survivor curve Mr. Watson proposes.[52]

[51] NARUC, *Public Utilities Depreciation Practices* (1996) p. 124 ("Generally, the goodness of fit criterion is the least sum of squared deviations.").
[52] The life graphs and life data for the accounts discussed in this section are shown on Exhibit WWD-10.

Q. In the life analysis, does the mathematical best fit to the observed experience data have to be used?

A. No. As stated by the respected NARUC Public Utilities Depreciation Practices, "The intent is not to select the one best curve but to consider the indicated patterns."[53] I followed this accepted practice.[54]

Q. What life do you recommend for Account 370-Smart Meters?

A. I recommend the continued use of the 20-year Average Service Life R3. It is more consistent with OG&E's actual experience.

Q. What effect does the life used in the depreciation rate calculation have on the depreciation rate?

A. A shorter life creates a higher proposed depreciation rate, everything else equal. For example, by using the 15-year Average Service Life in Account 370, witness Watson increases by over $5 million the amount of annual depreciation expense OG&E would collect from ratepayers, compared to the continued use of the more reasonable 20-year Average Service Life.[55]

[53] NARUC, *Public Utilities Depreciation Practices* (1996) p. 125.
[54] It is ***not*** my position that the one ***best*** mathematical fit to the observed experience data must be used. I also used judgement and experience.
[55] Selecting a shorter Average Service Life produces a shorter average Remaining Life. The shorter average Remaining Life in the depreciation formula produces a higher depreciation rate, everything else equal.

B. Life of Account 364-Poles, Towers and Fixtures

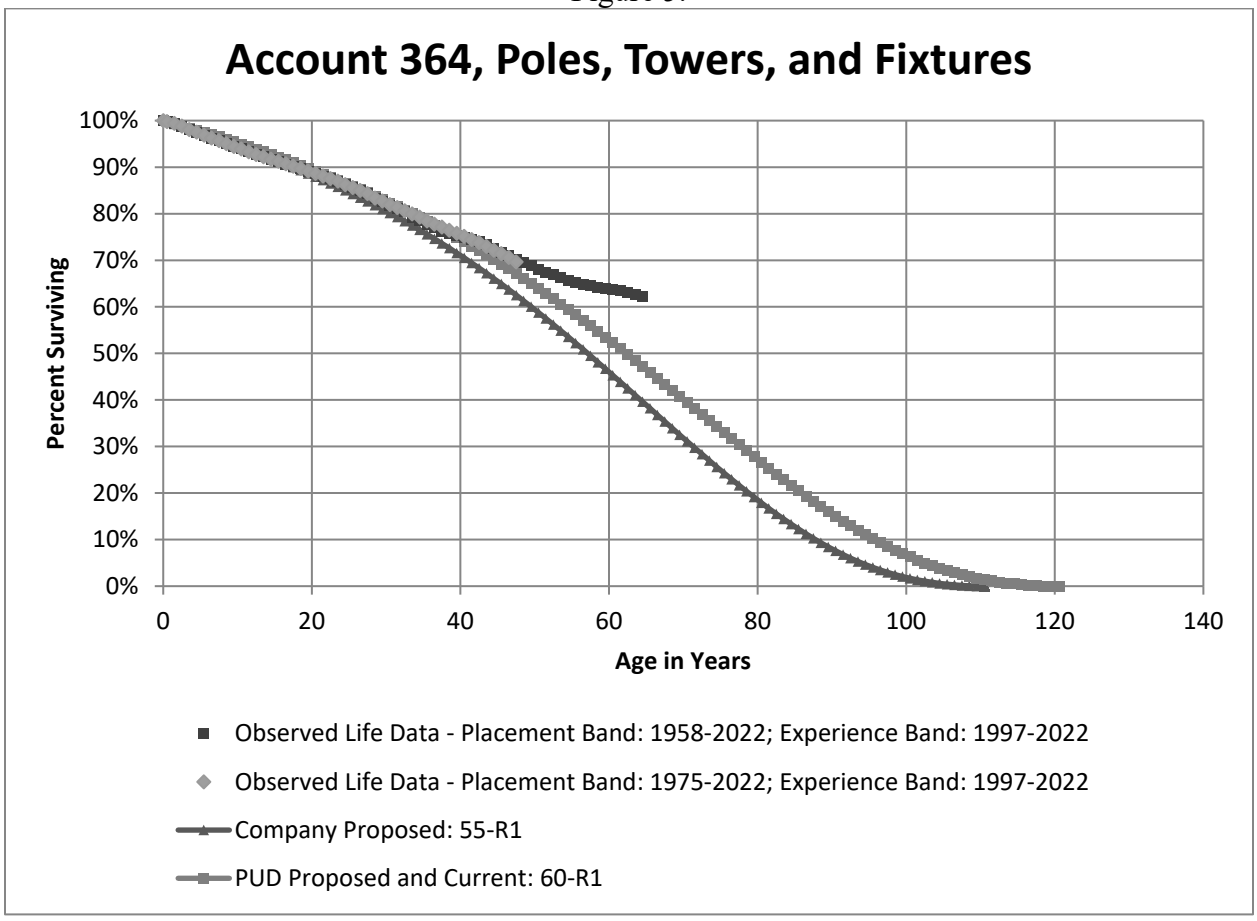
Q. What does Mr. Watson propose for the life of Account **364-Poles, Towers and Fixtures?**

A. Mr. Watson proposes to shorten the currently approved 60-year Average Service Life to a 55-year Average Service Life.

Q. Please compare witness Watson's and your life recommendations to the OG&E actual experience data for Account 364-Poles, Towers and Fixtures.

A. Figure 5 below compares witness Watson's and my life recommendations to the OG&E actual experience data for **Account** 364-Poles, Towers and Fixture.

Figure 5.



As can be seen, the currently approved survivor curve is more consistent with OG&E's actual experience with these facilities than is witness Watson's recommendation.

In addition to the visual comparison, the mathematical analysis demonstrates that the current-approved/PUD's recommendation is a much better fit to the actual data than is the Watson's recommendation, as shown below:

Figure 6.

Sum of Square Difference ("SSD") Comparison
Account 364, Poles, Towers, and Fixtures

Observed Life Data - Placement Band: 1958-2022; Experience Band: 1997-2022

	SSD
Company Proposed: 55-R1	4,400
PUD Proposed and Current: 60-R1	1,492

Note: A lower number indicates a better fit to the actual data (Observed Life Data)

The currently approved 60-R1 survivor curve is a better fit to the actual data than is the survivor curve Mr. Watson proposes.[56]

Q. What life do you recommend for Account 364-Poles, Towers and Fixtures?

A. I recommend the continued use of the 60-year Average Service Life R1. It is more consistent with OG&E's actual experience.

[56] The life graphs and life data for the accounts discussed in this section are shown on Exhibit WWD-10.

C. Life of Account 367-Underground Conductors and Devices

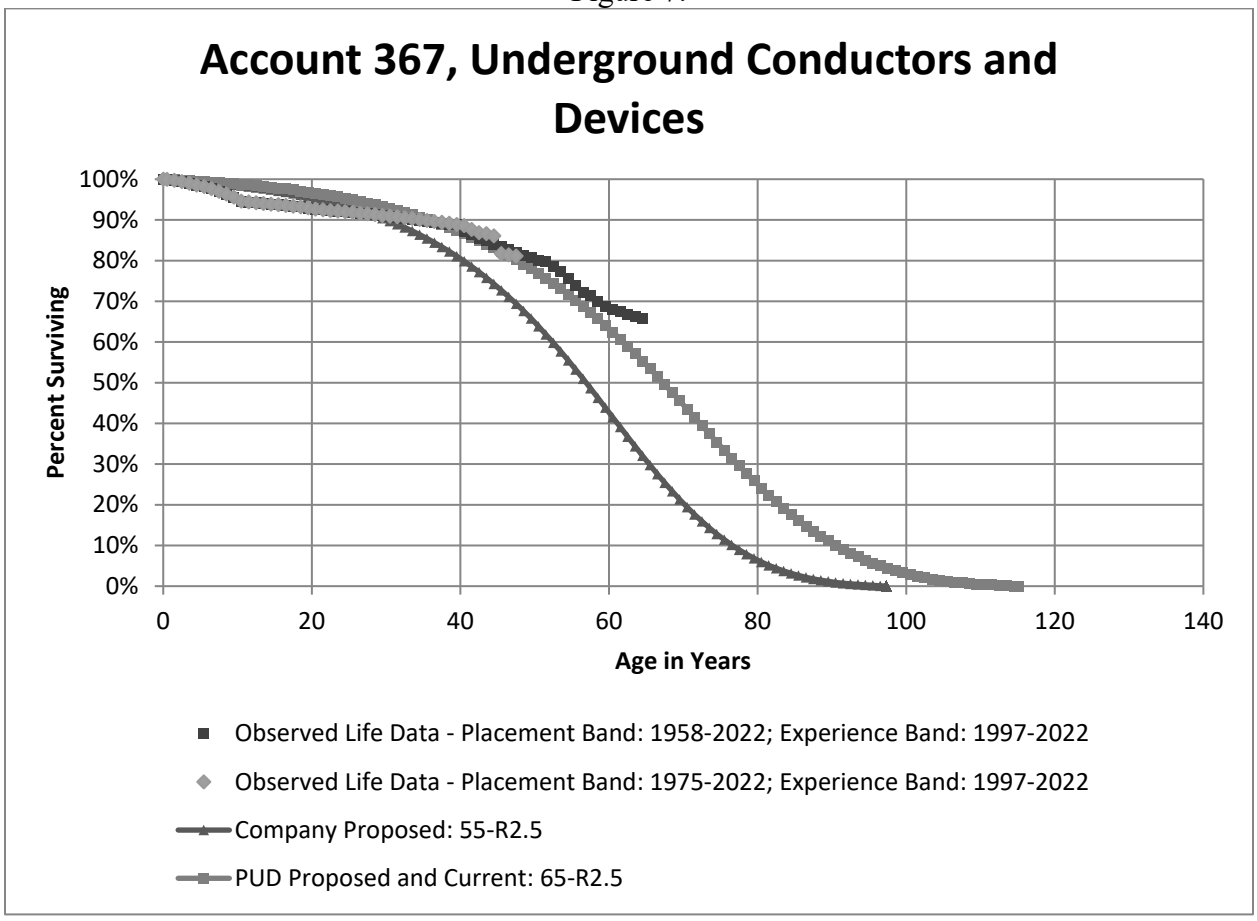
Q. What does Mr. Watson propose for the life of Account **367-Underground Conductors and Devices?**

A. Mr. Watson proposes to shorten the currently approved 65-year Average Service Life to a 55-year Average Service Life.

Q. Please compare witness Watson's and your life recommendations to the OG&E actual experience data for Account 367-Underground Conductors and Devices?

A. Figure 7 below compares witness Watson's and my life recommendations to the OG&E actual experience data for **Account 367.**

Figure 7.



As can be seen, the currently approved survivor curve is more consistent with OG&E's actual experience with these facilities than is witness Watson's recommendation.

In addition to the visual comparison, the mathematical analysis demonstrates that the current/PUD's recommendation is a better fit to the actual data than is witness Watson's recommendation, as shown below:

Figure 8.

Sum of Square Difference ("SSD") Comparison
Account 367, Underground Conductors and Devices

Observed Life Data - Placement Band: 1958-2022; Experience Band: 1997-2022

	SSD
Company Proposed: 55-R2.5	10,442
PUD Proposed and Current: 65-R2.5	822

Note: A lower number indicates a better fit to the actual data (Observed Life Data)

The currently approved 65-R2.5 survivor curve is a better fit to the actual data than is the survivor curve Mr. Watson proposes.[57]

Q. What life do you recommend for Account 367-Underground Conductors and Devices?

A. I recommend the continued use of the currently approved 65-year Average Service Life R2.5. It is more consistent with OG&E's actual experience.

[57] The life graphs and life data for the accounts discussed in this section are shown on Exhibit WWD-10.

D. Life of Account 368-Line Transformers

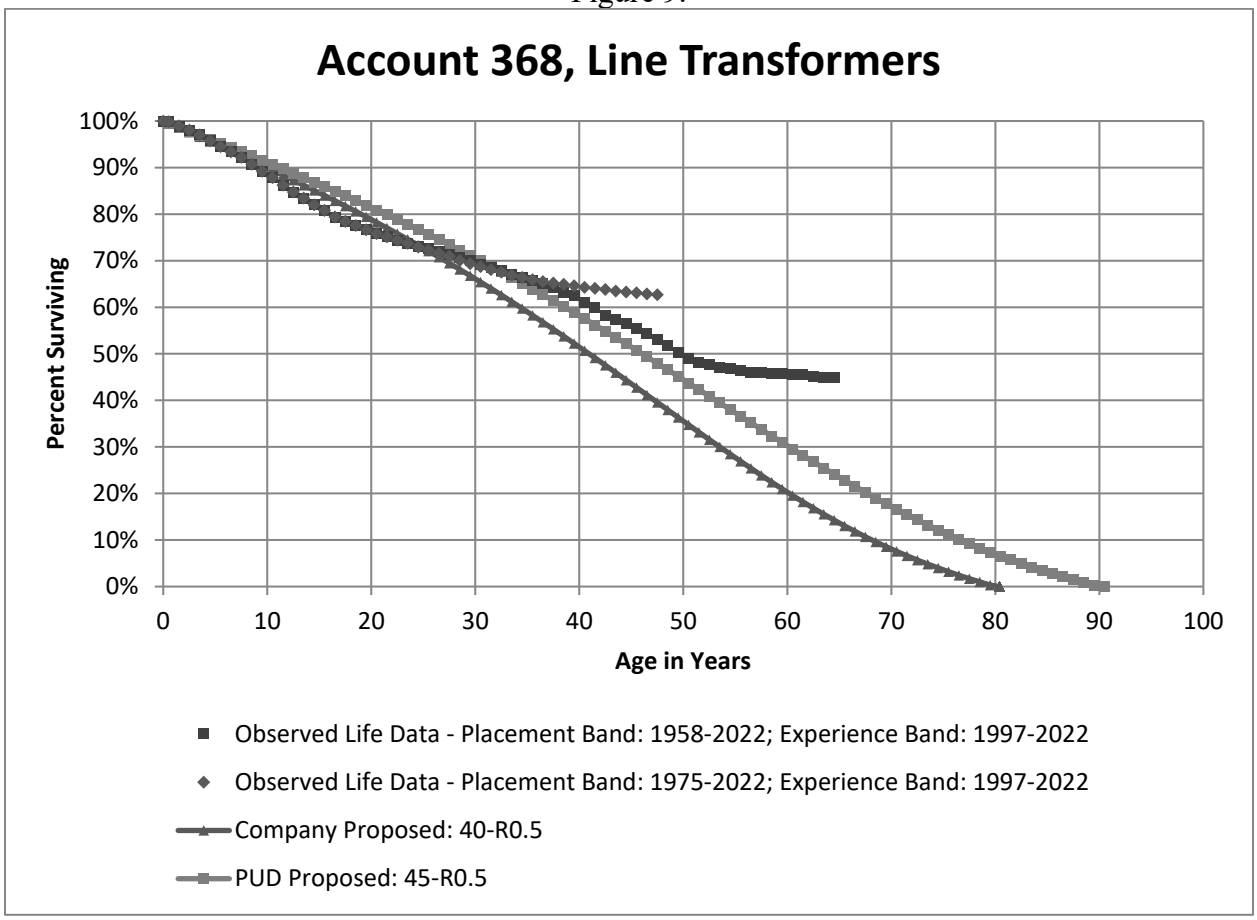
Q. What does Mr. Watson propose for the life of Account 368- Line Transformers?

A. Mr. Watson proposes to shorten the currently approved 48-year Average Service Life to a 40-year Average Service Life.

Q. Please compare witness Watson's and your life recommendations to the OG&E actual experience data for Account 368- Line Transformers?

A. Figure No. 9 below compares witness Watson's and my life recommendations to the OG&E actual experience data for **Account 368.**

Figure 9.



As can be seen, the PUD proposed survivor curve is more consistent with OG&E actual experience with these facilities than is witness Watson's recommendation.

In addition to the visual comparison, the mathematical analysis demonstrates that the PUD's recommendation is a better fit to the actual data than is witness Watson's recommendation, as shown below:

Figure 10.

Sum of Square Difference ("SSD") Comparison
Account 368, Line Transformers

Observed Life Data - Placement Band: 1958-2022; Experience Band: 1997-2022

	SSD
Company Proposed: 40-R0.5	10,004
PUD Proposed: 45-R0.5	3,313

Note: A lower number indicates a better fit to the actual data (Observed Life Data)

The PUD proposed 45-R0.5 survivor curve is a better fit to the actual data than is the survivor curve Mr. Watson proposes.[58]

Q. What life do you recommend for Account 368?

A. I recommend the 45-year Average Service Life R0.5. It is more consistent with OG&E's actual experience.

[58] The life graphs and life data for the accounts discussed in this section are shown on Exhibit WWD-10.

VIII. HALF OF FAMILIES HAVE A COST OF MONEY OVER **20% A YEAR**

Q. Is setting depreciation rates higher than appropriate, a valid low-cost way to collect money which OG&E can use for other purposes, such as funding construction projects?

A. No. Collecting extra money from the ratepayers is not low-cost for the ratepayers. We can prove that the incremental cost of money is over 20% for almost half of all families.

The Federal Reserve Bulletin shows that 45.4 percent of families carry a credit card balance.[59] According to the Federal Reserve, the average interest charged on credit card balances is 20.40 percent.[60] Every extra dollar that is taken from these families because of depreciation rates being higher than they should be, is one less dollar they could have used to pay down their credit card balance, which is costing them over 20 percent per year in interest.

Stated another way, for almost one-half of all families, their marginal cost of money is over 20 percent per year.

IX. PUD RECOMMENDED DEPRECIATION RATES

Q. What is the following Table?

A. The following table compares the annual depreciation expense at the current depreciation rates, and at the OG&E proposed depreciation rates, and at the PUD proposed depreciation rates. Please note that these depreciation expense figures are based on the investment level

[59] *Changes in U.S. Family Finances from 2016 to 2019: Evidence from the Survey of Consumer Finances*, Federal Reserve Bulletin Vol. 3, No. 3 (Sept. 2017) at page 23. This is attached as Exhibit WWD-11.
[60] January 2023 *Federal Reserve Statistical Release* (showing data from November 2022). Credit Cards, Accounts Assessed Interest. This attached as Exhibit WWD-12.

as of December 31, 2022. The dollar impact in the rate case may differ because of a different investment level being used. The actual calculation of the depreciation expense using the PUD's proposed rates is included in the testimony of other witnesses.

Figure 11.

		OG&E Proposed		PUD Proposed		
	Current Rates $ Accrual	$ Accrual	Difference From Current	$ Accrual	Difference From Current	Difference From OG&E
Intangible Plant	29,115,125	38,800,197	9,685,072	24,393,648	(4,721,477)	(14,406,549)
Steam Production	90,713,068	100,261,931	9,548,862	93,094,144	2,381,076	(7,167,787)
Other Production	77,544,134	86,999,795	9,455,661	71,887,498	(5,656,635)	(15,112,296)
Transmission Plant	63,825,227	62,559,272	(1,265,955)	55,572,898	(8,252,329)	(6,986,374)
Distribution Plant	149,218,749	178,229,924	29,011,174	156,712,818	7,494,069	(21,517,105)
General Plant	33,750,850	34,738,050	987,200	34,738,050	987,200	0
Total Depreciable	**444,167,153**	**501,589,168**	**57,422,015**	**436,399,056**	**(7,768,097)**	**(65,190,112)**

It is actually depreciation rates that are approved. The OG&E proposed depreciation rates and the PUD proposed depreciation rates, compared to the currently approved depreciation rates, are shown below.

Figure 12.

		OG&E Proposed		PUD Proposed		
	Current Rates Accrual Rate	Accrual Rate	Difference from Current	Accrual Rate	Difference from Current	Difference from OG&E
Intangible Plant	8.63%	11.49%	2.87%	8.05%	-0.57%	-3.44%
Steam Production	2.76%	3.05%	0.29%	2.83%	0.07%	-0.22%
Other Production	3.51%	3.93%	0.43%	3.25%	-0.26%	-0.68%
Transmission Plant	2.07%	2.03%	-0.04%	1.80%	-0.27%	-0.23%
Distribution Plant	2.65%	3.17%	0.52%	2.79%	0.13%	-0.38%
General Plant	6.22%	6.40%	0.18%	6.40%	0.18%	0.00%
Total Depreciable	**2.94%**	**3.32%**	**0.38%**	**2.89%**	**-0.05%**	**-0.43%**

Q. What depreciation rates do you recommend?

A. For the reasons stated in this testimony, I recommend the depreciation rates in the PUD columns of Exhibit WWD-19.

X. THE TWO NEW POLICIES MR. WATSON PROPOSES WOULD IMPROPERLY ADD $100S OF MILLIONS TO FUTURE CASES

Q. Does Mr. Watson propose two new policies which, if accepted, which set the precedent for huge improper increases?

A. Yes. Mr. Watson proposes two improper policies. He did not fully implement these policies in the rates he filed in this proceeding. However, if the order in this case implies acceptance of those improper policies, that would set the precedent for hundreds of millions of dollars of future improper increases in depreciation expense.

Q. What is the goal of this section of your testimony?

A. The Commission should be very careful that nothing in its order implies acceptance of Mr. Watson's new proposal to use

> "interim removal cost percentages… **as a proxy** to a dismantling study."[61] (Emphasis added).

Likewise, the Commission should be very careful that nothing in its order implies acceptance of Mr. Watson's proposed policy to charge current ratepayers for future inflation.

[61] Direct Testimony of Dane A. Watson, p. 7, L. 21-23.

Even inadvertent wording by the Commission could be seized upon in future cases as establishing a precedent for huge and improper depreciation rate increases.

Q. Did Mr. Watson include in the depreciation rates he filed in this case the full impact of his proposed policies?

A. No. Had he proposed depreciation rates which included the full impact of his new proposed policies, that would have been a several hundred-million-dollar annual increase, which would have alerted everyone that there was a problem with his proposed policies. He stated his policies, but only included a tiny portion of the impact of those policies in the depreciation rates he actually proposed for purposes of this proceeding.

As an analogy, we have all heard advertisements from a video service, cable TV company, or satellite radio service which ask us to make a long-term commitment based upon an **introductory** rate. They may not even mention what the rate will be after the "introductory" rate expires. This is like what Mr. Watson is attempting to do in this case.

A. Mr. Watson Does Not Disclose the Full Impact of His "Proxy" Proposal.

Q. Does Mr. Watson disclose the full impact of his proposal to use interim removal cost percentages as a "proxy" for terminal dismantling cost percentages?

A. No. The full impact of his proposal to use interim removal cost percentages as a "proxy" for terminal dismantling cost percentages would be a depreciation expense increase of $184 million per year. However, the impact he included for purposes of this case is just a tiny fraction of the full impact.

Q. Please demonstrate that what Mr. Watson has filed in this case is just a tiny fraction of the full impact of his "proxy" proposal.

A. I will demonstrate this using the largest production plant account, Account 312, Boiler Plant equipment.[62]

For Account 312, Mr. Watson's interim net salvage calculations range from -109% to -43%, as shown on page 120 of his depreciation study.[63] For convenient reference, page 120 of his depreciation study is attached as Exhibit WWD-13.

Under Mr. Watson's proposal to use the interim removal cost percentages as the proxy for the terminal dismantlement percent, the terminal dismantlement percent would be in the range of -109% to -43%.

Q. In calculating the depreciation rate he filed in this case for Account 312, did Mr. Watson use an interim removal cost percentage in the -109% to -43% range which he calculated?

A. No. In calculating the depreciation rate for the purposes of this case, Mr. Watson did not use an interim removal cost percentage in the -109% to -43% range which he calculated. For purposes of this case, he instead used only -5% as the interim removal cost percentage.[64] Using -5% as the "proxy" for the terminal dismantling costs, produces, for purposes of this case, a much lower terminal dismantlement cost than would be produced

[62] That Account 312 is the largest plant account can be seen on pages 107 and 108 of Direct Exhibit DAW-2.
[63] For convenient reference, this page 120 of his depreciation study (Direct Exhibit DAW-2) is attached as Exhibit WWD-13.
[64] That he used a -5% "Interim Net Salvage Percent" for Account 312 in this case is shown in the Attachment to the OGE response to PUD 07-07.

using the -109% to -43% interim retirement numbers Mr. Watson calculates on page 120 of his depreciation study.

Q. If Mr. Watson's calculations for the interim net salvage percent are -109% to -43%, why, for purposes of this case, is he using -5%?

A. His -5% is intended to make his "proxy" recommendation appear reasonable compared to the currently approved rates. In response to the discovery, Mr. Watson admitted his -5% recommendation was **not** based upon his calculation of the "experience net salvage", but instead his -5% recommendation was selected to appear reasonable compared to the **approved** net salvage rates. When specifically asked why he was recommended an interim net salvage percent of negative 5% for Account 312, Mr. Watson said:

> "**Given that overall approved (via settlement) net salvage rates for this account are between 0 and negative 4 percent** and experienced net salvage seen in recent years was much greater than the approved amounts, **this study's recommendation is based on a conservative projection of negative 5 percent**."[65] (Emphasis added)

Mr. Watson used -5% to make his "proxy" recommendation appear reasonable compared to the currently approved rates. Had he filed in the -109% to -43% range he calculates, that would be a huge increase, which would show the unreasonableness of his "proxy" proposal. The -5% is just the "introductory" rate. The true cost of the "proxy" proposal is huge if fully implemented.

[65] Fron the OGE response to PUD 07-02. This response is attached as Exhibit WWD-4.

B. The Full Impact of the "Proxy" Proposal Is $184 Million Per Year

Q. What is the full impact of Mr. Watson's "proxy" proposal?

A. First, I will show the full impact of Mr. Watson's "proxy" proposal on Account 312, then I will show the full impact on all production accounts. Account 312 is the largest production plant account.

Q. Regarding Account 312, Mr. Watson's interim net salvage calculations range from -109% to -43%, as shown on page 120 of his depreciation study.[66] Did Mr. Watson state which of his numbers are most relevant?

A. Yes. In response to discovery, OG&E said:

> "Mr. Watson generally will place more weight on the indications for the last 3, 5 and 10 years in making recommendations." [67]

For Account 312 these three "indications" all fall in the range of -56.0% to -65.5%, as can be seen on page 120 of Mr. Watson's depreciation study (attached as Exhibit WWD-13).[68] The middle of this range is -61%, which I will use to calculate the full impact.

Mr. Watson's proposal to use the interim removal cost percentage as the "proxy" for the terminal dismantling costs means that the interim and terminal dismantling costs would both be -61%. Since the overall net salvage for a production account is the

[66] For convenient reference, this page 120 of his depreciation study (Direct Exhibit DAW-2) is attached as Exhibit WWD-13.
[67] OGE response to PUD 07-01. Attached as Exhibit WWD-14. For Account 312 on page 120 (attached as Exhibit WWD-13) of his Direct Exhibit DAW-2, the 3-year average is -62.51 %, the 5- year average is -65.45% and the 10-year average is -55.97%.
[68] For convenient reference, this page 120 of his depreciation study (Direct Exhibit DAW-2) is attached as Exhibit WWD-13.

weighted average of these two, the overall net salvage for Account 312 would be -61% at the full impact of his proposal.

The full impact of Mr. Watson's "proxy" proposal on Account 312 is as follows:[69]

Figure 13.

		ANNUAL ACCRUAL At 12/31/2022 Investment Level			
				INCREASE	
		AT CURRENT RATES	FULL IMPACT (at -61% Net Salvage)	Accrual	Percent
312	Boiler Plant Eq.	$57,285,584	$135,957,781	$78,672,197	137%

The full impact is calculated on the second page of Exhibit WWD-15.

On this one production plant account, the <u>full</u> impact if the Commission were to accept his proposal to use "interim removal cost percentages …. as a proxy to a dismantling study"[70] and accepted Mr. Watson's calculation methods, is an annual increase of $78 million, which is a 137% increase over current rates.[71]

[69] These calculations are shown on page 2 of Exhibit WWD-15.
[70] Direct Testimony of Dane A. Watson, p. 7, L. 21-23.
[71] This calculation is shown on page 2 of Exhibit WWD-15.

Q. Above you show the full impact of Mr. Watson's proposed policies on Account 312. What is the full impact of Mr. Watson's proposed policies on all production plant accounts?

A. As shown on Exhibit WWD-15, the full impact of Mr. Watson's "proxy" proposal and his calculation methods, on all Production Plant accounts would be an annual increase of $184 million, an increase of 110%.

The full impact of Mr. Watson's "proxy" proposal on all Production Plant accounts: [72]

Figure 14.

	Annual Accrual			
	At Current Rates [73]	Full Impact of Mr. Watson's "Proxy" Proposal	Increase At Full Impact	% Increase At Full Impact
Steam Production	$90,713,068	$230,877,671	$140,164,603	155%
Other Production	$77,544,134	$121,993,234	$44,449,100	57%
Total Production	$168,257,202	$352,870,905	$184,613,703	110%

Mr. Watson's proposal to use "interim removal cost percentages …. as a proxy to a dismantling study"[74] is an unreasonable new proposal which does not reflect the actual costs. When fully implemented, it would result in an unjustified $184 million annual

[72] This is shown on Exhibit WWD-15. For every account the full impact was calculated the same as previously discussed for Account 312. For each account the Full Impact was calculated using the Net Salvage percent that is the mid-point of the range of the 3 and 5- and 10-year indictors Mr. Watson had calculated for that account on pages 120-125 of his Direct Exhibit DAW-2. These dollar amounts are calculated on the investments as of December 31, 2022.

[73] The depreciation accrual at current rates is shown on pages 111-113 of Direct Exhibit DAW-2.

[74] Direct Testimony of Dane A. Watson, p. 7, L. 21-23.

increase in the depreciation expense in the Production Plant accounts. In his filing, Mr. Watson did not reveal the full cost of his new proposal.

When evaluating Mr. Watson's proposal to use the "interim removal cost percentages …. as a proxy to a dismantling study", the Commission should pay attention to the full long-range impact of that proposal, not just the tiny fraction of the impact that Mr. Watson filed for purpose of this proceeding.

Q. What is your ultimate recommendation on this issue?

A. The Commission should be very careful that nothing in its order implies acceptance of Mr. Watson's new proposal to use

> "interim removal cost percentages… **as a proxy** to a dismantling study."[75] (Emphasis added).

XI. CHARGING CURRENT RATEPAYERS FOR FUTURE INFLATION

Q. What policy does Mr. Watson propose for net salvage?

A. The policy Mr. Watson presents is to charge current ratepayers for **future** inflation.

In his testimony, Mr. Watson states:

> "**Inflation** from the time of installation of the asset **until the time of its removal** must be considered in the calculation of the removal cost percentage"[76] (Emphasis added)

The average expected "time of its removal" is decades **in the future** for most major accounts. For example, for the largest distribution plant account,[77] Account 365,

[75] Direct Testimony of Dane A. Watson, p. 7, L. 21-23.
[76] Direct Testimony of Dane A. Watson, p. 17, L. 11-14.
[77] Account 365, Overhead Conductors and Devices is the largest distribution plant account, as can be seen on page 109 of Direct Exhibit DAW-2.

Overhead Conductors and Devices, the "Remaining Life" shown in Mr. Watson's study is 53 years.[78] When Mr. Watson claims:

> "[i]nflation from the time of installation of the asset until the time of its removal must be considered in the calculation of the removal cost percentage"

the policy he is presenting is to include an average of 53 years of **future inflation** in his "calculation of the removal cost percentage" for Account 365.

Q. Mr. Watson implies that "*Public Utility Depreciation Practices*, NARUC" supports charging current ratepayers for future inflation.[79] Does it?

A. No.[80] The most respected authority on utility regulatory depreciation is the *Public Utility Depreciation Practices* published by the National Association of Regulatory Commissioners (NARUC).[81]

Public Utility Depreciation Practices, clearly states that depreciation should **not** be influenced by "what costs may be at some future date," stating:

> "5. A cost depreciation base conforms to the accepted accounting principle that operating expenses should be based on cost and **not** be influenced by fair value estimates **nor by what costs may be at some future date**."[82] (Emphasis added)

The pages from the NARUC Public Utility Depreciation Practices, which contains this statement are attached as Exhibit WWD-16.

[78] Direct Exhibit DAW-2, p. 109.
[79] Direct Testimony of Dane A. Watson, p. 17, L1-2 and Footnote 3.
[80] At least without also "present valuing" the future inflated cost. Mr. Watson does not "present value" his future inflated cost.
[81] *Public Utility Depreciation Practices*, published by the National Association of Regulatory Utility Commissioners, August 1996, p. 22. Attached as Exhibit WWD-16.
[82] *Public Utility Depreciation Practices*, published by the National Association of Regulatory Utility Commissioners, August 1996, p. 22. Attached as Exhibit WWD-16.

Mr. Watson's proposed policy to charge current customers for decades of future costs at **inflated future** price levels is the **exact opposite** of what the NARUC Public Utility Depreciation Practices states is proper depreciation.[83]

A. Charging a Future Inflated Price Is an Abuse of Monopoly Power.

Q. Absent monopoly power, would it be possible to require current customers to pay for costs at future inflated price levels?

A. No. Assume an item which sells for around $10 in other area grocery stores is priced at $100 in one particular grocery store. The store manager explains that because of future inflation, it is reasonable to expect that 50 years from now, a dollar will have 1/10th the purchasing power of todays' dollar, so five decades in the future, prices generally will be around ten times what they are in today's dollars. Therefore, in future dollars, $100 is the appropriate price for this item.

Of course, in a competitive market, current customers would not pay at the inflated price level of $100 from decades in the future. Instead, they would buy from a different store that charges $10.

Mr. Watson's proposal to charge current customers at inflated price levels from the future **can only be done where there is monopoly power**. Mr. Watson is proposing an abuse of monopoly power.

[83] Especially without Mr. Allis also "present valuing" the inflated future costs. Mr. Allis does not "present value" his future inflated cost.

B. Mr. Watson's Own Example Shows Charging For Future Inflation Is Unreasonable

Q. What example does Mr. Watson present on this issue?

A. On page 17 of his testimony, Mr. Watson states:

> "For example, a Transmission asset in FERC Account 355 with a current installed cost of $500 (2022) would have had an installed cost of $23.40 in 1947. A removal cost of $50 for the asset calculated (incorrectly) on current installed cost would only have a negative 10 percent removal cost ($50/$500). However, a correct removal cost calculation would show a negative 214 percent removal cost for that asset ($50/$23.40). Inflation from the time of installation of the asset until the time of its removal must be taken into account in the calculation of the removal cost percentage."[84]

Below are the numbers from Mr. Watson's example:

Figure 15.

Transmission Asset					
	In Year 1947 Dollars[85]		In Year 2022 Dollars		2022 Dollars/ 1947 Dollars (Times)
Installed Cost	$23.40		$500.00		21
Removal Cost	$2.34		$50.00		21

In Mr. Watson's example, it takes 21 year-2022 dollars to buy what 1 year-2022 dollar will buy. In other words, the year-1947 dollar is worth 21 times as much as the year-2022 dollar.

[84] Direct Testimony of Dane A. Watson, p. 17.
[85] His Installed Cost numbers show the 1947-dollar purchases 21.37 times as much as the year-2022 dollar. The $2.34 Removal Cost in 1947 is calculated as follows: $50.00 (Removal Cost in 2022) / 21.37 = $2.34 in 1947 dollars.

Mr. Watson also states the recovery should be straight-line.[86] The life in his example is 75 years.[87] Below is the Removal Cost recovery in his example.

Figure 16.

Straight Line Recovery of Removal Cost Over 75 Year Life			
	In Year 1947 Dollars		In Year 2022 Dollars
Removal Cost	$2.34		$50.00
Divide by 75 Years	75		75
Recovery Per Year	$0.03		$0.67

The annual Removal Cost recovery is $0.03 in year-1947 dollars, or $0.67 in the less valuable year-2022 dollars.

Q. What major error does Mr. Watson then make?

A. The year-1947 ratepayers will be paying in year-1947 dollars. But he would charge them as if they were paying in the less valuable year-2022 dollars. The annual Removal Cost recovery is $0.67 in **year-2022 dollars**; Mr. Watson would improperly use that as an excuse to charge the year-1947 ratepayers $0.67 **in year-1947 dollars**. That is an overcharge. Remember, his example is based on the fact that the year-1947 dollar is worth 21 times as much as the year-2022 dollar.

[86] Direct Testimony of Dane A. Watson, page 7, lines 12 and 26.
[87] 2022 -1947 = 75 years.

Q. What is wrong with his proposal?

A. There are a least two major things wrong with his logic:

1. He calculates the **number** of dollars to be collected in dollars (year-2022 dollars) **that have a lower value** than the dollars that will be collected from the 1947-ratepayers.

2. The 1947-ratepayers will make their payment to OG&E **75 years prior** to OG&E spending the money for the intended Removal Cost. OG&E will have their money for 75 year before spending it on the Removal Cost for which it was collected. In 1947, the "Present Value" of $50.00 that will be spent 75 years in the future, is a lot less than $50.00.[88]

Q. What is a final demonstration that his proposal is unreasonable?

A. Under Mr. Watson's proposal, ratepayers would pay for one full Removal Cost in the first four years. Collecting $0.67 per year for the Removal Cost means that in the first four years a total of $2.68 would be collected for the Removal Cost ($0.67*4=$2.68). But as shown in the prior Figure 15, the full Removal Cost is $2.34 in 1947 dollars. So, in the first four years, OG&E would already have collected enough money from the ratepayers

[88] If a retirement cost is increased for future inflation, the accepted requirement is that the inflated future retirement costs must also then be "present valued." Future retirement activities which are "legally" required to occur (as opposed to just assumed to occur in the future) are called Asset Retirement Obligations (ARO). In the calculations required for an ARO, the retirement cost in current dollars is inflated to a future dollar level, but then that inflated retirement cost is then "present-valued." The example in the document which established the ARO requirements ("*SFAS143"*) shows an estimated retirement cost in current dollars of $283,500. After both being inflated and present valued, the resulting retirement cost to be used in the calculation is $194,879, which is lower than the retirement cost was in current dollars. This calculation is shown on the attached Exhibit WWD-17. The ARO requirement was established in *Accounting for Asset Retirement Obligations, SFAS143* by the FASB, later codified by Accounting Standards Codification (ASC) 410-20 Asst Retirement Obligation. FERC incorporated these ARO requirements into the USOA in FERC Docket No. RM02-7-000, Order No. 631. FERC stated: "In summary, the new accounting standard requires the present value of the liability to be recorded for all assets." ¶8 of FERC Notice of Proposed Rulemaking (NOPR) issued on October 30, 2002. To be clear, in this testimony I am not recommending inflating and present-valuing retirement costs. I am not recommending a removal cost lower than the removal cost in current dollars be used.

to **fully pay** one Removal Cost. However, in spite of that fact, they would continue to collect money from the ratepayers for an additional 71 years for this same Removal Cost.

There is a valid reason NARUC *Public Utility Depreciation Practices*, says depreciation should **not** be influenced by "what costs may be at some future date."[89]

C. Charging for Future Inflation Is Contrary to the "Original Cost" Requirement

Q. In his testimony on removal costs did Mr. Watson specifically highlight the fact that "original cost" is required in Oklahoma?

A. Yes. In his testimony regarding "removal cost", Mr. Watson underlines the fact that original cost is required in Oklahoma, as follows:

> "Inflation from the time of installation of the asset until the time of its removal must be considered in the calculation of the removal cost percentage because the depreciation rate, which includes the removal cost percentage, will be applied to the original installed cost of assets."[90] (Emphasis by Mr. Watson in his testimony).

Q. What is the importance of "original" cost in this "removal cost" issue?

A. Utilities sometimes propose that the original cost be inflated. Inflating the "original cost" is sometimes called "replacement cost" or "reconstruction cost new" or "fair value."[91] In Oklahoma "original cost" is used. However, in what would effectively get around this "original cost" requirement, Mr. Watson is proposing to instead inflate the removal cost.

[89] *Public Utility Depreciation Practices*, published by NARUC, August 1996, p. 22. Attached as Exhibit WWD-16
[90] Direct Testimony of Dane A. Watson, p. 17, L. 11-14.
[91] For example, in Arizona, utilities frequently file using a "fair value" rate base.

In fact, by including **future** inflation, Mr. Watson is going further than the replacement-cost/reconstruction-cost-new/fair-value proposals generally do. In my experience, the replacement-cost/reconstruction-cost-new/fair-value proposals try to increase the original cost to the **current** inflation level. Mr. Watson's proposal goes beyond that, by trying to inflate the removal cost for **future** inflation.

As stated in the NARUC *Public Utility Depreciation Practices*, depreciation should **not** be influenced by "what costs may be at some future date." The Commission should not approve charging current ratepayers for future inflation. If the Commission accepts Mr. Watson's depreciation testimony, that is exactly the concept the Commission will have approved.

D. Mr. Watson's Removal Cost Method Is "A Future Reproduction Cost"

Q. In another "original cost" jurisdiction, has the Superior Court ruled that the same removal cost method Watson proposes in this case "represents the recovery of something in the nature of a future reproduction cost"?

A. Yes. The proposed removal cost method addressed in *Sheraton Hotel versus the Pennsylvania Public Utility Commission* is the same net method Mr. Watson is proposing in the current case.[92]

[92] *Penn Sheraton Hotel v. Pennsylvania Public Utility Commission*, 198 Pa. Super. 618, 623-624 (1962) "Allegheny submitted a study showing that for the 5 1/2-year period ending July 31, 1960, it had retired distribution mains costing $91,236 originally, and that the net cost of removing these mains from the tunnels and streets was $54,585, or about 60 per cent of their original cost. Allegheny estimated that for every segment of its distribution system which is retired it would incur a net removal cost equal to 50 per cent of the original cost. The record shows that steam mains entered into the rate base at an original cost in excess of $4,000,000, and that the ultimate removal cost of 50 per cent would be more than $2,000,000."

The Superior Court of Pennsylvania stated this:

> "in our opinion, represents the recovery of something in the nature of a future reproduction cost."[93]

The Commission should not adopt Mr. Watson's proposed "future reproduction cost" removal cost method.

E. Mr. Watson Does Not Disclose the Full Impact of Charging for Future Inflation

Q. Do the rates Mr. Watson filed in this case show the full impact of his proposal to include future inflation "until the time of its removal"?

A. No. He includes that concept in some of his calculations, but the depreciation rates he actually filed for the purposes of this case include only a tiny fraction of the depreciation rate increases that would result from accepting his proposal to include future inflation.

As previously discussed, a video service, cable TV company, or satellite radio service may ask us to switch services based upon an **introductory** rate. They may not even mention what the rate will be after the introductory rate expires. What Mr. Watson is doing in this case is very similar. He is asking the Commission to adopt his policies of charging ratepayers for future inflation, but the specific rates he filed in this case reflect only a tiny fraction of the increases that would result from the Commission accepting that policy.

[93] *Penn Sheraton Hotel v. Pennsylvania Public Utility Commission*, p. 627. Recent filings in Pennsylvania indicate they follow the net salvage requirements which resulted from this Superior Court order.

Q. How will you demonstrate that the "introductory" depreciation rates Mr. Watson filed are only a fraction of what his policy produces?

A. I will use the largest non-production account in this case to demonstrate this difference. The largest transmission, distribution, or general plant account is transmission Account 355, Poles and Fixtures. It contains a plant balance of over $1.1 billion.[94]

Mr. Watson's net salvage calculations pertaining to Account 355 appear on page 127 of his depreciation study. In response to a discovery request, Mr. Watson stated:

> "Mr. Watson generally will place more weight on the indications for the last 3, 5 and 10 years in making recommendations."[95]

These "indications" as calculated by Mr. Watson, and shown on page 127 of his depreciation study are shown below:

Figure 17.

Account 355, Poles and Fixtures Removal cost Indications From page 127 of Direct Exhibit DAW-2[96]	
3 Years:	-272%
5 Years:	-221%
10 Years:	-175%

[94] Direct Exhibit DAW-2, p. 108.
[95] OGE response to PUD 07-01. Attached as Exhibit WWD-14.
[96] Mr. Watson incorporates decades of inflation in this calculation. For example, the -686.73% on the Account 355, year 2022 line is calculated by dividing the -$6,686,010, which is stated in **year-2022 dollars**, by the $973,603 original cost dollars, which is **stated in dollars from decades earlier**, on average.
The $973,603 is original cost dollar amount recorded back when the investments were installed, which is several decades in the past, on average. The NARUC *Public Utility Appreciation Practices* shows such a calculation only when the plant was expected to have "some residual value at the time of the retirement" (Gross Salvage larger than the Cost of Removal) which would reduce the depreciation rate (NARUC pages 157, 162, 164).

If the Commission accepted Mr. Watson's proposed policy and calculation methods, they result in a removal cost in the range of -175% to -272% for Account 355. The middle of this range is -224%.

Q. For purposes of this case, is Mr. Watson recommending a removal cost in the range of -175% to -272% as produced by his proposed policies and calculation methods?

A. No. For purposes of this case, Mr. Watson is recommending a removal cost of -65%.[97] This is well below the range of "indications" he calculated and is less than 1/3 of the mid-range of his "indications". Had he filed depreciation rates which used a net salvage in the -175% to -272% range shown on his workpapers, the result would have been a huge, proposed increase in depreciation expense, which would have attracted attention to his unreasonable policy.

Q. How does Mr. Watson explain his recommendation being so far below the "indications" produced by his proposed policies and calculations.

A. To make his recommendation appear to be more acceptable, Mr. Watson made his recommendation, for the purposes of this case, close to the currently accepted net salvage.

In response to discovery Mr. Watson said:

> "Another factor Mr. Watson **considers is the current net salvage parameter for each account.** In the case of Account 355, the current net salvage parameter is negative 58 percent. Mr. Watson made conservative recommendations that are **gradual in nature, rather than moving all the way to the indications**."[98] (Emphsas added)

[97] Direct Testimony of Mr. Watson, page 19.
[98] OGE response to PUD 07-01. Attached as Exhibit WWD-14.

In this case, Mr. Watson is not "moving all the way to the indications", but if the Commission accepts his "indications" then "moving all the way to the indications" would clearly be the eventual target.

Clearly, if the Commission was to accept Mr. Watson's testimony, they would be accepting his proposed policy of charging for future inflation and his calculation methods, which mean that the removal cost percent in this account should (allegedly) be in the range of -175% to -272%.[99]

Q. For Account 355, Poles and Fixtures, what is the full effect of Mr. Watson's proposed policies of including future inflation?

A. Using -224%, which is the middle of the range for Mr. Watson's preferred "indications", the increase in depreciation resulting from the full impact of his proposed policy to including future inflation is shown below:[100]

Figure 18.

ACCOUNT 355, POLES AND FIXTURES

	Annual Accrual			
	At Current Rates [101] (-58% NS)	Full Impact of Mr. Watson's Policies (-224% NS)	Increase At Full Impact	% Increase Of Full Impact
355.0	$ 24,142,278	$ 50,631,805	$26,428,264	109%

[99] Assuming that the data in future cases is similar to the data in this case.
[100] All amounts calculated on investments as of 12/31/2022.
[101] The depreciation accrual at current rates is shown on page 113 of Direct Exhibit DAW-2.

The full impact of Mr. Watson's proposed policy to include future inflation would be a $26 million increase in this one account, which is a 109% increase. The calculation of the full impact of his calculation is shown on Exhibit WWD-18.

F. The Full Impact of Mr. Watson's "Proxy" Proposal and Including Future Inflation Is $400 Million Per Year Increase

Q. Earlier you demonstrated that Mr. Watson's proposal to use "interim removal cost percentages … as a proxy to a dismantling study"[102] would produce a $184 million increase in the Production Plant accounts, if fully implemented. If his proposal to charge current ratepayers for decades of future inflation were also adopted, what is the full impact of these two proposals, if fully implemented?

A. If fully implemented, these two incorrect proposals would increase the annual depreciation expense by $400 million, a 105 % increase. This is shown below.[103]

Figure 19.

Full Impact of Mr. Watson's proposals to:
(1) use "interim removal cost percentages …. as a proxy to a dismantling study", and
(2) to charge current ratepayers for decades of future inflation.

	Annual Accrual			
	At Current Rates	Full Impact of Mr. Watson's Policies	Increase At Full Impact	Percent Increase At Full Impact
Steam Production	$90,713,068	$230,877,671	$140,164,603	155%
Other Production	$77,544,134	$121,993,234	$44,449,100	57%
Transmission[104]	$63,825,227	$110,446,530	$46,621,303	73%
Distribution	$149,218,749	$318,138,090	$168,919,341	113%
Total	$381,301,178	$781,455,525	$400,154,347	105%

[102] Direct Testimony of Dane A. Watson, p. 7, L. 21-23.
[103] All Current Rates amounts are from pages 111-112 of Direct Exhibit DAW-2. This Table does not include Intangible Plant or General Plant.
[104] These calculations are shown on Exhibit WWD-18.

All dollar amounts are on investment levels as of December 31, 2022. [105]

Mr. Watson's proposal to use "interim removal cost percentages …. as a proxy to a dismantling study"[106] is an unreasonable new proposal which does not reflect the actual costs. In addition, Mr. Watson's claims that:

> "Inflation from the time of installation of the asset until the time of its removal must be considered in the calculation of the removal cost percentage"[107]

This would charge current ratepayers for decades of future inflation.

When fully implemented, these two improper policies would result in an unjustified $400 million annual increase in the depreciation expense.[108] In his filing Mr. Watson has not revealed the full cost of these two proposals.

Q. What is your recommendation in this section of your testimony?

A. (1) I recommend the Commission be very careful that nothing in its order implies acceptance of Mr. Watson's new proposal to use

> "interim removal cost percentages… **as a proxy** to a dismantling study."[109] (Emphasis added).

(2) Likewise, the Commission should be very careful that nothing in its order implies acceptance of Mr. Watson's proposed policy to charge current ratepayers for future inflation.

[105] For every account the full impact was calculated the same as previously discussed for Account 355. For each account the Full Impact was calculated using the Net Salvage percent that is the mid-point of the range of the 3 and 5- and 10-year indictors Mr. Watson had calculated for that account on pages 125-133 of his Direct Exhibit DAW-2.
[106] Direct Testimony of Dane A. Watson, p. 7, L. 21-23.
[107] Direct Testimony of Dane A. Watson, p. 17, L. 11-14.
[108] This $400 million is the impact on investment levels as of December 31, 2022.
[109] Direct Testimony of Dane A. Watson, p. 7, L. 21-23.

Even inadvertent wording by the Commission could be seized upon in future cases as establishing a precedent for huge and improper depreciation rate increases.

The full impact of these two improper proposals would be approximately a $400 million improper increase in annual depreciation expense, on investments as of December 31, 2022.

XII. CONCLUSION

Q. What do you recommend?

A. For the reasons stated in this testimony, I recommend the depreciation rate in the PUD columns of Exhibit WWD-19.

I also recommend the order be written such that it does not to imply acceptance of (1) Mr. Watson's improper proposal to use the interim removal cost percentage as a "proxy" for the terminal dismantlement cost or (2) Mr. Watson's improper proposal to charge current ratepayers for decades of future inflation.

Q. Does this conclude your responsive testimony?

A. Yes, it does.

I state, under penalty of perjury under the laws of Oklahoma, that the foregoing is true and correct to the best of my knowledge and belief.

William W. Dunkel

William W. Dunkel

William Dunkel, Consultant
8625 Farmington Cemetery Road
Pleasant Plains, Illinois 62677

Qualifications

William Dunkel is a consultant in utility regulatory proceedings. He has participated in over 300 state regulatory proceedings as listed on the attached Relevant Work Experience. Mr. Dunkel is a member of the Society of Depreciation Professionals.

Mr. Dunkel has provided expert depreciation testimony and other services to state agencies throughout the country in numerous state regulatory proceedings.

Mr. Dunkel made a presentation pertaining to "The Largest Depreciation Issue that is Generally in Dispute in State Utility Depreciation Studies: Net Salvage" at the Society of Depreciation Professionals Conference held in September 2018 in Indianapolis, IN.

Mr. Dunkel made a presentation pertaining to Current Depreciation Issues in State Rate Case Proceedings at the Society of Depreciation Professionals 25th Annual Meeting held September 2011 in Atlanta, GA.

Mr. Dunkel made a presentation pertaining to Video Dial Tone at the NASUCA 1993 Mid-Year Meeting held in St. Louis.

Mr. Dunkel made a presentation to the NARUC Subcommittee on Economics and Finance at the NARUC Summer Meetings held in July 1992. That presentation was entitled "The Reason the Industry Wants to Eliminate Cost Based Regulation--Telecommunications is a Declining Cost Industry."

Mr. Dunkel has testified before the Illinois House of Representatives Subcommittee on Communications, as well as participated in numerous other schools and conferences pertaining to the utility industry.

Mr. Dunkel provides services almost exclusively to public agencies, including the Public Utilities Commission, the Public Counsel, Office of Attorney General, or the State Department of Administration in various states.

William Dunkel currently provides, or in the past has provided, services in state utility regulatory proceedings to the following clients:

The Public Utility Commission or the Staffs in the States of:

Arkansas	Maryland
Arizona	Mississippi
Delaware	Missouri
District of Columbia	New Mexico
Georgia	North Carolina
Guam	Utah
Illinois	Virginia
Kansas	Washington
Maine	U.S. Virgin Islands

The Office of the Public Advocate, or its equivalent, in the States of:

Alaska	Maryland
California	Massachusetts
Colorado	Michigan
Connecticut	Missouri
District of Columbia	Nebraska
Florida	New Jersey
Georgia	New Mexico
Hawaii	Ohio
Illinois	Oklahoma
Indiana	Pennsylvania
Iowa	Utah
Maine	Washington

The Department of Administration in the States of:

Illinois	South Dakota
Minnesota	Wisconsin

Mr. Dunkel graduated from the University of Illinois in February 1970 with a Bachelor of Science Degree in Engineering Physics, with emphasis on economics and other business-related subjects. He has taken several post-graduate courses since graduation.

Mr. Dunkel has taken the AT&T separations school which is normally provided to AT&T personnel.

Mr. Dunkel has taken the General Telephone separations school which is normally provided for training of the General Telephone Company personnel in separations.

Mr. Dunkel has completed an advanced depreciation program entitled “Forecasting Life and Salvage” offered by Depreciation Programs, Inc.

From 1970 to 1974, Mr. Dunkel was a design engineer for Sangamo Electric Company (Sangamo was later purchased by Schlumberger) designing electric watt-hour meters used in the electric utility industry. He was granted patent No. 3822400 for a solid state meter pulse initiator which was used in metering.

In April 1974, Mr. Dunkel was employed by the Illinois Commerce Commission in the Electric Section as a Utility Engineer. In November of 1975, he transferred to the Telephone Section of the Illinois Commerce Commission and from that time until July, 1980, he participated in essentially all telephone rate cases and other telephone rate matters that were set for hearing in the State of Illinois. During that period, he testified as an expert witness in numerous rate design cases and tariff filings in the areas of rate design, cost studies and separations. During the period 1975-1980, he was the Separations and Settlements expert for the Staff of the Illinois Commerce Commission.

From July 1977 until July 1980, Mr. Dunkel was a Staff member of the FCC-State Joint Board on Separations, concerning the "Impact of Customer Provision of Terminal Equipment on Jurisdictional Separations" in FCC Docket No. 20981 on behalf of the Illinois Commerce Commission. The FCC-State Joint Board is the national board that specifies the rules for separations in the telephone industry.

Since July 1980, Mr. Dunkel has been regularly employed as an independent consultant in state utility regulatory proceedings across the nation.

RELEVANT WORK EXPERIENCE OF WILLIAM DUNKEL

ALASKA

-	Cook Inlet Natural Gas Storage	
	Depreciation Rate Proceeding	Docket No. U-18-043
-	Golden Heart Utilities and College Utilities Corporation	
	Depreciation Rate Proceeding	Docket No. U-15-089
-	Chugach Electric	
	Depreciation Rate Proceeding	Docket No. U-09-097
-	Homer Electric	
	Depreciation Rate Proceeding	Docket No. U-09-077
-	TDX North Slope Generating	
	Depreciation Rate Proceeding	Docket No. U-21-089
-	TDX Sand Point Generating	
	Depreciation Rate Proceeding	Docket No. U-21-088
	Depreciation Rate Proceeding	Docket No. U-09-029
-	AWWU	
	Depreciation Rate Proceeding	Docket No. U-08-004
-	Enstar Natural Gas Company	
	Depreciation Rate Proceeding	Docket No. U-07-174
-	ML&P	
	Depreciation Rate Proceeding	Docket No. U-12-149
	Depreciation Rate Proceeding	Docket No. U-06-006
-	ACS of Anchorage	Docket No. U-01-34
-	ACS	
	General rate case	Docket Nos. U-01-83, U-01-85, U-01-87
	AFOR proceeding	Docket No. R-03-003
-	All Telephone Companies	
	Access charge proceeding	Docket No. R-01-001
-	Interior Telephone Company	Docket No. U-07-75
-	OTZ Telephone Cooperative	Docket No. U-03-85

ARIZONA

-	Citizens Communications Company, Arizona Gas Division	
	Depreciation Rates	Docket No. G-01032A-02
-	U.S. West Communications (Qwest)	
	General Rate Case/Price Cap Renewal	Docket No. T-01051B-03-0454
	Wholesale cost/UNE case	Docket No. T-00000A-00-0194
	General rate case	Docket No. E-1051-93-183
	Depreciation case	Docket No. T-01051B-97-0689
	General rate case/AFOR proceeding	Docket No. T-01051B-99-0105
	AFOR proceeding	Docket No. T-01051B-03-0454

ARKANSAS

- Southwestern Bell Telephone Company	Docket No. 83-045-U

CALIFORNIA

(on behalf of The Utility Reform Network (TURN))

- Southern California Edison Company	Docket No. 16-09-001

(on behalf of the Office of Ratepayer Advocates (ORA))

- Kerman Telephone General Rate Case	A.02-01-004

(on behalf of the California Cable Television Association)

- General Telephone of California	I.87-11-033
- Pacific Bell	
Fiber Beyond the Feeder Pre-Approval Requirement	

COLORADO

- Mountain Bell Telephone Company	
General Rate Case	Docket No. 96A-218T et al.
Call Trace Case	Docket No. 92S-040T
Caller ID Case	Docket No. 91A-462T
General Rate Case	Docket No. 90S-544T
Local Calling Area Case	Docket No. 1766
General Rate Case	Docket No. 1720
General Rate Case	Docket No. 1700
General Rate Case	Docket No. 1655
General Rate Case	Docket No. 1575
Measured Services Case	Docket No. 1620
- Independent Telephone Companies	
Cost Allocation Methods Case	Docket No. 89R-608T

CONNECTICUT

- Connecticut Yankee Gas Company	
Depreciation Study	Docket No. 18-05-10
- Connecticut Natural Gas Corporation	
Depreciation Study	Docket No. 23-11-02
Depreciation Study	Docket No. 18-05-16
- Southern Connecticut Gas Company	
Depreciation Study	Docket No. 23-11-02
General Rate Case	Docket No. 17-05-42
- Connecticut Light & Power	
Depreciation Study	Docket No. 17-10-46
- United Illuminating Company	
General Rate Case	Docket No. 22-08-08

General Rate Case	Docket No. 16-06-04
- Connecticut Water Company	
Depreciation Study	Docket No. 23-08-32

DELAWARE

- Diamond State Telephone Company	
General Rate Case	PSC Docket No. 82-32
General Rate Case	PSC Docket No. 84-33
Report on Small Centrex	PSC Docket No. 85-32T
General Rate Case	PSC Docket No. 86-20
Centrex Cost Proceeding	PSC Docket No. 86-34

DISTRICT OF COLUMBIA

- Washington Gas Light Company	
Depreciation issues	Formal Case No. 1091 & 1093
- Potomac Electric Power Company	
Depreciation issues	Formal Case No. 1076
Depreciation issues	Formal Case No. 1053
- C&P Telephone Company of D.C.	
Depreciation issues	Formal Case No. 926

FCC

- Review of jurisdictional separations	FCC Docket No. 96-45
- Developing a Unified Intercarrier Compensation Regime	CC Docket No. 01-92

FLORIDA

- Duke Energy Florida, LLC	
Depreciation issues	Docket No. 20240025-EI
- BellSouth, GTE, and Sprint	
Fair and reasonable rates	Undocketed Special Project

GEORGIA

- Atlanta Gas Light Company	
General Rate Proceeding	Docket No. 42315
General Rate Proceeding	Docket No. 31647
- Georgia Power Company	
General Rate Proceeding	Docket No. 42516
- Southern Bell Telephone & Telegraph Co.	
General Rate Proceeding	Docket No. 3231-U
General Rate Proceeding	Docket No. 3465-U
General Rate Proceeding	Docket No. 3286-U
General Rate Proceeding	Docket No. 3393-U

HAWAII

- Kauai Island Utility Cooperative	
General Rate Proceeding	Docket No. 2022-0208
- GTE Hawaiian Telephone Company	
Depreciation/separations issues	Docket No. 94-0298
Resale case	Docket No. 7702

ILLINOIS

- Commonwealth Edison Company	
General Rate Proceeding	Docket No. 80-0546
General Rate Proceeding	Docket No. 82-0026
Section 50	Docket No. 59008
Section 55	Docket No. 59064
Section 50	Docket No. 59314
Section 55	Docket No. 59704
- Central Illinois Public Service	
Section 55	Docket No. 58953
Section 55	Docket No. 58999
Section 55	Docket No. 59000
Exchange of Facilities (Illinois Power)	Docket No. 59497
General Rate Increase	Docket No. 59784
Section 55	Docket No. 59677
- South Beloit	
General Rate Case	Docket No. 59078
- Illinois Power	
Section 55	Docket No. 59281
Interconnection	Docket No. 59435
- Verizon North Inc. and Verizon South Inc.	Docket No. 02-0560
DSL Waiver Petition Proceeding	
- Geneseo Telephone Company	
EAS case	Docket No. 99-0412
- Central Telephone Company	
(Staunton merger)	Docket No. 78-0595
- General Telephone & Electronics Co.	
Usage sensitive service case	Docket Nos. 98-0200/98-0537
General rate case (on behalf of CUB)	Docket No. 93-0301
(Usage sensitive rates)	Docket No. 79-0141
(Data Service)	Docket No. 79-0310
(Certificate)	Docket No. 79-0499
(Certificate)	Docket No. 79-0500
- General Telephone Co.	Docket No. 80-0389
- SBC	

Imputation Requirement	Docket No. 04-0461
Implement UNE Law	Docket No. 03-0323
UNE Rate Case	Docket No. 02-0864
Alternative Regulation Review	Docket No. 98-0252
- Ameritech (Illinois Bell Telephone Company)	
Area code split case	Docket No. 94-0315
General Rate Case	Docket No. 83-0005
(Centrex filing)	Docket No. 84-0111
General Rate Proceeding	Docket No. 81-0478
(Call Lamp Indicator)	Docket No. 77-0755
(Com Key 1434)	Docket No. 77-0756
(Card dialers)	Docket No. 77-0757
(Concentration Identifier)	Docket No. 78-0005
(Voice of the People)	Docket No. 78-0028
(General rate increase)	Docket No. 78-0034
(Dimension)	Docket No. 78-0086
(Customer controlled Centrex)	Docket No. 78-0243
(TAS)	Docket No. 78-0031
(Ill. Consolidated Lease)	Docket No. 78-0473
(EAS Inquiry)	Docket No. 78-0531
(Dispute with GTE)	Docket No. 78-0576
(WUI vs. Continental Tel.)	Docket No. 79-0041
(Carle Clinic)	Docket No. 79-0132
(Private line rates)	Docket No. 79-0143
(Toll data)	Docket No. 79-0234
(Dataphone)	Docket No. 79-0237
(Com Key 718)	Docket No. 79-0365
(Complaint - switchboard)	Docket No. 79-0380
(Porta printer)	Docket No. 79-0381
(General rate case)	Docket No. 79-0438
(Certificate)	Docket No. 79-0501
(General rate case)	Docket No. 80-0010
(Other minor proceedings)	Docket No. various
- Home Telephone Company	Docket No. 80-0220
- Northwestern Telephone Company	
Local and EAS rates	Docket No. 79-0142
EAS	Docket No. 79-0519

<u>INDIANA</u>

- Indiana-American Water Company	
Depreciation issues	Cause No. 44992
- Indiana Michigan Power Company (I&M)	
Depreciation issues	Cause No. 44075

Depreciation issues	Cause No. 42959
- Public Service of Indiana (PSI)	
Depreciation issues	Cause No. 39584
- Indianapolis Power and Light Company	
Depreciation issues	Cause No. 39938

IOWA

- U S West Communications, Inc.	
Local Exchange Competition	Docket No. RMU-95-5
Local Network Interconnection	Docket No. RPU-95-10
General Rate Case	Docket No. RPU-95-11

KANSAS

- Black Hills/Kansas Gas Utility Company	
General rate proceeding	Docket No. 14-BHCG-502-RTS
- Kansas Gas Services	
General rate proceeding	Docket No. 12-KGSG-838-RTS
- Westar Energy, Inc.	
General rate proceeding	Docket No. 18-WSEE-328-RTS
General rate proceeding	Docket No. 12-WSEE-112-RTS
General rate proceeding	Docket No. 08-WSEE-1041-RTS
- Midwest Energy, Inc.	
General rate proceeding	Docket No. 11-MDWE-609-RTS
General rate proceeding	Docket No. 08-MDWE-594-RTS
- Generic Depreciation Proceeding	Docket No. 08-GIMX-1142-GIV
- Kansas City Power & Light Company	
General rate proceeding	Docket No. 15-KCPE-116-RTS
General rate proceeding	Docket No. 12-KCPE-764-RTS
General rate proceeding	Docket No. 10-KCPE-415-RTS
- Atmos Energy Corporation	
General rate proceeding	Docket No. 12-ATMG-564-RTS
General rate proceeding	Docket No. 08-ATMG-280-RTS
- Sunflower Electric Power Corporation	
Depreciation rate study	Docket No. 08-SEPE-257-DRS
- Southwestern Bell Telephone Company	
Commission Investigation of the KUSF	Docket No. 98-SWBT-677-GIT
- Rural Telephone Service Company	
Audit and General rate proceeding	Docket No. 00-RRLT-083-AUD
Request for supplemental KUSF	Docket No. 00-RRLT-518-KSF
- Southern Kansas Telephone Company	
Audit and General rate proceeding	Docket No. 01-SNKT-544-AUD
- Pioneer Telephone Company	
Audit and General rate proceeding	Docket No. 01-PNRT-929-AUD

-	Craw-Kan Telephone Cooperative, Inc.	
	Audit and General rate proceeding	Docket No. 01-CRKT-713-AUD
-	Sunflower Telephone Company, Inc.	
	Audit and General rate proceeding	Docket No. 01-SFLT-879-AUD
-	Bluestem Telephone Company, Inc.	
	Audit and General rate proceeding	Docket No. 01-BSST-878-AUD
-	Home Telephone Company, Inc.	
	Audit and General rate proceeding	Docket No. 02-HOMT-209-AUD
-	Wilson Telephone Company, Inc.	
	Audit and General rate proceeding	Docket No. 02-WLST-210-AUD
-	S&T Telephone Cooperative Association, Inc.	
	Audit and General rate proceeding	Docket No. 02-S&TT-390-AUD
-	Blue Valley Telephone Company, Inc.	
	Audit and General rate proceeding	Docket No. 02-BLVT-377-AUD
-	JBN Telephone Company	
	Audit and General rate proceeding	Docket No. 02-JBNT-846-AUD
-	S&A Telephone Company	
	Audit and General rate proceeding	Docket No. 03-S&AT-160-AUD
-	Wheat State Telephone Company, Inc.	
	Audit and General rate proceeding	Docket No. 03-WHST-503-AUD
-	Haviland Telephone Company, Inc.	
	Audit and General rate proceeding	Docket No. 03-HVDT-664-RTS

MAINE

-	Versant Power	
	General rate proceeding	Docket No. 2022-255
-	Northern Utilities, Inc. (Unitil)	
	General rate proceeding	Docket No. 2017-065
-	Emera	
	General rate proceeding	Docket No. 2013-443
-	Central Maine Power Company	
	General rate proceeding	Docket No. 2022-152
	General rate proceeding	Docket No. 2013-168
	General rate proceeding	Docket No. 2007-215
-	New England Telephone Company	
	General rate proceeding	Docket No. 92-130
-	Verizon	
	AFOR investigation	Docket No. 2005-155

MARYLAND

-	Washington Gas Light Company	
	Depreciation rate proceeding	Case No. 9103
	Depreciation Rate Case	Case No. 8960

- Baltimore Gas and Electric Company
  - Depreciation rate proceeding — Case No. 9610
  - Depreciation rate proceeding — Case No. 9355
  - Depreciation rate proceeding — Case No. 9096
- PEPCO
  - General rate proceeding — Case No. 9286
  - General rate proceeding — Case No. 9217
  - General rate proceeding — Case No. 9092
- Delmarva Power & Light Company
  - General rate proceeding — Case No. 9285
- Chesapeake and Potomac Telephone Company
  - General rate proceeding — Case No. 7851
  - Cost Allocation Manual Case — Case No. 8333
  - Cost Allocation Issues Case — Case No. 8462
- Verizon Maryland
  - PICC rate case — Case No. 8862
  - USF case — Case No. 8745
- Chesapeake Utilities Corporation
  - General rate proceeding — Case No. 9062
- Columbia Gas of Maryland
  - General rate proceeding — Case No. 9680

MASSACHUSETTS

- Eversource Energy (NSTAR Electric Company and Western Massachusetts Electric Company)
  - Depreciation Issues — Case No. D.P.U. 17-005
- National Grid (Massachusetts Electric Company/Nantucket Electric Company)
  - Depreciation Issues — Case No. D.P.U. 15-155

MICHIGAN

- Wisconsin Electric Power Company
  - Depreciation Rate Case — Case No. U-15981
- SEMCO Energy Gas Company
  - Depreciation Rate Case — Case No. U-15778
- Michigan Consolidated Gas Company
  - Depreciation Rate Case — Case No. U-15699
- Consumers Energy Company
  - Depreciation Rate Case — Case No. U-21176
  - Depreciation Rate Case — Case No. U-20849
  - Depreciation Rate Case — Case No. U-15629

MINNESOTA

- Access charge (all companies) — Docket No. P-321/CI-83-203
- U. S. West Communications, Inc. (Northwestern Bell Telephone Co.)

Centrex/Centron proceeding	Docket No. P-421/91-EM-1002
General rate proceeding	Docket No. P-321/M-80-306
Centrex Dockets	MPUC No. P-421/M-83-466
	MPUC No. P-421/M-84-24
	MPUC No. P-421/M-84-25
	MPUC No. P-421/M-84-26
General rate proceeding	MPUC No. P-421/GR-80-911
General rate proceeding	MPUC No. P-421/GR-82-203
General rate case	MPUC No. P-421/GR-83-600
WATS investigation	MPUC No. P-421/CI-84-454
Access charge case	MPUC No. P-421/CI-85-352
Access charge case	MPUC No. P-421/M-86-53
Toll Compensation case	MPUC No. P-999/CI-85-582
Private Line proceeding	Docket No. P-421/M-86-508
- AT&T	
Intrastate Interexchange	Docket No. P-442/M-87-54

MISSISSIPPI

- South Central Bell	
General rate filing	Docket No. U-4415

MISSOURI

- AmerenUE	
Electric rate proceeding	ER-2010-0036
Electric rate proceeding	ER-2008-0318
- American Water Company	
General rate proceeding	WR-2008-0311
- Empire District Electric Company	
Depreciation rates	ER-2008-0093
- AmerenUE	
Electric rate proceeding	ER-2007-0002
- Southwestern Bell	
General rate proceeding	TR-79-213
General rate proceeding	TR-80-256
General rate proceeding	TR-82-199
General rate proceeding	TR-86-84
General rate proceeding	TC-89-14, et al.
Alternative Regulation	TC-93-224/TO-93-192
- United Telephone Company	
Depreciation proceeding	TR-93-181
- All companies	
Extended Area Service	TO-86-8
EMS investigation	TO-87-131

Cost of Access Proceeding	TR-2001-65

NEBRASKA

- SourceGas Distribution	
Depreciation proceeding	NG-0079
- Black Hills Nebraska Gas	
General Rate Proceeding	NG-0109

NEW JERSEY

- Atlantic City Electric Company	
General Rate Proceeding	BPU Docket No. ER18080925
- Rockland Electric Company	
General Rate Proceeding	BPU Docket No. ER16050428
- New Jersey Natural Gas Company	
General Rate Proceeding	BPU Docket No. GR19030420
General Rate Proceeding	BPU Docket No. GR15111304
- South Jersey Gas Company	
General Rate Proceeding	BPU Docket No. GR13111137
- Atlantic City Electric Company	
General Rate Proceeding	BPU Docket No. ER12121071 OAL Docket No. PUC00617-2013
- Aqua New Jersey, Inc.	
General Rate Proceeding	BPU Docket No. WR20010056
- New Jersey Bell Telephone Company	
General rate proceeding	Docket No. 802-135
General rate proceeding	BPU No. 815-458 OAL No. 3073-81
Phase I - General rate case	BPU No. 8211-1030 OAL No. PUC10506-82
General rate case	BPU No. 848-856 OAL No. PUC06250-84
Division of regulated from competitive services	BPU No. TO87050398 OAL No. PUC 08557-87
Customer Request Interrupt	Docket No. TT 90060604

NEW MEXICO

- Public Service Company of New Mexico	
Depreciation issues	Case No. 15-00261-UT
Depreciation issues	Case No. 10-00086-UT
Depreciation issues	Case No. 08-00273-UT
- U.S. West Communications, Inc.	
E-911 proceeding	Case No. 92-79-TC
General rate proceeding	Case No. 92-227-TC

General rate/depreciation proceeding	Case No. 3008
Subsidy Case	Case No. 3325
USF Case	Case No. 3223
- VALOR Communications	
Subsidy Case	Case No. 3300
Interconnection Arbitration	Case No. 3495

OHIO

- Ohio Bell Telephone Company	
General rate proceeding	Docket No. 79-1184-TP-AIR
General rate increase	Docket No. 81-1433-TP-AIR
General rate increase	Docket No. 83-300-TP-AIR
Access charges	Docket No. 83-464-TP-AIR
- General Telephone of Ohio	
General rate proceeding	Docket No. 81-383-TP-AIR
- United Telephone Company	
General rate proceeding	Docket No. 81-627-TP-AIR

OKLAHOMA

- Public Service of Oklahoma	
General Rate Case	Cause No. PUD 202200093
General Rate Case	Cause No. PUD 202100055
General Rate Case	Cause No. PUD 201800097
General Rate Case	Cause No. PUD 201700151
Depreciation Case	Cause No. 96-0000214
- Oklahoma Gas and Electric Company	
General Rate Case	Cause No. PUD 202100164
General Rate Case	Cause No. PUD 201800140
General Rate Case	Cause No. PUD 201700496
- Oklahoma Natural Gas Company	
General Rate Case	Cause No. PUD 202100063

PENNSYLVANIA

- GTE North, Inc.	
Interconnection proceeding	Docket No. A-310125F002
- Bell Telephone Company of Pennsylvania	
Alternative Regulation proceeding	Docket No. P-00930715
Automatic Savings	Docket No. R-953409
Rate Rebalance	Docket No. R-00963550
- Enterprise Telephone Company	
General rate proceeding	Docket No. R-922317
- All companies	
InterLATA Toll Service Invest.	Docket No. I-910010

Joint Petition for Global Resolution of Telecommunications Proceedings	Docket Nos. P-00991649, P-00991648, M-00021596
- GTE North and United Telephone Company	
Local Calling Area Case	Docket No. C-902815
- Verizon	
Joint Application of Bell Atlantic and GTE for Approval of Agreement and Plan of Merger	Docket Nos. A-310200F0002, A-311350F0002, A-310222F0002, A-310291F0003
Access Charge Complaint Proceeding	Docket No. C-200271905

SOUTH DAKOTA

- Northwestern Bell Telephone Company	
General rate proceeding	Docket No. F-3375

TENNESSEE
(on behalf of Time Warner Communications)

- BellSouth Telephone Company	
Avoidable costs case	Docket No. 96-00067

UTAH

- Questar Gas Company	
Depreciation rate proceeding	Docket No. 13-057-19
- Rocky Mountain Power	
Depreciation rate proceeding	Docket No. 13-035-02
- U.S. West Communications (Mountain Bell Telephone Company)	
General rate case	Docket No. 84-049-01
General rate case	Docket No. 88-049-07
800 Services case	Docket No. 90-049-05
General rate case/ incentive regulation	Docket No. 90-049-06/90-049-03
General rate case	Docket No. 92-049-07
General rate case	Docket No. 95-049-05
General rate case	Docket No. 97-049-08
Qwest Price Flexibility-Residence	Docket No. 01-2383-01
Qwest Price Flexibility-Business	Docket No. 02-049-82
Qwest Price Flexibility-Residence	Docket No. 03-049-49
Qwest Price Flexibility-Business	Docket No. 03-049-50
- Carbon/Emery	
General rate case/USF eligibility	Docket No. 05-2302-01

VIRGIN ISLANDS, U.S.

- Virgin Islands Telephone Company	
General rate case	Docket No. 264

General rate case	Docket No. 277
General rate case	Docket No. 314
General rate case	Docket No. 316

VIRGINIA

- General Telephone Company of the South

Jurisdictional allocations	Case No. PUC870029
Separations	Case No. PUC950019

WASHINGTON

- US West Communications, Inc.

Interconnection case	Docket No. UT-960369
General rate case	Docket No. UT-950200

- All Companies- Analyzed the local calling areas in the State

WISCONSIN

- Wisconsin Bell Telephone Company

Private line rate proceeding	Docket No. 6720-TR-21
General rate proceeding	Docket No. 6720-TR-34

Public Utility Division - Staff

Data Request PUD 07-04

Docket No. PUD2023-000087

PUD 07-04

For each of the last 4 steam production units which OGE has retired and for which the main structure (the building/structure which contained the boiler) has been demolished, which of the following were used to bringing most of the main structure to grade level (after appropriate preparations):
(1) explosives
(2) pulling or pushing over the building
(3) dismantling the structure with long reach or ultra-high long reach hydraulic shears, or
(4) other (explain).

Response*

Please see the table below.

Unit	Method
Muskogee 3	Explosives
Arbuckle	Explosives
Horseshoe Lake 5	Explosives
Horseshoe Lake 4	Explosives

Response provided by: Robert Doupe
Response provided on: 3/8/2024
Contact & Phone No: Peggy Millspaugh -- (405) 553-3504

*By responding to these Data Requests, OG&E is not indicating that the provided information is relevant, or material and OG&E is not waiving any objection as to relevance or materiality or confidentiality of the information or documents provided or the admissibility of such information or documents in this or in any other proceeding.

Public Utility Division - Staff

Data Request PUD 07-03

Docket No. PUD2023-000087

PUD 07-03

Please refer to page 7 of the Watson Direct testimony which states that:
"While dismantling costs for production facilities are not supported by a dismantling study, interim removal cost percentages are used over the life of each generating unit as a proxy to a dismantling study."
(a) In a steam production plant, is it correct that steps to remove the boiler tubes when those boiler tubes are being replaced as part of an interim retirement (the plant will go back in service) include, but are not necessarily limited to, the following:
1. workers assemble a scaffolding up inside the boiler,
2. workers (working on the scaffolding) use handheld tools to remove the boiler tubes which will be retired,
3. the boiler tubes that have been removed are lowered to grade level on a cable using a winch or similar equipment,
4. other workers working at the grade level disconnect the boiler tubes from the winch or cable.
If any part of these statements above is incorrect, please provide the corrected statement and the support for the corrected statement.
(b) In a steam production plant, is it correct that when boiler tubes are being retired as part of a terminal retirement (the plant will not go back in service) the boiler tubes (along with other facilities) maybe brought to grade level (after appropriate preparations) by bringing the building down using explosives, or pushing or pulling over the building, or dismantling the building using hydraulic shears.
If any part of this statement is incorrect, please provide the corrected statement and the support for the corrected statement.

Response*

1. Yes, this statement is generally true.

2. Yes this is a true statement.

3. Yes this is a true statement.

4. Yes this is a true statement.

b. Yes this is a true statement.

Response provided by: Robert Doupe
Response provided on: 3/8/2024
Contact & Phone No: Peggy Millspaugh -- (405) 553-3504

*By responding to these Data Requests, OG&E is not indicating that the provided information is relevant, or material and OG&E is not waiving any objection as to relevance or materiality or confidentiality of the information or documents provided or the admissibility of such information or documents in this or in any other proceeding.

Public Utility Division - Staff

Data Request PUD 07-02

Docket No. PUD2023-000087

PUD 07-02

Please refer to Direct Exhibit DAW-2, page 120, includes the interim Retirement Removal Cost and Net Salvage Analysis for Account 312-Boiler Plant Equipment. The bottom row of this calculation has percent numbers which range from -109.82% to -43.15%.
(a) Starting with the numbers on this Retirement Removal Cost and Net Salvage Analysis (page 120) please provide the workpapers that show the calculation of the -5% interim Net Salvage Percent witness Watson recommends for this account (as shown on page 107 of Direct Exhibit DAW-2).
(b) If this -5% recommendation is an average of more than one account, provide the recommended interim net salvage for each involved account and show the weighting given to each account.

Response*

a. See response to Staff PUD 07-01 which describes the selection process for net salvage. The negative 5 percent recommendation is based on judgment as discussed in Exhibit DAW-2, page 86. Given that overall approved (via settlement) net salvage rates for this account are between 0 and negative 4 percent and experienced net salvage seen in recent years was much greater than the approved amounts, this study's recommendation is based on a conservative projection of negative 5 percent.

b. The recommendation is based on one account only.

Response provided by: Dane Watson
Response provided on: 3/8/2024
Contact & Phone No: Peggy Millspaugh -- (405) 553-3504

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Public Utility Division - Staff

Data Request PUD 06-02

Docket No. PUD2023-000087

PUD 06-02

Please see the attachment "PUD Attachment-Net Salvage Accrual.xlsx."
The data in columns A and B of this Attachment are from pages 108 and 109 of OGE Exhibit DAW-2 (the Watson Depreciation Study).
In columns C and D we have calculated the portion of the Accrual Amount from column B that is attributable to Net Salvage.
(a) For each account shown, is the amount shown in column D the Accrual Amount that is for Net Salvage (plus or minus 2% to allow for rounding)?
(b) If the response to part (a) is not an unqualified affirmative, then if the book depreciation reserve in Account 364 were allocated between the Account 364 (1) Net Salvage accrual and the Account 364 accrual (2) that is for other than Net Salvage, based on relative theoretical reserve, is the amount shown for Account 364 in column D the Accrual Amount that is for Net Salvage (plus or minus 2% to allow for rounding)?
(c) If the response to at least one of part (a) or part (b) is not an unqualified affirmative, then for each Transmission and Distribution account on pages 108 and 109 of Exhibit DAW-2, break down the Accrual Amount shown in the Accrual Amount column into:
a. the accrual amount that is for Net Salvage; and,
b. the accrual amount that is for other than Net Salvage.
(d) Please also provide the workpapers in Excel format that support the response provided.

Response*

a. No. Mr. Watson does not agree with the computation provided. To compute the accrual rate for net salvage and life for each plant account, it is necessary to separate the per book reserve amounts for net salvage and life respectively for each account. Those amounts may or may not equal the proportionality provided in the theoretical reserve. The computations in the spreadsheet provided "PUD Attachment-Net Salvage Accrual.xlsx" assume proportionality between the theoretical reserve for life and net salvage which is not the case for most accounts. Thus, the spreadsheet is incorrect.

b. Please see the response to subpart (a).

c. Please see attachment PUD 6-2(c)_Att1.

d. Please see the response to subpart (c).

Response provided by: Dane Watson
Response provided on: 3/7/2024
Contact & Phone No: Peggy Millspaugh -- (405) 553-3504

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OKLAHOMA GAS AND ELECTRIC COMPANY

COMPUTATION OF ANNUAL DEPRECIATION ACCRUAL AMOUNTS AND RATES
RELATED TO ELECTRIC PLANT AS OF DECEMBER 31, 2022
TRANSMISSION, DISTRIBUTION, AND GENERAL RESERVE PER BOOK

	ACCOUNT	Plant Balance	Per Book Reserve	Net Salvage %	Net Salvage Amount	Unaccrued Balance	Remaining Life	Accrual Amount	Annual Accrual Rate	COR Reserve	Life Reserve	COR Rate	Life Rate	Total Rate	Check	COR Annual Accrual $	Life Annual $	Check
350.2	LAND RIGHTS	131,963,405	26,357,019	0.00%	0	105,606,386	58.21	1,814,290	1.37%		26,357,019	0.00%	1.37%	1.37%	0.00%	0	1,814,290	0
352.0	STRUCTURES AND IMPROVEMENTS	9,042,721	2,184,920	-10.00%	(904,272)	7,762,073	55.93	138,791	1.53%	108,257	2,076,663	0.16%	1.38%	1.53%	0.00%	14,233	124,558	0
353.0	STATION EQUIPMENT	954,383,732	202,724,022	-20.00%	(190,876,746)	942,536,456	46.50	20,269,880	2.12%	(8,685,303)	211,409,325	0.45%	1.67%	2.12%	0.00%	4,291,716	15,978,164	0
354.0	TOWERS AND FIXTURES	173,271,523	60,653,413	-20.00%	(34,654,305)	147,272,414	54.02	2,726,420	1.57%	7,614,702	53,038,712	0.29%	1.28%	1.57%	0.00%	500,578	2,225,842	0
355.0	POLES AND FIXTURES	1,117,698,049	284,310,845	-65.00%	(726,503,732)	1,559,890,936	65.91	23,667,775	2.12%	96,832,415	187,478,430	0.85%	1.26%	2.12%	0.00%	9,553,821	14,113,954	0
356.0	OVERHEAD CONDUCTORS AND DEVICES	693,683,857	234,327,621	-55.00%	(381,526,121)	840,882,358	60.31	13,942,116	2.01%	54,599,745	179,727,875	0.78%	1.23%	2.01%	0.00%	5,420,551	8,521,565	0
358.0	UNDERGROUND CONDUCTORS AND DEVICES	110,494	112,091	0.00%	0	(1,597)	6.76	(236)	0.00%	2,383	109,708	-0.32%	0.32%	0.00%	0.00%	0	(236)	0
	TOTAL TRANSMISSION PLANT	**3,080,153,781**	**810,669,931**		**(1,334,465,176)**	**3,603,949,026**		**62,559,036**		**150,472,199**	**660,197,732**					19,780,899	42,778,137	0
	DISTRIBUTION PLANT																	
360.2	LAND RIGHTS	6,459,925	1,856,485	0.00%	0	4,603,440	54.55	84,383	1.31%	0	1,856,485	0.00%	1.31%	1.31%	0.00%	0		
361.0	STRUCTURES AND IMPROVEMENTS	7,971,930	2,384,771	-10.00%	(797,193)	6,384,352	52.94	120,585	1.51%	90,811	2,293,960	0.17%	1.35%	1.51%	0.00%	13,342	107,243	0
362.0	STATION EQUIPMENT	877,615,427	199,661,000	-35.00%	(307,165,399)	985,119,827	48.55	20,291,014	2.31%	(22,930,748)	222,591,748	0.77%	1.54%	2.31%	0.00%	6,799,158	13,491,856	0
363.0	STORAGE BATTERY	851,046	173,818	0.00%	0	677,228	11.52	58,780	6.91%	0	173,818	0.00%	6.91%	6.91%	0.00%	0	58,780	0
364.0	POLES, TOWERS AND FIXTURES	786,956,009	304,180,726	-65.00%	(511,521,406)	994,296,689	43.01	23,115,215	2.94%	82,995,420	221,185,306	1.27%	1.67%	2.94%	0.00%	9,962,288	13,152,927	0
365.0	OVERHEAD CONDUCTORS AND DEVICES	1,101,396,821	231,506,879	-55.00%	(605,768,252)	1,475,658,194	53.38	27,644,482	2.51%	39,907,541	191,599,338	0.96%	1.55%	2.51%	0.00%	10,600,643	17,043,839	0
366.0	UNDERGROUND CONDUIT	335,409,588	88,577,525	-25.00%	(83,852,397)	330,684,460	53.10	6,227,440	1.86%	13,962,213	74,615,311	0.39%	1.46%	1.86%	0.00%	1,316,170	4,911,270	0
367.0	UNDERGROUND CONDUCTORS AND DEVICES	971,654,868	280,382,265	-55.00%	(534,410,177)	1,225,682,780	41.08	29,833,686	3.07%	29,606,843	250,775,422	1.26%	1.81%	3.07%	0.00%	12,287,147	17,546,539	0
368.0	LINE TRANSFORMERS	670,460,796	128,190,027	-65.00%	(435,799,517)	978,070,286	31.01	31,544,550	4.70%	(68,971,821)	197,161,848	2.43%	2.28%	4.70%	0.00%	16,279,796	15,264,754	0
369.0	SERVICES	266,118,193	149,026,905	-35.00%	(93,141,368)	210,232,656	45.47	4,623,710	1.74%	18,577,801	130,449,104	0.62%	1.12%	1.74%	0.00%	1,639,899	2,983,811	0
	METERS																	
370.0	METERS - SMART METERS	184,961,833	93,760,342	-10.00%	(18,496,183)	109,697,674	7.52	14,596,513	7.89%	(2,211,918)	95,972,260	1.49%	6.40%	7.89%	0.00%	2,755,447	11,841,067	0
370.1	METERS - METERING EQUIPMENT	39,490,060	26,311,722	-10.00%	(3,949,006)	17,127,344	21.22	807,233	2.04%	(472,253)	26,783,975	0.53%	1.52%	2.04%	0.00%	208,380	598,854	0
	TOTAL METERS																	
371.0	INSTALLATIONS ON CUSTOMERS' PREMISES	57,414,311	42,421,298	0.00%	0	14,993,013	6.45	2,324,969	4.05%	0	42,421,298	0.00%	4.05%	4.05%	0.00%	0	2,324,969	0
373.0	STREET LIGHTING AND SIGNAL SYSTEMS	316,836,035	47,184,922	-55.00%	(174,259,819)	443,910,932	26.18	16,957,364	5.35%	(28,732,907)	75,917,829	2.45%	2.90%	5.35%	0.00%	7,754,307	9,203,057	0
											0							
	TOTAL DISTRIBUTION PLANT	**5,623,596,842**	**1,595,618,685**		**(2,769,160,718)**	**6,797,138,875**		**178,229,924**		**61,820,983**	**1,533,797,702**					**69,616,576**	**108,528,965**	**0**

b. Please see the response to subpart (a).

c. Please see attachment PUD 6-2(c)_Att1.

d. Please see the response to subpart (c).

Response provided by: Dane Watson
Response provided on: 3/7/2024
Contact & Phone No: Peggy Millspaugh -- (405) 553-3504

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September 2019

Benchmarking Anticipated Wind Project Lifetimes:

Results from a Survey of U.S. Wind Industry Professionals

Ryan Wiser and Mark Bolinger, Lawrence Berkeley National Laboratory

This paper draws on a survey of wind industry professionals to clarify trends in the expected useful life of land-based wind power plants in the United States. The expected useful life of a project affects expectations about its profitability, the timing of possible decommissioning or repowering, and its levelized costs.

We find that most wind project developers, sponsors and long-term owners have increased project-life assumptions over time, from a typical term of ~20 years in the early 2000s to ~25 years by the mid-2010s and ~30 years more recently. Current assumptions range from 25 to 40 years, with an average of 29.6 years.

The estimated average levelized cost of energy (LCOE) for new wind projects built in 2018 is $40.4/MWh (real 2018$), assuming a 20-year project life. With a 25-year useful life and no change in assumed operations and maintenance (O&M) expenditures or wind plant performance over time, LCOE declines by 10%, to $36.2/MWh, because capital costs are recovered over five additional years of production. At the now-common 30-year assumed life, levelized costs decrease another 7%, to $33.5/MWh (under the same unaltered assumptions about O&M and performance). Even longer assumed lifetimes lead to further (but diminishing) LCOE reductions—e.g., to $31.7/MWh and $30.3/MWh for 35- and 40-year lives, respectively.

The data and trends presented here may inform assumptions used by electric system planners, modelers and analysts. The results may also provide useful benchmarks to the wind industry, helping developers and assets owners to compare their expectations with those of their peers.

Methods

The findings in this paper largely draw from a brief survey of U.S. wind project developers, sponsors, financiers, and consultants. We distributed the survey to staff at 23 different organizations in August 2019. Responses were received from 21 staff at 18 of these organizations, for an overall (organizational) response rate of 78%. Additionally, we conducted a review of the annual financial reports from some of the large, publicly traded wind project developers and owners, yielding three additional sets of project-life assumptions.[1] Ultimately, we assembled 20 different time-series estimates of useful project life.[2]

Our interest was in better understanding how expectations for useful life have changed over time, as the industry has grown and matured. We focus on 'useful' life, defined here to mean the period of time in which the expected costs and revenues of a project are assessed to determine its economic viability. Typically, an asset with a useful life of, for example, 30 years is expected to earn ongoing operating profits during those 30 years (ongoing revenue > ongoing costs). At the end of year 30, however, either decommissioning or full

[1] In some cases, project-life assumptions that derive from financial reports reflect depreciation- or accounting-based lives, which may in theory differ from useful-life assumptions used by developers and sponsors. However, a review of our results indicates no such bias in the estimates reported later in this paper, as the distribution of responses is similar in both sources of data.
[2] These estimates, and other survey responses that we report later, come from staff and annual reports from: NextEra, RES, EDPR, Apex, Enel, Avangrid, EDF, Pattern, Scout, Leeward, MAP, Vestas, AEP, Berkshire Hathaway, JP Morgan, Wells Fargo, Clear Wind, Wood Mackenzie, and DNV GL.

project repowering would be expected. A longer assumed project life may enhance the expected long-term profitability of a project, assuming any resulting increase in O&M is kept within reasonable bounds. Moreover, longer depreciation terms reduce annual book depreciation from an accounting perspective, thereby boosting net income in the near term. From a planning and modeling perspective, meanwhile, longer lifetimes may enable lower LCOE by recovering up-front capital costs (and, potentially, any component replacement or refurbishment costs) over additional years of electricity production.

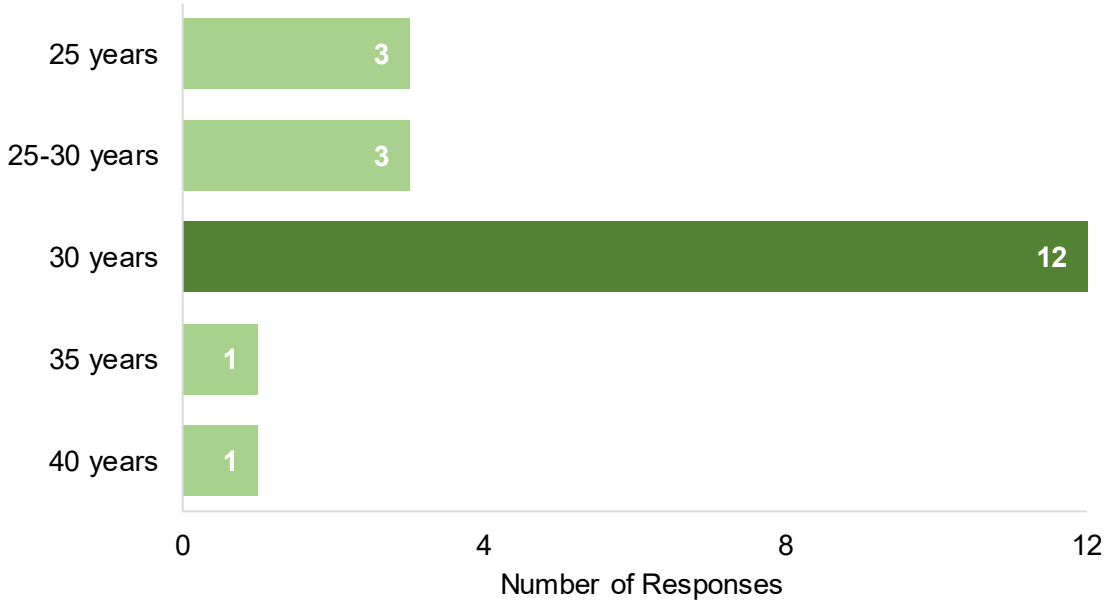
We focused on expectations from project developers, sponsors, and long-term owners because these are the entities most likely to be thinking about the full lifecycle of a project. However, we recognize that each participant in a wind project may have different perspective on what 'project life' means, or how it matters. A lender, for example, will primarily care about the revenue and costs of a project over the term of the loan: often 15 years or less. Tax equity providers may focus on the first 10-12 years, during which their returns are earned. Engineers might think of the certified life of the turbines (20 years historically, but now 25, 30 or even 40 years in some cases), or the engineering design life of the project. Providers of operations and maintenance services might consider the lifetime of any O&M contracts.

We specifically sought insights into assumptions that project developers, sponsors and long-term owners most-commonly use for project life, when considering the lifetime profitability of a project, pitching projects to financiers, and establishing power purchase agreements (PPAs) during the development and financing process. We also included major consultancies in our sample, including those that provide due diligence services to the wind industry. We asked about current assumptions, and how those assumptions have changed over time. Some respondents offered additional insights, which we share as appropriate.

Estimated Project Lifetimes

Project developers, sponsors, and long-term owners now most-commonly assume 30-year useful project lives, as depicted in Figure 1.

Figure 1. Current Useful-Life Expectations for Wind Plants



Specifically, twelve sources cited 30 years, three cited 25-30 years (averaged to 27.5 years in Figure 2), three cited 25 years, one cited 35 years, and another cited 40 years.[3] None of the respondents uses a 20-year project life assumption; several respondents also noted that they are not aware of others in the wind industry still using a 20-year assumption.

Expectations for the useful life of wind projects vary by respondent, but have consistently increased over time—from a typical value of ~20 years in the early 2000s and prior, to ~25 years by the mid-2010s, and then to ~30 years most recently (Figure 2, Table 1). The average among respondents for 2019 is 29.6 years.

Figure 2. Useful-Life Expectations for Wind, over Time

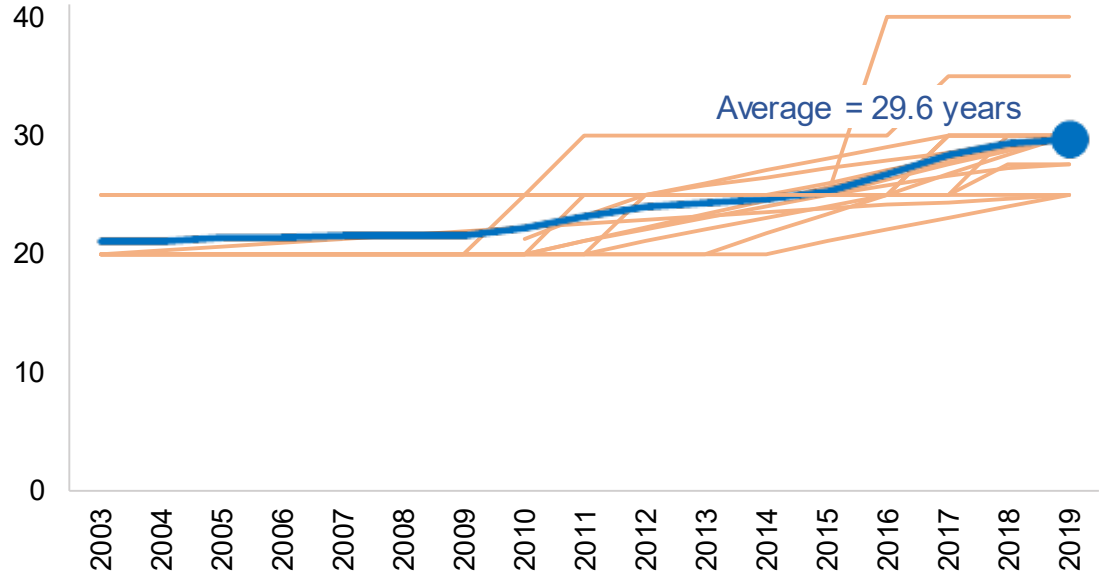


Table 1. Summary of Respondent Estimates of Useful-Life Expectations for Wind Projects

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Source 1	25	25	25	25	25	25	25	25	30	30	30	30	30	30	35	35	35
Source 2										25	26	27	28	29	30	30	30
Source 3	25	25	25	25	25	25	25	25	25	25	25	25	26	27	28	29	30
Source 4	20	20	20	20	20	20	20	20	25	25	25	25	25	25	30	30	30
Source 5								21	23	25	26	26	27	28	29	29	30
Source 6	20	20	20	20	20	20	20	20	20	25	25	25	25	25	25	30	30
Source 7													25	40	40	40	40
Source 8	20	20	20	20	20	20	20	25	25	25	25	25	25	25	30	30	30
Source 9	20	20	20	20	20	20	20	20	21	22	23	24	26	27	28	29	30
Source 10																	30
Source 11									25	25	25	25	25	25	30	30	30
Source 12	20	20	20	20	20	20	20	20	20	20	20	20	21	22	23	24	25
Source 13								25	25	25	25	25	25	26	28	29	30
Source 14	20	20	20	20	20	20	20	20	20	20	20	22	23	25	27	28	30
Source 15			25	25	25	25	25	25	25	25	25	25	25	25	25	27.5	27.5
Source 16																	30
Source 17	20	20	20	20	20	20	20	20	21	22	23	24	25	26	27	27	27.5
Source 18																	27.5
Source 19									20	21	22	23	24	25	25	25	25
Source 20	20	20	21	21	21	22	22	22	23	23	23	23	24	24	24	25	25
AVERAGE	**21.0**	**21.0**	**21.4**	**21.4**	**21.5**	**21.5**	**21.5**	**22.2**	**23.2**	**23.9**	**24.3**	**24.7**	**25.2**	**26.7**	**28.4**	**29.3**	**29.6**
# Responses	*10*	*10*	*11*	*11*	*11*	*11*	*11*	*13*	*15*	*16*	*16*	*16*	*17*	*17*	*17*	*17*	*20*

[3] The firm applying a 40-year assumption notes, however, that this assumption is capped at the term of each project's lease, resulting in a fleet-wide average useful life of 31 years. Moreover, the firm is not altogether clear as to whether the 40-year life applies to entire wind projects, or instead to just certain components of those projects and turbines.

Drivers and Influences

In addition to these numerical estimates, many respondents offered insight into how they or the industry treat project life. Though we do not seek to synthesize generalizable findings from these insights, they do enhance understanding of industry thinking, and so are summarized below where relevant:

- Some respondents noted that turbine design certifications are often 20 years, though some manufacturers are moving towards or already provide 25-, 30-, or even 40-year certifications depending on the turbine and wind regime. Moreover, O&M servicing agreements sometimes (albeit rarely) extend to 25- or even 30-years. Such service agreements may not cover component replacement, and so project owners may still face O&M risk. Nonetheless, in general, these points suggest that the major manufacturers are increasingly comfortable with 30-year lifespans.
- One respondent pointed out, however, that project owners need not equate turbine certification lives with the useful, economic, or depreciable life of a wind power asset. Owners will conduct project-specific engineering and economic analysis to inform useful-life assumptions, considering local wind conditions, expected project revenue, and O&M and refurbishment expectations. As such, regardless of the details on turbine certification and servicing contracts, 30-year lifetimes are now the most common, though a number of developers and sponsors continue to use 25 years or a range of 25-30 years.
- Multiple developers revealed that key factors in increased project lives include technology maturity and robustness, as well as improved understanding of performance, wear-and-tear, and O&M practices. Projects from the 1980s and 1990s continue to operate today in some cases, turbines in the 1+ MW class have growing operating history, and engineering and operational skill and turbine sophistication has dramatically increased. As older projects have reached their design lifetimes, the industry has found ways to extend those lifetimes. Turbine control regimes that clip production to manage fatigue loads and ensure that turbines stay within their design envelope have become increasingly common. One major independent engineering firm agrees that, if taken care of, a facility should last 25-30 years or longer with proper maintenance protocols and, for some components such as gearboxes, plant refurbishment. The recent emergence of 'partial' repowering whereby certain turbine component are replaced and/or upgraded has bolstered confidence in longer useful lives (at least for those turbines that are being refurbished), as have enhanced O&M options and lower overall O&M costs.
- The O&M implications of extended useful lives are uncertain. Some turbine components can easily last 30+ years whereas others, such as gearboxes, would likely require refurbishment or replacement. While acknowledging uncertainty in future O&M costs, a limited number of respondents indicated that they do not anticipate a fundamental step-change in O&M expenditures to achieve 25-year lives. Others indicated that heightened O&M costs and component refurbishment and replacement go hand-in-hand with extended project life, as might increased performance degradation, especially to achieve 30-year life spans—also noting that these effects are factored-in when assessing overall plant profitability and determining useful life. Ultimately, the actual useful life of wind assets will depend critically on how components wear over time, which will affect O&M expenditures.
- Another factor in extended project lives is the desire, and perhaps even need, to capture project value/economics beyond the initial 10-20 year life that is usually covered by the first power purchase agreement (PPA). The extent of this post-PPA (and post-PTC) 'merchant' value is often an item of wide disagreement within the industry, and depends on the trajectory of both power prices and O&M costs. Two respondents noted that today's low wholesale power prices were generally not anticipated a decade ago, challenging post-PPA project economics for older projects. Nonetheless, especially as PPA

terms have tended to shorten over time and competition for those PPAs has strengthened—resulting in lower PPA-derived revenue—an increasing number of projects need to demonstrate some post-PPA value in order for the project to pencil out from an overall return-on-investment perspective. These trends have pushed the industry to more fully investigate longer useful lives. Ultimately, though, whether this post-PPA value materializes will depend on O&M requirements as projects age and, critically, on future wholesale power price developments. These two factors, post-PPA revenue and O&M costs, are generally viewed as the two most uncertain aspects of project life estimates.

- Developers indicated that different owners treat and model project life somewhat differently. For example, one respondent indicated that its firm has historically modeled 25-year project lives as 20 years of revenue plus a terminal value (which is equated to 5 years of net revenue); a separate respondent indicated that this approach was very common earlier in the 2000s. Another respondent mentioned that its company typically assumes 25 years, but with the final 5 years subject to production degradation. An independent engineer revealed that, over the last several years, it has noticed that longer lifetimes have been supported by increasingly sophisticated engineering and economic analysis, whereas previously that analytical support was often somewhat lacking.
- Regional variation in project life assumptions may also exist. Wind plants located in areas with liquid wholesale markets (ERCOT, SPP, MISO, etc.) that enable projects to readily go merchant once the initial PPA expires are more likely to use an assumed life of 30 years. Projects located in illiquid markets (WECC, SERC, FRCC) and selling to an electric utility may more-regularly assume a project life equivalent to the term of the PPA—typically less than 30 years.
- One sponsor remarked that it reviews the estimated useful lives of its assets on an ongoing basis and that, in 2016, this review indicated that many of its wind projects were expected to last longer than previously estimated for depreciation purposes. As a result, the useful lives of certain wind assets[4] were increased from 25 years to 40 years, capped at the land lease term if lower, to better reflect the periods during which these assets are expected to remain in service. The weighted-average useful life of its wind projects was consequently 31 years, and the company is assessing lease extensions to potentially further increase the average useful life of its collective wind assets.
- Another developer and owner reported that it opted to conduct a rigorous independent assessment of its fleet in the early 2010s, taking into account local wind conditions and assessing lifetime both from a structural and economical perspective. From a structural point of view, it analyzed structural components that could not be reasonably replaced, conducting extreme load and fatigue analyses on 37 wind projects, representative of the conditions of all 161 wind projects in its fleet at the time. This owner concluded that, for all wind projects analyzed, failure rates for these components would be lower than 0.5% during a period of 25 years. In parallel, this owner conducted an economic analysis to ensure that operating each of the projects was profitable during these 25 years. Estimated costs were compared with expected revenues, and in all cases, expected revenues remained above expected operational costs during the 25-year lifetime of the assets. Finally, a thorough analysis was conducted to make sure no project had any contractual, land lease, environmental or legal restriction that would prohibit extending operations to 25 years.
- Another large asset owner noted that, in 2017, a review indicated that the actual lives of its wind plants were expected to be longer than the lifetime previously estimated for depreciation purposes. As a

[4] As indicted earlier, this firm is not altogether clear as to whether the 40-year life applies to entire wind projects, or instead to just certain components of those projects and turbines.

result, this wind plant owner changed the estimated useful lives of wind plant equipment from 30 years to 35 years, better reflecting the period during which these assets are expected to remain in service. The resultant accounting reduction in annual book depreciation had the effect of boosting near-term annual net income estimates.

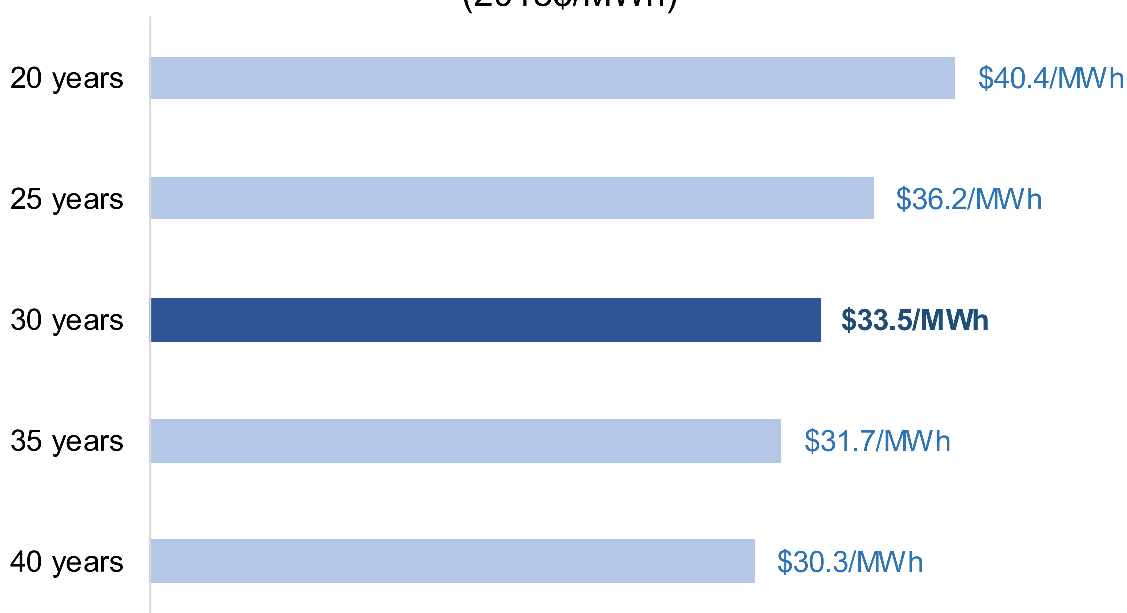
- Yet another developer indicated that it recently increased its useful life assumption from 25 years to a project-specific range of 25 to 30 years. Whether a project is assumed to have a 25-year or a 30-year useful life depends on detailed analysis that considers turbine model, foundation design, wind regime, O&M expectations, merchant-tail revenue expectations, land lease terms, and other considerations. In effect, an 'optimal' useful life is determined, through detailed analysis, for each project.
- An independent engineer cited foundation design as often the governing factor, but further noted that foundations are now commonly designed with a 30-year design life in mind. This respondent indicated that 30-year useful lives are now always employed in project-sale transactions, with shorter terms sometimes the focus in tax equity transactions and debt deals. A 25-year life used to be a stretch in the assumptions, and was not typically considered in most financings (the exception being sale-leaseback tax equity deals, but those were never prevalent). That has now changed, especially over the last few years as 30-year lifetime assumptions have become common.
- A prospective owner revealed that it recently issued an RFP for a large volume of wind that specified that it was looking to buy (at completion) 30-year design life projects with 30-year design life turbines. The solicitation further required wind developers to provide a mechanical load analysis (or equivalent) from the wind turbine manufacturer to support the design life assumption. The owner reached out to the major turbine manufacturers prior to issuing the RFP, confirming that each of those manufacturers could meet the requirement depending on the wind regime, albeit with high O&M costs to be expected in the later years.
- One respondent cited an accounting perspective as a primary driver for recent increases in assumed lifetimes: longer depreciation terms reduce annual book depreciation from an accounting perspective, thereby boosting near-term net income (all else being equal). This same respondent observed that increases in assumed project lives correlated (in time) with a move in the industry to capitalize (and therefore depreciate, not expense) major operating expenses such as gearbox replacements.
- Tax equity and lenders are often less-impacted by project term. Lenders are generally focused on ensuring that loans are repaid during the term of the PPA—before the project has merchant exposure. Tax-equity providers are similarly not always overly concerned with project life, but rather with the first 10+ years or so of operation, and making sure that energy generation matches expectations such that federal tax incentives are fully captured. This is not to say that longer project lives are ignored by these project participants, but only that useful life—whether 25- or 30-years—is less often a governing factor in investment decisions.
- One financier declared that it tends to have a somewhat more conservative view—using 25 years as the technical and economic lifetime, albeit acknowledging that many others have gained comfort with 30 years. This respondent also indicated that the actual incremental value of years 25 to 30 is generally quite low in present value terms, especially if there is need for increased O&M or refurbishment.
- Finally, an independent engineer suggested that, in the future, further extensions to project life might be enabled by even-more-sophisticated control strategies that seek to maximize overall lifetime plant profitability, by trading off immediate power production (especially when wholesale power prices are

very low) against plant-lifetime 'consumption' and O&M costs. While these strategies are not yet employed broadly, the computational tools and expertise exist to potentially self-curtail during periods of high fatigue and low wholesale prices, thereby reducing future O&M costs and extending project life. Moreover, in the wake of a phased-out PTC, such strategies could become more common as the current PTC-induced emphasis on near-term production begins to shift in favor of longer-term considerations.

Impacts on Levelized Cost of Energy

The estimated average levelized cost of energy (LCOE) for new wind projects built in 2018 is $40.4/MWh (real 2018$), assuming a 20-year project life and excluding the impacts of the federal production tax credit (Figure 3).[5] With a 25-year useful life and no change in assumed operations and maintenance (O&M) expenditures or project performance over time, LCOE declines by 10%, to $36.2/MWh because capital costs are recovered over five additional years of production. At the now-common 30-year assumed life, levelized costs decrease another 7%, to $33.5/MWh (again, all else equal). Even longer assumed lifetimes lead to further, but diminishing (due to discounting), LCOE reductions—to $31.7/MWh and $30.3/MWh for 35- and 40-year lives, respectively. These estimates assume that O&M costs simply scale with inflation regardless of useful life and that performance degradation as projects age is not present. Consequently, the analysis overstates the benefits of extended project lifetimes on LCOE, though is still suggestive of a potentially significant positive influence, at least among the nearer-term extensions from 20 to 25 to 30 years (whereas discounting erodes the benefits of longer-term extensions from 30 to 35 to 40 years).

Figure 3. Levelized Cost of Wind in 2018, by Project Life (2018$/MWh)



Project lifetime is not as impactful as installed costs and annual electricity production for determining the overall levelized cost of wind energy. Nonetheless, if O&M costs can be contained, project life is one of several levers (that also include financing and O&M) that helps reduce the levelized cost of wind energy.

[5] These LCOE estimates apply empirical data and assumptions for installed costs, O&M costs, capacity factors, and financing from Wiser, R. and M. Bolinger. 2019. *2018 Wind Technologies Market Report.* Washington, DC: U.S. Department of Energy.

Acknowledgements

For his support of this research at the U.S. Department of Energy, we thank Patrick Gilman. We also acknowledge Rich Tusing at the National Renewable Energy Laboratory for his contributions. We especially thank each of the wind industry professionals who thoughtfully responded to our questions. For reviewing an earlier version of this manuscript, we thank five of the survey respondents, as well as Trieu Mai and Eric Lantz (NREL). Lawrence Berkeley National Laboratory's contributions to this report were funded by the Wind Energy Technologies Office, Office of Energy Efficiency and Renewable Energy of the U.S. Department of Energy under Contract No. DE-AC02-05CH11231. The authors are solely responsible for any omissions or errors contained herein.

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Public Utility Division - Staff

Data Request PUD 06-10

Docket No. PUD2023-000087

PUD 06-10

Please provide the following information regarding the Crossroads Wind Farm.
(a) Please provide a copy of the land lease for Crossroads Wind Farm. If the Crossroads Wind Farm relies on multiple land leases, please provide the three leases that support the largest numbers of wind turbines. Please identify the number of turbines supported by each lease.
(b) In what year do the initial terms of each of the leases provided in part (a) expire?
(c) Under what conditions could the initial terms of the leases discussed in part (a) be extended past the initial termination year?

Response*

a. Please see confidential attachments, PUD 06-10(a)_Att1_Conf – 14ea Turbines; PUD 06-10(a)_Att2_Conf – 5ea Turbines, and PUD 06-10(a)_Att3_Conf – 4ea Turbines. The documents responsive to this request contain confidential information and will be provided to the parties subject to the terms of the protective order.

b. Expiration Year 2041
Wind Easement Agreement (WEA)
Memo of WEA – Agreement dated Year 2009
First Operation – Year 2011
Date Contract Expires – Contract term limits start in 2011 and run through 2041. Please see confidential attachment PUD 6-10(b)Att1_Conf through Att3_Conf. The documents responsive to this request contain confidential information and will be provided to the parties subject to the terms of the protective order.

c. Date Contract Expires – Term limits start in 2011 and run through 2041
Date 1st 10 Year Extension – 2051
Date 2nd 10 Year Extension – 2061
Please see confidential attachments PUD 6-10(c)_Att1_Conf through Att3_Conf. The documents responsive to this request contain confidential information and will be provided to the parties subject to the terms of the protective order.

Response provided by: Robert Doupe
Response provided on: 3/7/2024
Contact & Phone No: Peggy Millspaugh -- (405) 553-3504

*By responding to these Data Requests, OG&E is not indicating that the provided information is relevant, or material and OG&E is not waiving any objection as to relevance or materiality or confidentiality of the information or documents provided or the admissibility of such information or documents in this or in any other proceeding.

BERKELEY LAB
ELECTRICITY MARKETS & POLICY
TECHNICAL BRIEF

June 2020

Benchmarking Utility-Scale PV Operational Expenses and Project Lifetimes:

Results from a Survey of U.S. Solar Industry Professionals

Ryan Wiser, Mark Bolinger, and Joachim Seel, Lawrence Berkeley National Laboratory

This paper draws on a survey of solar industry professionals and other sources to clarify trends in the expected useful life and operational expenditure (OpEx) of utility-scale photovoltaic (PV) plants in the United States.

Solar project developers, sponsors, long-term owners, and consultants have increased project-life assumptions over time, from an average of ~21.5 years in 2007 to ~32.5 years in 2019. Current assumptions range from 25 years to more than 35 years depending on the organization; 17 out of 19 organizations surveyed or reviewed use 30 years or more.

Levelized, lifetime OpEx estimates have declined from an average of ~$35/kW$_{DC}$-yr for projects built in 2007 to an average of ~$17/kW$_{DC}$-yr in 2019. Across 13 sources, the range in average lifetime OpEx for projects built in 2019 is broad, from $13 to $25/kW$_{DC}$-yr. Operations and maintenance (O&M) costs—one component of OpEx—have declined precipitously in recent years, to $5-8/kW$_{DC}$-yr in many cases. Property taxes and land lease costs are highly variable across sites, but on average are—together—of similar magnitude. Other OpEx line items include security, insurance, and asset management.

Given 2007-2009 values for not only project life and OpEx but also other drivers of the levelized cost of energy (LCOE, excluding the investment tax credit), the LCOE for utility-scale PV projects built from 2007 through 2009 averaged $305/MWh. Using 2019 values for all parameters yields an average LCOE of $51/MWh. The decline in LCOE from $305/MWh to $51/MWh was predominantly caused by reductions in up-front expenditures (and, to a much lesser extent, by changes in capacity factors, financing costs, and tax rates), but 9% ($22/MWh) of the overall decline is due to improvements in project life and OpEx. Project life extensions and OpEx reductions have had similarly sized impacts on LCOE over this period, at $11/MWh each. Had project life and OpEx not improved over the last decade, LCOE in 2019 would have instead been $73/MWh—43% higher.

Given the limited quantity and comparability of previously available data on these cost drivers, the data and trends presented here may inform assumptions used by electric system planners, modelers, and analysts. The results may also provide useful benchmarks to the solar industry, helping developers and assets owners compare their expectations for project life and OpEx with those of their peers.

Methods

The findings in this paper draw in part from a brief survey of U.S. solar project developers, sponsors, financiers, and consultants. We distributed the survey in December 2019. Responses were received from seven organizations. Additionally, we conducted a review of the annual financial reports from some of the large, publicly traded solar project developers and owners, yielding a number of additional sets of project-

life assumptions.[1] Ultimately, we assembled 19 different time-series estimates of useful project life.[2] For OpEx estimates, in addition to seven survey responses, we synthesized data from seven literature sources, leading to 14 different time-series estimates.[3]

With respect to project life, our interest was in better understanding how expectations for useful life have changed over time, as the industry has grown and matured. We focus on 'useful' life, defined here to mean the period of time in which the expected costs and revenues of a project are assessed to determine its economic viability. Typically, an asset with a useful life of, for example, 30 years is expected to earn ongoing operating profits during those 30 years (ongoing revenue > ongoing costs). At the end of year 30, however, either decommissioning or full project repowering would be expected. A longer assumed project life may enhance the expected long-term profitability of a project, assuming any resulting increase in O&M is kept within reasonable bounds. Moreover, longer depreciation terms reduce annual book depreciation from an accounting perspective, thereby boosting net income in the near term. From a planning and modeling perspective, longer lifetimes may enable lower LCOE by recovering up-front capital costs (and, potentially, any component replacement or refurbishment costs) over additional years of electricity production. We specifically sought insights into assumptions most-commonly used by developers and sponsors for project life when considering the lifetime profitability of a project, pitching projects to financiers, and establishing power purchase agreements during the development and financing process. We asked about current assumptions, and how those assumptions have changed over time.

With respect to OpEx, our interest was in total all-in operational expenditures and how expectations for OpEx have changed over time. We define OpEx to include scheduled and unscheduled maintenance, operations personnel, land lease costs, property taxes, and any other ongoing operations costs; some studies focus solely on O&M, but our interest was total OpEx. We sought levelized estimates considering the full expected lifetime of utility-scale PV plants. We asked respondents to report data in $\$/kW_{DC}$-yr, and requested elaboration on any variations that might exist depending on whether a project is fixed-tilt vs. tracking, whether a project is located in a region with heavy soiling (requiring frequent washing) or vegetation growth (requiring vegetation management), or other project characteristics. We supplement the survey results with estimates from other literature. Much of the available literature does not report all-in OpEx (instead reporting only O&M, or ignoring certain costs); in many cases, coverage and even units are unclear. We therefore adjust literature estimates (and some survey responses) as necessary to ensure greater comparability based on total OpEx, but admit that judgement was required in this process.

For both project life and OpEx, we focused on expectations from project developers, sponsors, and long-term owners because these are the entities most likely to be thinking about the full lifecycle of a project. We also included major consultancies, including those that provide due diligence services to the solar industry. The organizations from which we sourced data have likely been engaged in more than half of all utility-scale PV projects built in the United States since 2007.

[1] In some cases, project-life assumptions that derive from financial reports reflect depreciation- or accounting-based lives, which may in theory differ from useful-life assumptions used by developers and sponsors. However, a review of our results indicates no such bias in the estimates reported later in this paper, as the distribution of responses is generally similar for both sources of data.
[2] These estimates come from staff and annual reports from: NextEra, EDPR, RES, FirstSolar, EDF, Enel, Pattern, 8point3, Southern Power, PSE&G, BNEF, Lazard, Cypress Creek, Recurrent, Macquarie Capital, Norton Rose Fulbright, MAP, DNV GL, NRG.
[3] These estimates come from staff and literature from: RES, BNEF, NREL, FirstSolar, EDF, MAP, NRG, sPower, Lazard, DNV GL, GTM, Wood Mackenzie, IHS Markit.

Estimated Project Lifetimes

Project developers, sponsors, long-term owners, and consultancies now most-commonly assume 30-year or greater useful project lives, as depicted in Figure 1. Current assumptions range from 25 years to more than 35 years depending on the organization; 17 out of 19 organizations use 30 years or more. Modules are now typically warranted for 25- or even 30-years, and are generally expected to have some useful life after warranties expire. Project life expectations from developers, sponsors and owners often exceed, by 5 to 10 years, these module warranty durations.

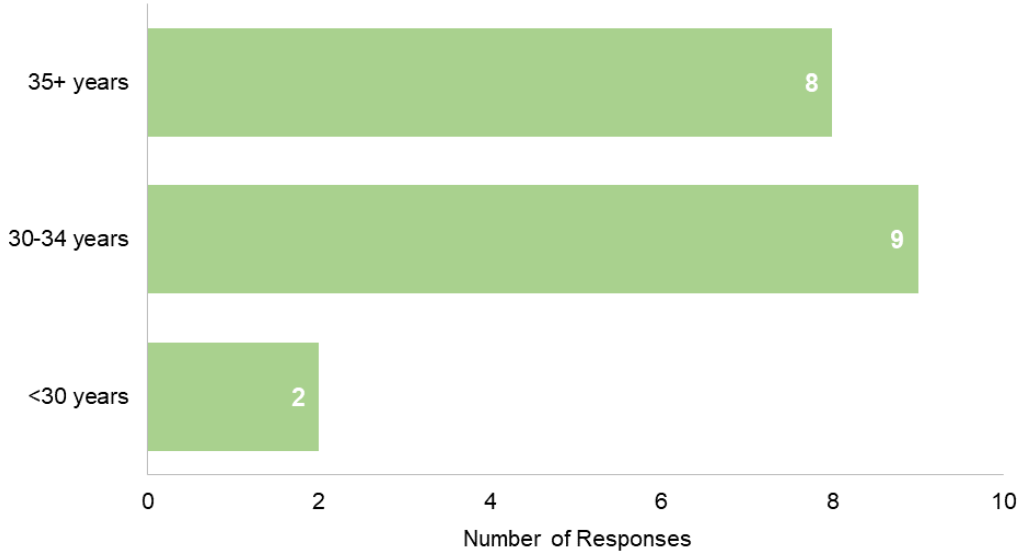


Figure 1. Current Project Life Expectations for Utility-Scale PV

Expectations for the useful life of utility-scale PV projects vary by respondent, but have consistently increased over time—from an average value of ~21.5 years in 2007 to ~32.5 years in 2019 (Figure 2). Directionally, this tracks the increase over time of the typical duration of module warranties.

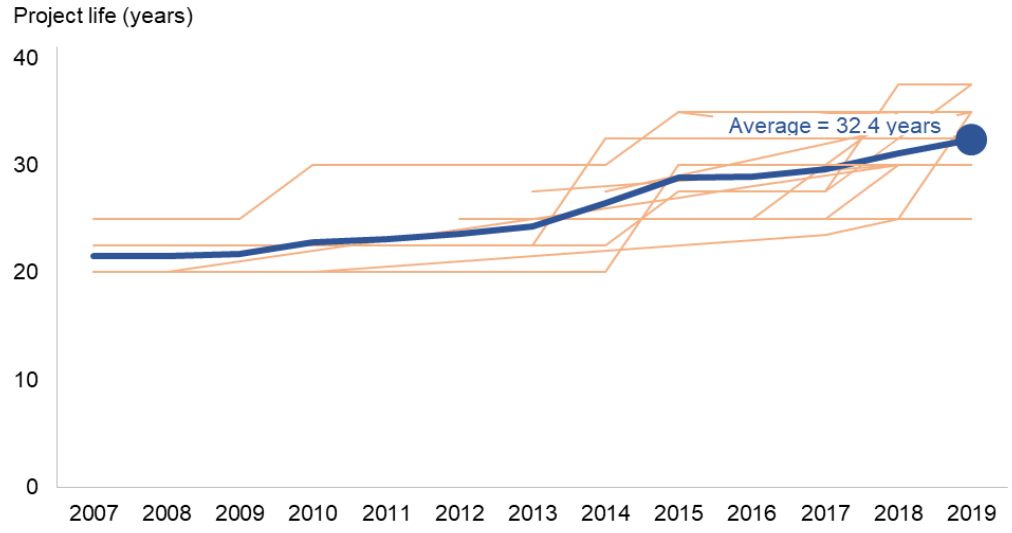


Figure 2. Project Life Expectations for Utility-Scale PV, over Time

One respondent noted a link between project life expectations and the cost of finance. Specifically, the cost of capital is, at present, very low, leading to lower discounting of possible profits in the long term. Previously, with a higher cost of capital, discounting meant that project life beyond 25 years was largely unimportant. The same respondent also noted that as project life expectations have increased, so too has the length of the "merchant tail"—the remaining operational period expected after a fixed-price sales agreement has ended. Expectations for a profitable merchant tail (which may or may not ultimately be fulfilled) helps enable aggressive pricing for initial power sales agreements.

Anticipated Operational Expenditures

Levelized, lifetime OpEx estimates have declined with time, though various sources report different numerical values. Across all sources, lifetime OpEx estimates averaged ~$35/kW$_{DC}$-yr for projects built in 2007, declining to ~$17/kW$_{DC}$-yr for projects built in 2019 (Figure 3).[4] The results derived from the industry survey are comparable to the broader literature, as shown by the blue and grey lines in Figure 3. They also generally align with the trend of declining annual solar operations costs reported by regulated utilities, which decreased from an average of $30/kW$_{DC}$-yr in 2011 to $15/kW$_{DC}$-yr in 2018.[5]

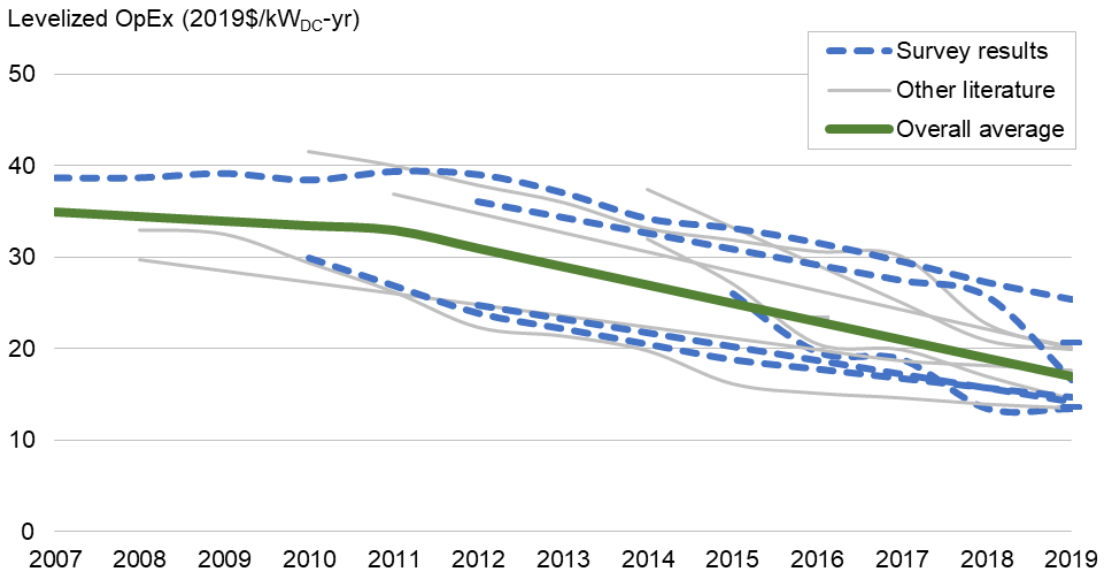


Figure 3. Lifetime OpEx Expectations for Utility-Scale PV, over Time

Variations in estimated lifetime OpEx for the most recent projects are depicted in Figure 4, and span a range of $13 to $25/kW$_{DC}$-yr. Survey-based responses are again broadly comparable to other literature-based estimates. Note that because respondents provided data on average costs, often for large project

[4] OpEx costs for tracking PV projects are slightly higher than for fixed tilt, by ~$1/kW$_{DC}$-yr. The costs reported in this section are for average projects that reflect a mix of tracking and fixed tilt.

[5] See data summarized in Bolinger, M., J. Seel and D. Robson. 2019. *Utility-Scale Solar: Empirical Trends in Project Technology, Cost, Performance, and PPA Pricing in the United States.* Lawrence Berkeley National Laboratory. The underlying FERC Form 1 OpEx data includes operational costs of supervision and engineering, maintenance, rents, and training (and therefore excludes payments for property taxes, insurance, land royalties, performance bonds, various administrative and other fees, and overhead). Focusing only on 2018 operating expenses, utilities report a range from $6/kW$_{DC}$-yr to $32/kW$_{DC}$-yr.

fleets, the costs reported here are a range across fleets; the range across individual projects is larger still, with one respondent noting that costs as high or higher than $30/kW$_{DC}$-yr are possible in some regions.

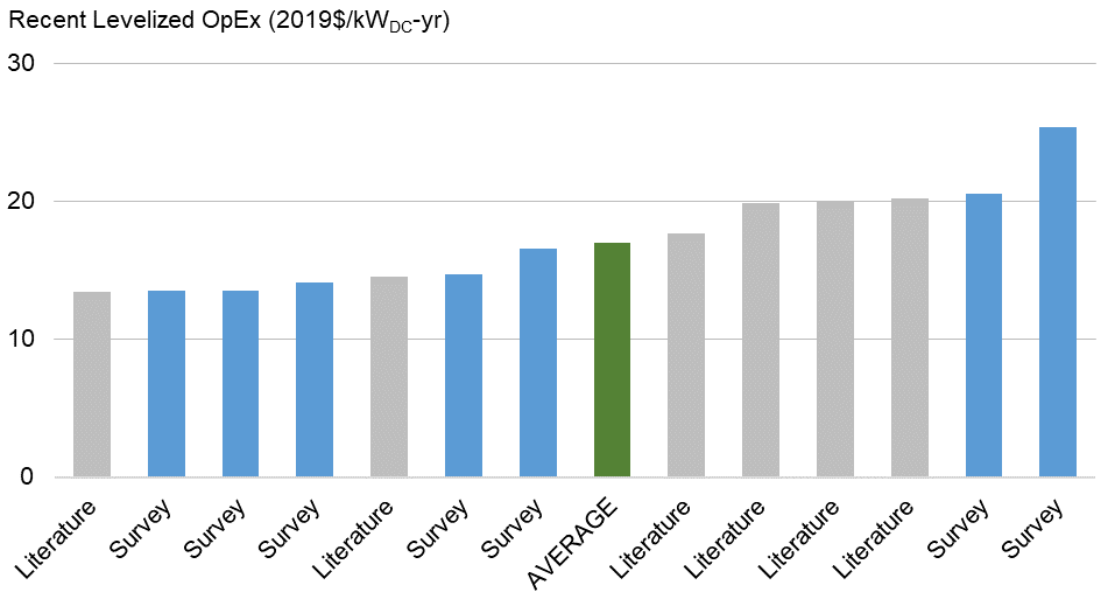


Figure 4. Recent Lifetime OpEx Expectations for Utility-Scale PV

While we primarily focused on all-in OpEx, some respondents broke out OpEx into its constituent parts, albeit using different categories of costs (Figure 5).

Operations and maintenance (O&M) costs—inclusive of scheduled and unscheduled maintenance—represent the single largest component of overall PV plant OpEx, as well as a primary source of OpEx reductions over the last decade. Current levelized O&M cost expectations range from $5-8/kW$_{DC}$-yr in many cases. One respondent focused on trends in the cost of initial 5-year O&M contracts (excluding module cleaning and vegetation management, which might add ~$1/kW$_{DC}$-yr), siting a decline in cost from ~$15/kW$_{DC}$-yr in 2010 to $4.5/kW$_{DC}$-yr in 2019. This same respondent indicated that actual OpEx costs for older PV projects may be lower than expectations that existed at the time of initial commercial operation, as these older projects have been able to avail themselves of lower-priced O&M contracts as their original contracts have expired and been renewed.

Property taxes and land lease costs are highly variable across sites. One respondent cited a range in property taxes of $2 to $4/kW$_{DC}$-yr depending on location. That same respondent cited lease costs of $1 to $8/kW$_{DC}$-yr, impacted by the cost of land in a region and site layout—sites in complex terrain often result in more land needing to be leased for a project of a fixed size.[6] Module cleaning and vegetation management were also cited as being variable depending on site needs. Other notable OpEx line-items include security, insurance, and asset management. Fleet size was mentioned as impacting OpEx, with owners benefitting when able to share fixed costs across nearby projects.

[6] Utility-scale PV projects do not generally own the land on which they are placed. Instead, the project owner leases the land from the original landowner or a third party that purchases the land. In the latter case, a third party purchases the land from the original owner, and then leases the land to the project owner. Which lease arrangement is used (from landowner or an intermediary) depends on site and region. Either way, the project owner incurs land costs in the form of an annual lease. For analysts, it is important to take care not to double count costs by including them both as up-front (presuming ownership) and ongoing (presuming ongoing lease) expenditures.

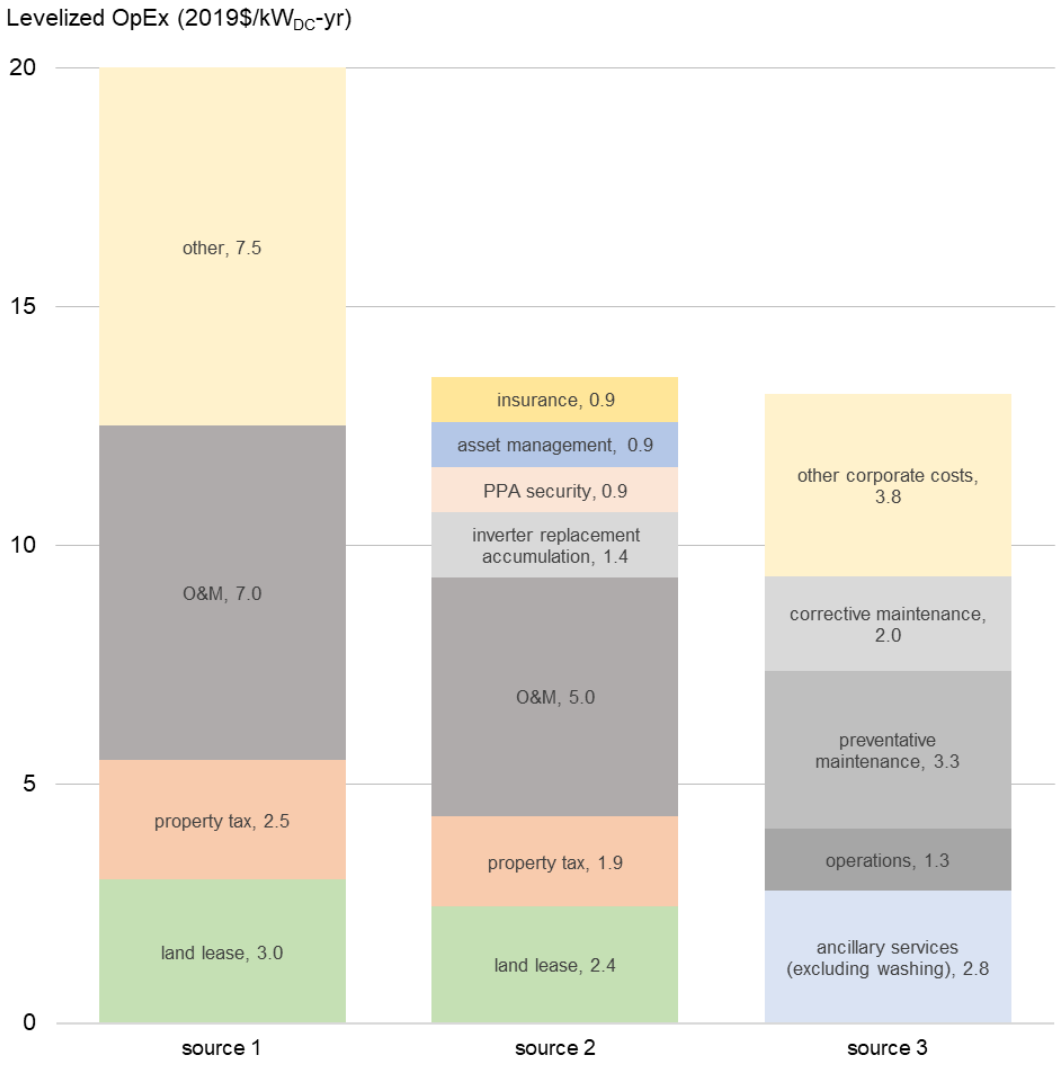


Figure 5. Recent Lifetime OpEx Expectations by Component

Reductions in OpEx over time have, in part, been motivated by the low power sales prices now common in the sector, requiring focused attention on lowering OpEx. Related, owners are asking for fewer services than in the past. As a result, overall costs are declining partly due to per-service cost reductions (as one example, via automated panel washing) and partly due to a smaller number of services being procured (as one example, owners realizing that field-level inspections of electrical wiring and equipment are not required every year).

However, one respondent noted that they anticipated that all-in OpEx could rise in the future, as developers may be underestimating certain costs in new markets. O&M is now offered at rock-bottom prices, with relatively few opportunities for further reductions. Land costs, meanwhile, may increase as landowners become increasingly savvy and competition for sites intensifies. Counties may offer fewer property tax abatements as the industry matures. Finally, as projects move closer to population centers, full-time onsite security staff may be required—something not needed for remotely located projects. A consultant echoed some of these themes, postulating that some developers and owners may be underestimating long-term costs.

Impacts on Levelized Cost of Energy[7]

The levelized cost of energy (LCOE) of solar plants is driven by five primary parameters: upfront capital expenditures, project performance, financing and tax assumptions, OpEx, and project life. Project life extensions and OpEx reductions therefore represent two potential levers for LCOE improvement.

Applying 2007-2009 values for not only project life and OpEx but also other drivers of LCOE, the LCOE for utility-scale PV projects built from 2007 through 2009 averaged $305/MWh, excluding the federal investment tax credit (ITC). Using 2019 values for all parameters yields an average LCOE of $51/MWh in 2019, again excluding the ITC (Figure 6). The decline in LCOE from $305/MWh to $51/MWh was predominantly caused by reductions in up-front capital expenditures (and, to a much lesser extent, by changes in capacity factors, financing costs, and tax rates), but 9% ($22/MWh) of the overall decline is due to improvements in project life and OpEx. Project life extensions and OpEx reductions had similarly sized impacts on LCOE over this period, at $11/MWh each. Had project life and OpEx not improved over the last decade, LCOE in 2019 would have instead been $73/MWh—43% higher.

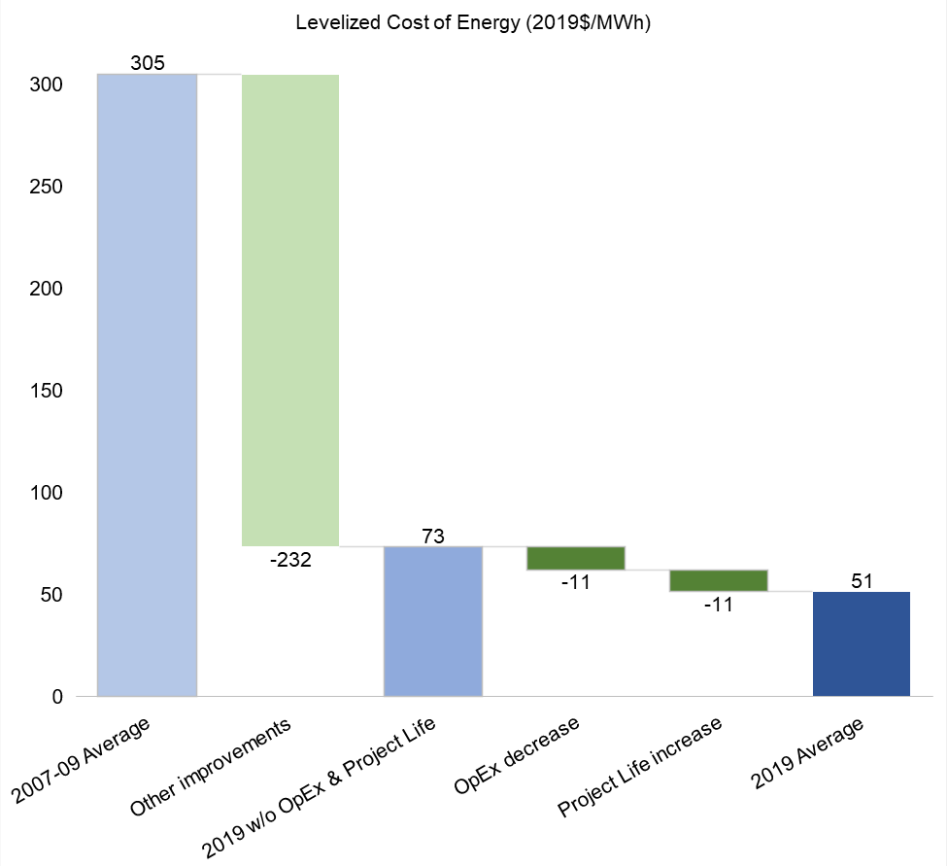


Figure 6. Impact of Project Life and OpEx Improvements on LCOE

Clearly, OpEx and project life can be important drivers for LCOE trends over time.

[7] Assumptions derive in part from Bolinger, M., J. Seel and D. Robson. 2019. *Utility-Scale Solar: Empirical Trends in Project Technology, Cost, Performance, and PPA Pricing in the United States.* Lawrence Berkeley National Laboratory.
For projects built from 2007-2009, assumptions include: $5.5/$W_{DC}$ installed cost, 17.6% DC capacity factor, 6.36% weighted average cost of capital, 40% combined tax rate, $34.5/$kW_{DC}$-yr OpEx, and 21.6 year project life. For projects built in 2019, assumptions include: $1.1/$W_{DC}$ installed cost, 17.9% DC capacity factor, 5.94% weighted average cost of capital, 27% combined tax rate, $17/$kW_{DC}$-yr OpEx, and 32.4-year project life.

Acknowledgements

We especially thank each of the solar industry professionals who thoughtfully responded to our questions. For additional data, we thank David Feldman with the National Renewable Energy Laboratory. For their support of this work, we thank the entire DOE Solar Energy Technologies Office team. This material is based upon work funded by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE) under Solar Energy Technologies Office (SETO) Agreement Number 34158 and Contract No. DE-AC02-05CH11231. The authors are solely responsible for any omissions or errors contained herein.

Public Utility Division - Staff

Data Request PUD 08-01

Docket No. PUD2023-000087

PUD 08-01

Attachment 1 to the response to OIEC 06 -21 on line 11 shows Customer Care System (CCS) 1998 Year Installed, with a Retirement Status of "Physically in service; Not retired on an amortization basis."
(a) Given that the software was installed in 1998, is it correct that it has been recorded as retired on the books as fully amortized? If this is not a correct statement, please provide the corrected statement and the support for the corrected statement.
(b) In what year was this system recorded as being retired on the books (fully amortized)?
(c) For each row on this Attachment 1 a which is physically still in service, please list the year in which it was considered retired on the books (fully amortized).

Response*

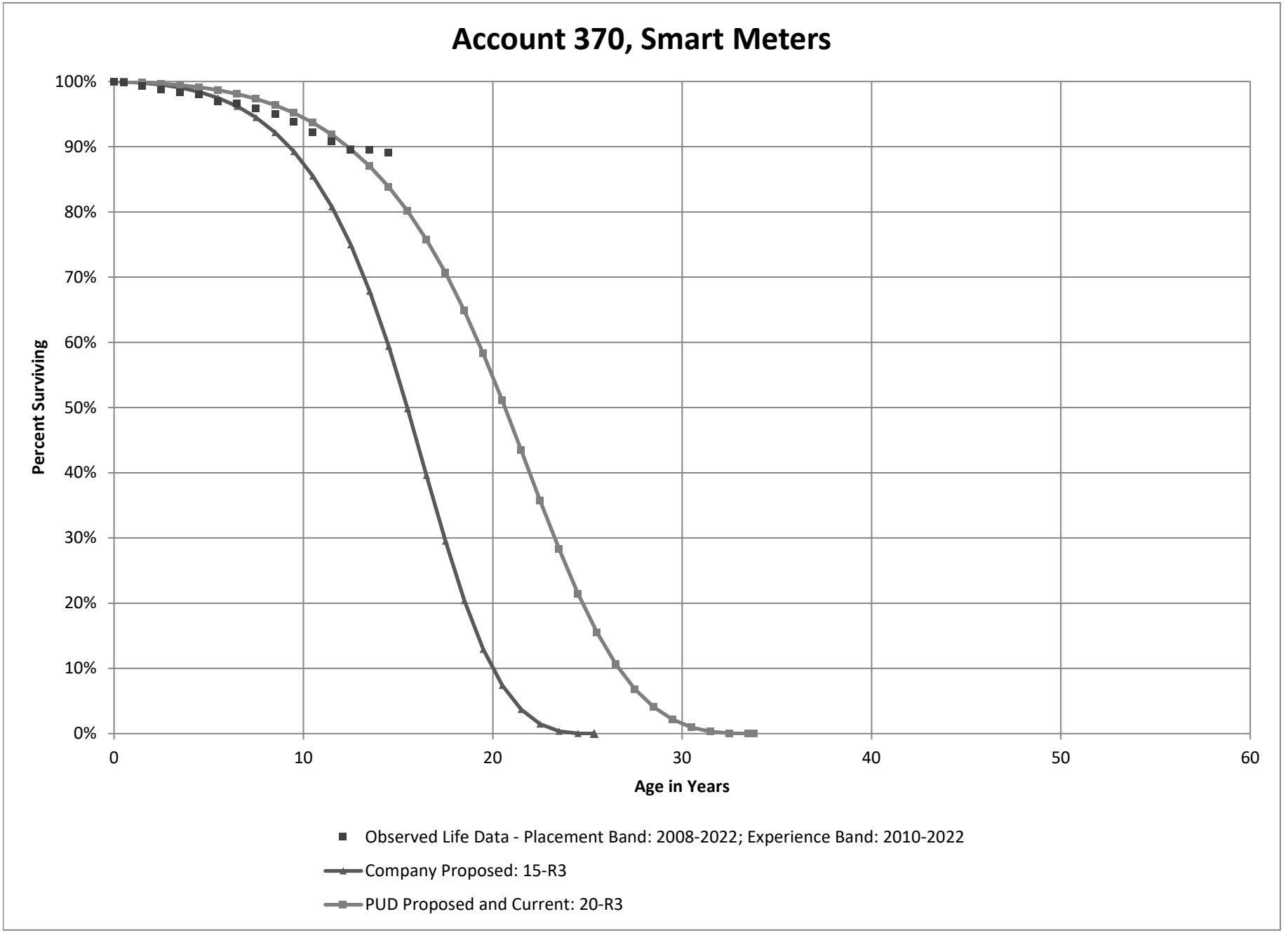
a. The Customer Care System software is still in-use and remains in Plant In-Service, however the asset is fully amortized as of 2004.

b. The asset is fully amortized as of 2004 but has not been retired on the books.

c. See the attachment PUD 08-01(c)_Att1 for the list of fully amortized dates for assets still currently in use.

Response provided by: Brent Johnson
Response provided on: 3/11/2024
Contact & Phone No: Peggy Millspaugh -- (405) 553-3504

*By responding to these Data Requests, OG&E is not indicating that the provided information is relevant, or material and OG&E is not waiving any objection as to relevance or materiality or confidentiality of the information or documents provided or the admissibility of such information or documents in this or in any other proceeding.

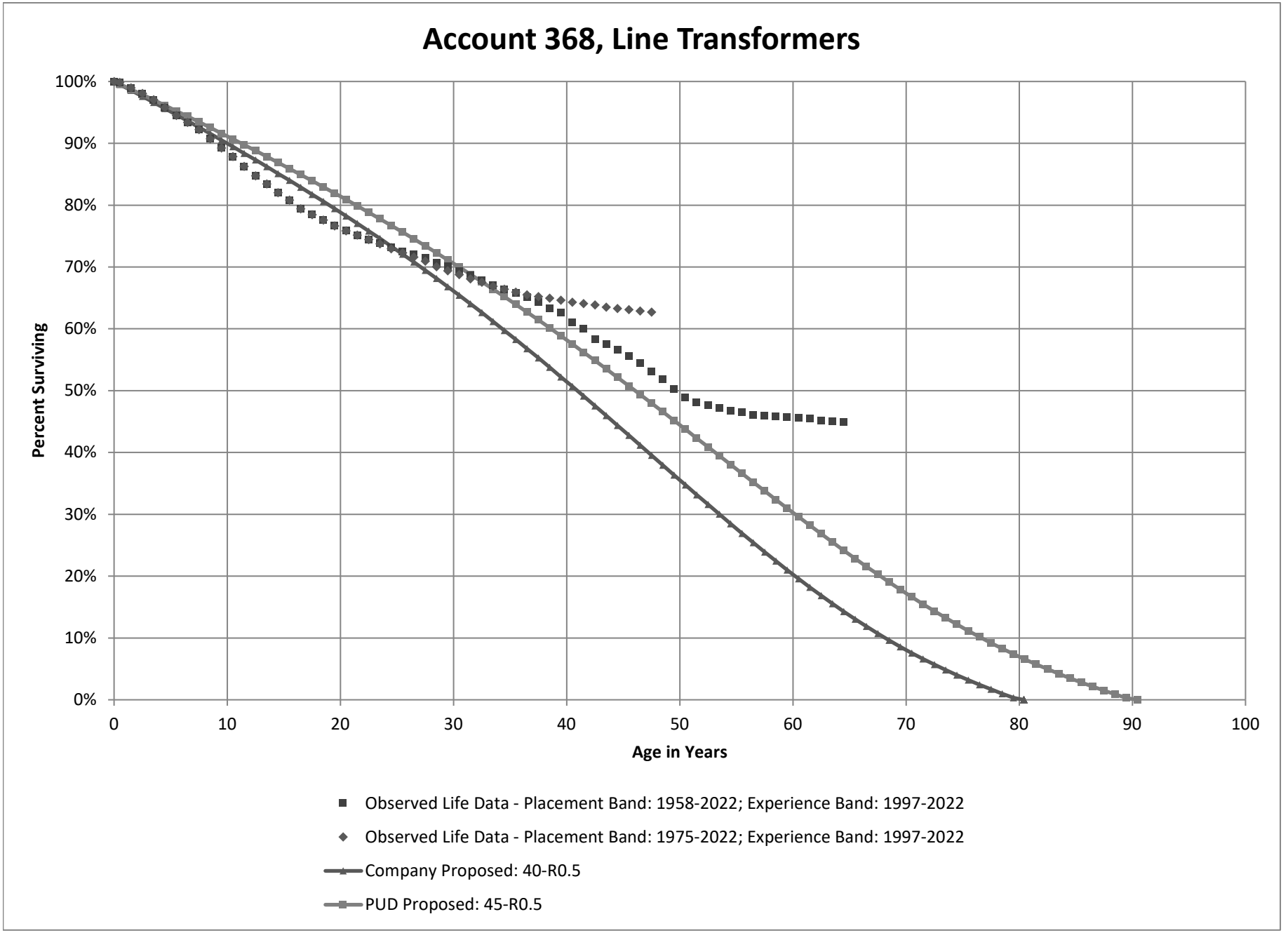

Account 370, Smart Meters
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Percent Surviving
0
10
20
30
40
50
60
Age in Years
Observed Life Data - Placement Band: 2008-2022; Experience Band: 2010-2022
Company Proposed: 15-R3
PUD Proposed and Current: 20-R3

Sum of Square Difference ("SSD") Comparison
Account 370, Smart Meters

Observed Life Data - Placement Band: 2008-2022; Experience Band: 2010-2022

	SSD
Company Proposed: 15-R3	1,744
PUD Proposed and Current: 20-R3	52

Note: A lower number indicates a better fit to the actual data (Observed Life Data)


Account 368, Line Transformers
Percent Surviving
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
0
10
20
30
40
50
60
70
80
90
100
Age in Years
Observed Life Data - Placement Band: 1958-2022; Experience Band: 1997-2022
Observed Life Data - Placement Band: 1975-2022; Experience Band: 1997-2022
Company Proposed: 40-R0.5
PUD Proposed: 45-R0.5

Sum of Square Difference ("SSD") Comparison
Account 368, Line Transformers

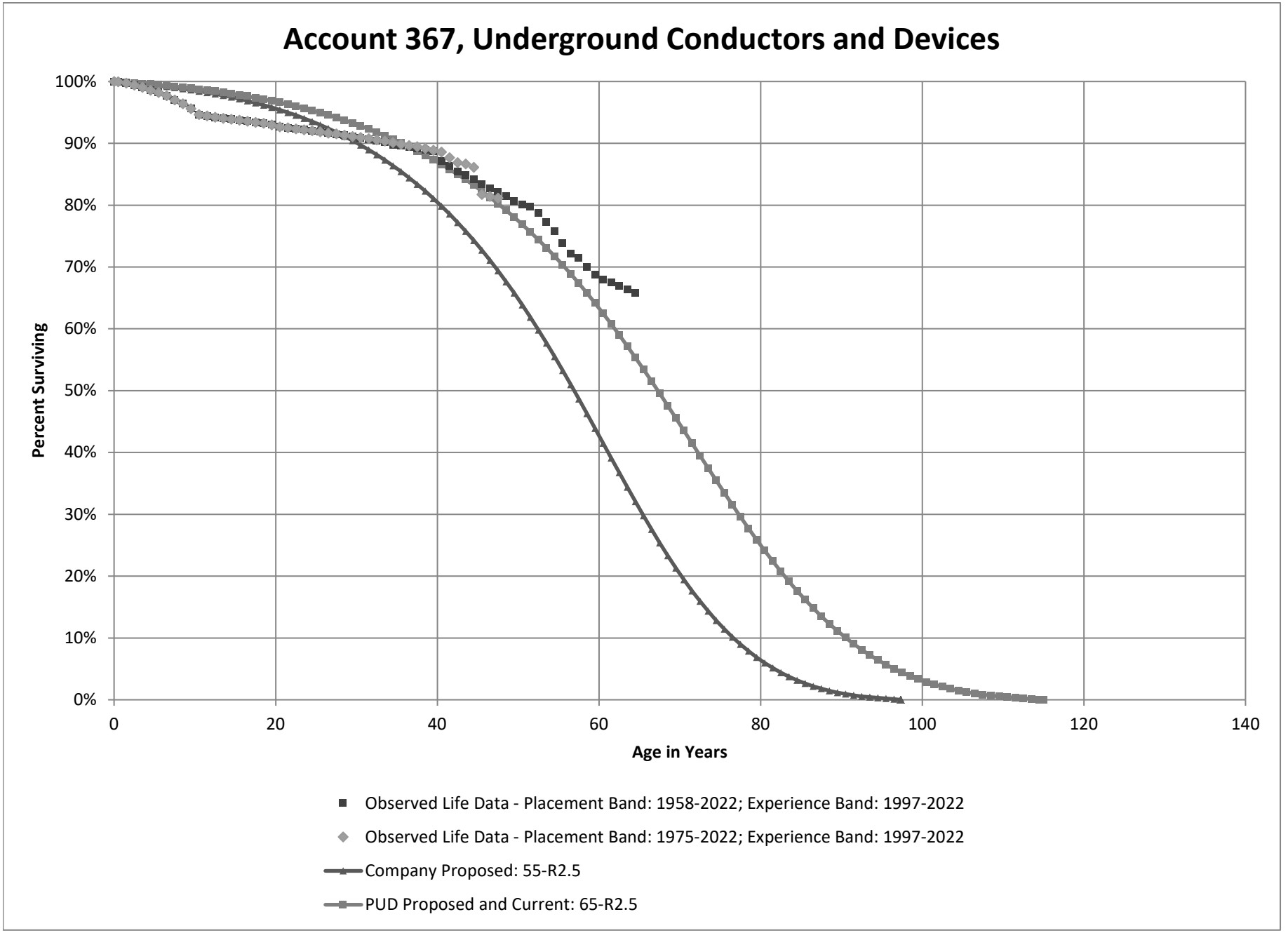
Observed Life Data - Placement Band: 1958-2022; Experience Band: 1997-2022

	SSD
Company Proposed: 40-R0.5	10,004
PUD Proposed: 45-R0.5	3,313

Observed Life Data - Placement Band: 1975-2022; Experience Band: 1997-2022

	SSD
Company Proposed: 40-R0.5	3,513
PUD Proposed: 45-R0.5	1,418

Note: A lower number indicates a better fit to the actual data (Observed Life Data)


Account 367, Underground Conductors and Devices
Percent Surviving
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
0
20
40
60
80
100
120
140
Age in Years
Observed Life Data - Placement Band: 1958-2022; Experience Band: 1997-2022
Observed Life Data - Placement Band: 1975-2022; Experience Band: 1997-2022
Company Proposed: 55-R2.5
PUD Proposed and Current: 65-R2.5

Sum of Square Difference ("SSD") Comparison
Account 367, Underground Conductors and Devices

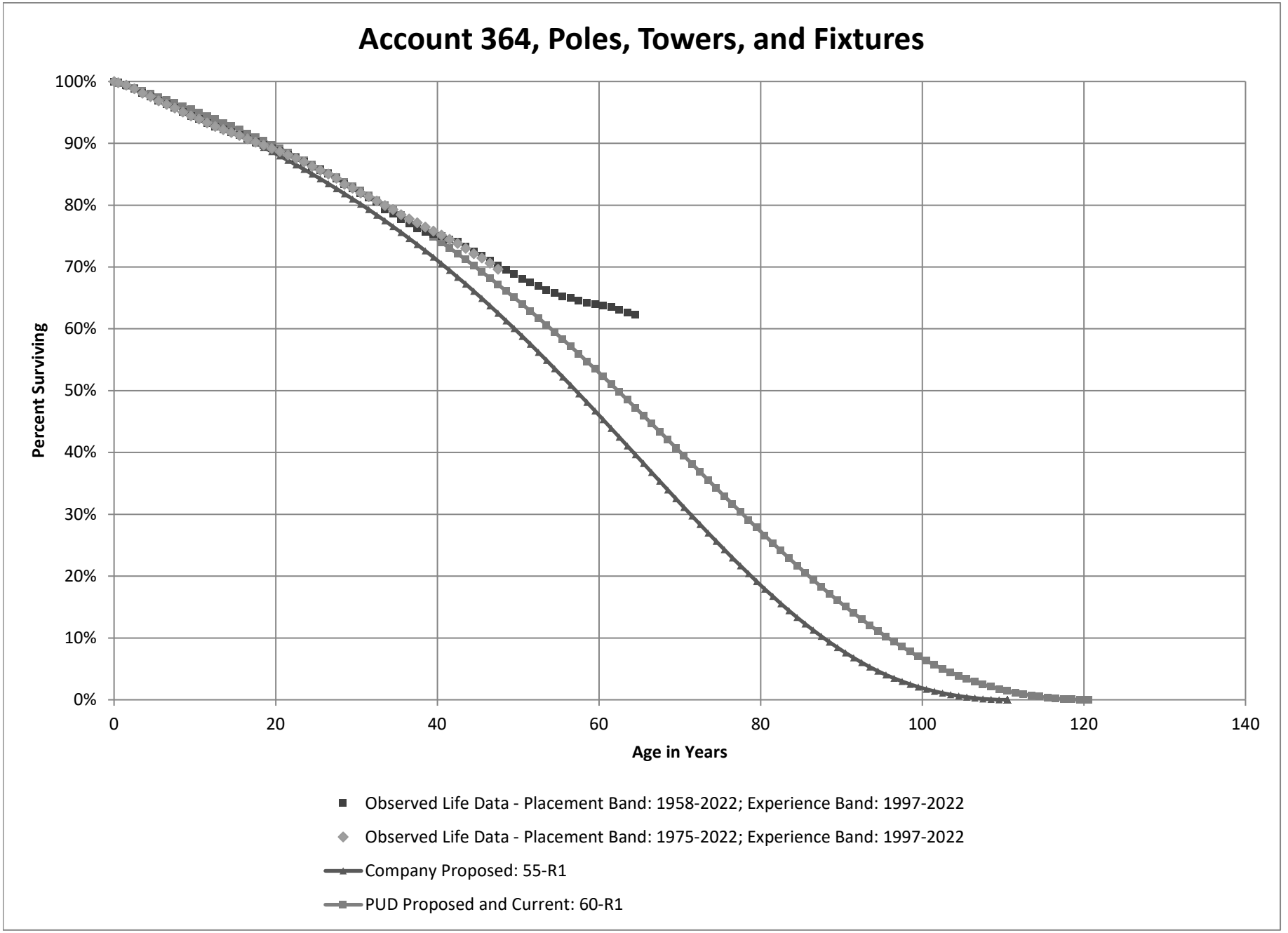
Observed Life Data - Placement Band: 1958-2022; Experience Band: 1997-2022

	SSD
Company Proposed: 55-R2.5	10,442
PUD Proposed and Current: 65-R2.5	822

Observed Life Data - Placement Band: 1975-2022; Experience Band: 1997-2022

	SSD
Company Proposed: 55-R2.5	1,234
PUD Proposed and Current: 65-R2.5	338

Note: A lower number indicates a better fit to the actual data (Observed Life Data)


Account 364, Poles, Towers, and Fixtures
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Percent Surviving
0
20
40
60
80
100
120
140
Age in Years
Observed Life Data - Placement Band: 1958-2022; Experience Band: 1997-2022
Observed Life Data - Placement Band: 1975-2022; Experience Band: 1997-2022
Company Proposed: 55-R1
PUD Proposed and Current: 60-R1

Sum of Square Difference ("SSD") Comparison
Account 364, Poles, Towers, and Fixtures

Observed Life Data - Placement Band: 1958-2022; Experience Band: 1997-2022

	SSD
Company Proposed: 55-R1	4,400
PUD Proposed and Current: 60-R1	1,492

Observed Life Data - Placement Band: 1975-2022; Experience Band: 1997-2022

	SSD
Company Proposed: 55-R1	398
PUD Proposed and Current: 60-R1	46

Note: A lower number indicates a better fit to the actual data (Observed Life Data)

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Changes in U.S. Family Finances from 2016 to 2019: Evidence from the Survey of Consumer Finances

Neil Bhutta, Jesse Bricker, Andrew C. Chang, Lisa J. Dettling, Sarena Goodman, Joanne W. Hsu, Kevin B. Moore, Sarah Reber, Alice Henriques Volz, and Richard A. Windle, of the Board's Division of Research and Statistics, prepared this article with assistance from Kathy Bi, Jacqueline Blair, Julia Hewitt, and Dalton Ruh.

The Federal Reserve Board's triennial Survey of Consumer Finances (SCF) collects information about family income, net worth, balance sheet components, credit use, and other financial outcomes.[1] The 2019 SCF reveals improvements in economic well-being among large parts of the income and wealth distributions since the previous time the survey was conducted in 2016, and many groups with historically lower income and wealth saw relatively large gains.[2]

During the three years between the beginning of the 2016 and 2019 surveys, real gross domestic product grew at an annual rate of 2.5 percent, and the civilian unemployment rate fell from 5.0 percent to 3.8 percent.[3] These changes in aggregate economic performance were unevenly reflected in the income of families with different characteristics. Several observations from the SCF about real family income, which is measured for the year before the survey, stand out:

- Between 2016 and 2019, median family income rose 5 percent, and mean family income decreased 3 percent (figure 1). These changes suggest that the income distribution narrowed slightly over the period, particularly as the decrease in mean income was mainly driven by families in the top 1 percent of the income distribution (see box 1, "The Data Used in This Article"). These patterns stand in contrast to the 2010–16 period, during which mean income growth vastly outpaced median income growth and the income distribution widened considerably.
- Between 2016 and 2019, families that were high wealth, had a college education, or identified as White non-Hispanic experienced proportionally smaller income growth than other groups of families but continued to have the highest income:

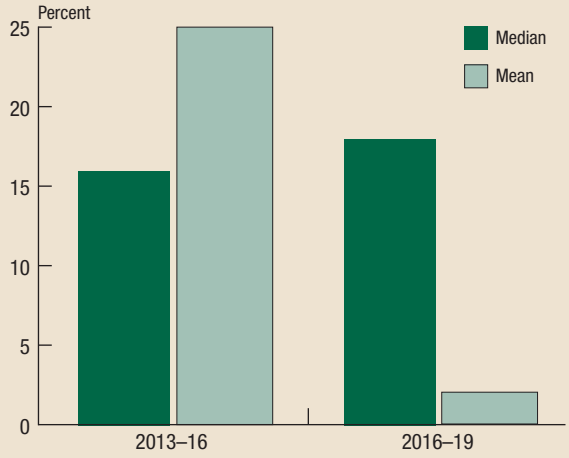
[1] For a general description of the SCF data, see box 1, "The Data Used in This Article." The appendix provides a summary of key technical aspects of the survey.

[2] For a detailed discussion of the 2016 survey as well as references to earlier surveys, see Jesse Bricker, Lisa J. Dettling, Alice Henriques, Joanne W. Hsu, Lindsay Jacobs, Kevin B. Moore, Sarah Pack, John Sabelhaus, Jeffrey Thompson, and Richard Windle (2017), "Changes in U.S. Family Finances from 2013 to 2016: Evidence from the Survey of Consumer Finances," *Federal Reserve Bulletin,* vol. 103 (September), https://www.federalreserve.gov/publications/files/scf17.pdf.

[3] Against this backdrop, the annual rate of change in the consumer price index averaged 2.2 percent. Changes in aggregate statistics reported here are measured from March to March or first quarter to first quarter of the respective survey years, just before the beginning of the field period for each survey.

- Wealth continued to increase among families with either a high school diploma or some college. However, families without a high school diploma, which saw the largest proportional gains in median and mean net worth between 2013 and 2016, saw the largest drops between 2016 and 2019.
- The homeownership rate increased between 2016 and 2019 to 64.9 percent, a reversal of the declining trend between 2004 and 2016. For families that own a home, the median net housing value (the value of a home minus home-secured debt) rose to about $120,000 from about $106,000 in 2016.

Figure 2. Change in median and mean family net worth, 2013–19 surveys



Note: Changes are based on inflation-adjusted dollars.

- Nearly two-thirds of working-age families participated in retirement plans in 2019, down slightly from 2016. Participation continued to be uneven across the income distribution. Less than 40 percent of families in the bottom half of the income distribution were in a retirement plan, compared with more than 80 percent of upper-middle-income families and more than 90 percent of families in the top decile of income.
- Ownership rates of corporate equities increased between 2016 and 2019, driven by families in the lower half of the income distribution. Still, less than one-third of lower-income families in 2019 were participating in the stock market, compared with about 70 percent of upper-middle-income families and more than 90 percent of families in the top decile of the income distribution.
- About 13 percent of families in the 2019 SCF owned a privately held business, similar to 2016. Business ownership increases with income, and nearly 40 percent of families in the top decile of the income distribution owned a business.

Between 2016 and 2019, average consumer loan interest rates for major types of debt increased: The average 30-year, fixed-rate mortgage interest rate rose from 3.7 percent to 4.3 percent, the average new vehicle loan interest rate rose from 4.2 percent to 5.5 percent, and the average credit card interest rate rose from 12.3 percent to 15.1 percent.[6] While the fraction of families with any kind of debt basically held steady between 2016 and 2019, debt balances among families with debt increased:

- Overall, debt obligations increased modestly between 2016 and 2019. Among families with debt, median debt rose 2 percent, and mean debt increased 7 percent.
- Debt secured by residential property increased substantially between 2016 and 2019. About 42 percent of families in both 2016 and 2019 had debt secured by their primary residence, and the median value of this debt increased 14 percent to $134,800.

[6] Changes in the mortgage interest rate are measured from March to March of the respective survey years using the contract rate on 30-year, fixed-rate conventional home mortgage commitments published by the Federal Home Loan Mortgage Corporation, while changes in the vehicle loan and credit card interest rates are measured from the first quarter to the first quarter of the respective survey years using the G.19 data on commercial bank interest rates published by the Federal Reserve Board.

Box 7. Homeownership and Net Housing Wealth—*continued*

along with the group's increase in homeownership rates, contributed to the group's growth in wealth.

For the upper-middle-income group, the median net housing value increased 9 percent. Meanwhile, the top income group saw a net housing value decline of 6 percent. These changes stand in contrast to the patterns in 2013 and 2016, where higher-income households gained more.

Table B. Median net housing value for homeowners, 2013–19 surveys

Thousands of 2019 dollars

Percentile of usual income	2013	2016	2019
All	87.9	106.4	120.0
0–49.9	65.9	74.5	89.0
50–89.9	84.3	103.6	113.0
90–100	274.5	367.4	346.0

[1] The homeownership rate in 1989 was 63.9 percent. It rose to a peak of 69.1 percent in 2004.
[2] SCF respondents are asked to report the value of their home. Only primary residences are included. Debts on the home include any mortgages or home equity loans against the primary residence.

Debt, Debt Burden, and Credit Market Experiences

The share of families holding any type of debt held steady between 2016 and 2019, at roughly 77 percent (table 4).[37] The conditional median value of debt increased 2 percent to nearly $65,000, and the conditional mean value increased 7 percent to more than $140,000.

Table 4. Holding and values of debt items, 2016 and 2019 surveys

Thousands of 2019 dollars, except as noted

Types of debts	Percent holding		Conditional median value			Conditional mean value		
	2016	2019	2016	2019	Percentage change 2016–19	2016	2019	Percentage change 2016–19
Any debt	**77.1**	**76.6**	**63.6**	**64.8**	**2**	**131.2**	**140.6**	**7**
Secured by residential property								
Primary residence	41.9	42.1	118.1	134.8	14	167.7	180.8	8
Other	5.6	4.7	106.4	122.0	15	170.8	205.9	21
Lines of credit not secured by residential property	1.8	1.5	3.2	2.0	-37	59.2	40.4	-32
Installment loans								
Education loans	22.4	21.5	20.2	22.3	10	36.4	40.3	11
Vehicle loans	33.8	36.9	13.6	13.1	-4	18.3	17.6	-4
Other installment loans	11.2	10.5	3.6	3.8	5	16.4	20.6	26
Credit card balances	43.9	45.4	2.4	2.7	10	6.1	6.3	3
Other	5.4	5.2	5.3	5.0	-6	28.5	24.7	-13

Note: See the appendix for definitions of liability categories used in the Survey of Consumer Finances.

[37] For a discussion of the resources that families use when making borrowing and investment decisions, see box 10, "Shopping for Financial Services." See the appendix for a detailed definition of SCF liability categories.

FEDERAL RESERVE statistical release

G.19

Consumer Credit
January 2023

For release at **3 p.m.** (Eastern Time)
March 7, 2023

In January, consumer credit increased at a seasonally adjusted annual rate of 3.7 percent. Revolving credit increased at an annual rate of 11.1 percent, while nonrevolving credit increased at an annual rate of 1.2 percent.

Consumer Credit Outstanding[1]

Seasonally adjusted. Billions of dollars except as noted.

						2021	2022						2023
	2018	2019	2020	2021[r]	2022[r]	Q4[r]	Q1[r]	Q2[r]	Q3[r]	Q4[r]	Nov[r]	Dec[r]	Jan[p]
Total percent change (annual rate)[2]	4.5	4.6	-0.3	5.9	7.9	6.9	8.4	8.7	6.7	7.0	9.1	2.7	3.7
Revolving	3.7	3.6	-11.2	6.9	15.5	12.7	17.0	14.6	12.6	14.3	19.4	6.9	11.1
Nonrevolving[3]	4.8	5.0	3.5	5.6	5.6	5.2	5.8	6.8	4.8	4.5	5.8	1.3	1.2
Total flow (annual rate)[2,4]	172.7	185.1	-12.0	246.0	350.0	302.5	372.5	391.9	308.5	327.2	433.0	128.3	177.6
Revolving	37.3	38.1	-122.1	67.7	161.2	128.3	177.6	159.1	141.4	166.7	228.2	83.0	134.0
Nonrevolving[3]	135.3	147.0	110.1	178.3	188.8	174.2	194.9	232.8	167.1	160.6	204.8	45.3	43.6
Total outstanding	4,007.0	4,192.2	4,184.9	4,430.8	4,780.8	4,430.8	4,523.9	4,621.9	4,699.0	4,780.8	4,770.2	4,780.8	4,795.6
Revolving	1,053.8	1,092.0	974.6	1,042.2	1,203.4	1,042.2	1,086.6	1,126.4	1,161.8	1,203.4	1,196.5	1,203.4	1,214.6
Nonrevolving[3]	2,953.2	3,100.2	3,210.3	3,388.6	3,577.4	3,388.6	3,437.3	3,495.5	3,537.3	3,577.4	3,573.6	3,577.4	3,581.0

Terms of Credit

Not seasonally adjusted. Percent except as noted.

Commercial bank interest rates[5]													
New car loans													
60-month	5.02	5.31	5.02	4.82	5.36	4.67	4.52	4.85	5.50	6.55	6.55	n.a.	n.a.
72-month	5.13	5.36	5.21	4.82	5.50	4.64	4.54	5.19	5.61	6.64	6.64	n.a.	n.a.
Credit card plans													
All accounts	14.22	15.05	14.71	14.60	16.26	14.51	14.56	15.13	16.27	19.07	19.07	n.a.	n.a.
Accounts assessed interest	16.04	16.98	16.28	16.45	17.91	16.44	16.17	16.65	18.43	20.40	20.40	n.a.	n.a.
Personal loans													
24-month	10.32	10.32	9.51	9.38	9.87	9.09	9.39	8.73	10.16	11.21	11.21	n.a.	n.a.
Finance companies (new car loans)[6]													
Interest rates	6.1	6.4	5.2	4.6	5.2	4.4	4.4	5.0	5.5	6.1	n.a.	6.1	n.a.
Maturity (months)	66	67	69	67	67	67	66	66	66	67	n.a.	67	n.a.
Amount financed (dollars)	30,173	31,311	34,449	35,307	38,900	37,821	37,991	38,044	40,156	39,407	n.a.	39,407	n.a.

This release is generally issued on the fifth business day of each month. See the Statistical Release Schedule for more information.
Footnotes appear on the second and third pages.

Consumer Credit Outstanding (Levels)
Not seasonally adjusted
Billions of dollars

						2021	2022						2023
	2018	2019	2020	2021[r]	2022[r]	Q4[r]	Q1[r]	Q2[r]	Q3[r]	Q4[r]	Nov[r]	Dec[r]	Jan[p]
Total	4,007.0	4,192.2	4,184.9	4,430.8	4,780.8	4,430.8	4,462.6	4,583.7	4,681.2	4,780.8	4,758.2	4,780.8	4,780.9
Major holders													
Depository institutions	1,687.4	1,774.1	1,687.5	1,827.2	2,032.3	1,827.2	1,830.9	1,915.0	1,959.3	2,032.3	2,011.9	2,032.3	2,012.9
Finance companies	534.4	537.7	551.4	577.0	580.6	577.0	572.8	570.8	570.4	580.6	578.1	580.6	581.9
Credit unions	481.2	498.0	505.1	532.0	630.9	532.0	547.2	584.3	616.3	630.9	624.5	630.9	629.6
Federal government[7]	1,236.3	1,319.2	1,381.0	1,436.4	1,481.0	1,436.4	1,455.0	1,457.1	1,479.1	1,481.0	1,487.8	1,481.0	1,500.7
Nonprofit and educational institutions[8]	31.3	27.3	24.1	22.4	20.3	22.4	22.0	21.6	21.1	20.3	20.4	20.3	20.2
Nonfinancial business	36.5	35.8	35.8	35.8	35.8	35.8	34.7	34.8	35.0	35.8	35.4	35.8	35.5
Major types of credit, by holder													
Revolving	1,053.8	1,092.0	974.6	1,042.2	1,203.4	1,042.2	1,024.8	1,088.2	1,123.2	1,203.4	1,178.8	1,203.4	1,182.4
Depository institutions	947.2	983.6	875.3	944.2	1,095.7	944.2	928.2	989.3	1,021.9	1,095.7	1,073.7	1,095.7	1,076.9
Finance companies	23.7	21.9	17.1	13.4	12.2	13.4	12.9	12.2	11.9	12.2	12.1	12.2	12.1
Credit unions	62.4	66.5	62.3	64.7	75.6	64.7	64.8	67.7	70.4	75.6	73.5	75.6	73.9
Federal government[7]	...	...	...	...	...	...	...	...	...	...	...	...	...
Nonprofit and educational institutions[8]	...	...	...	...	...	...	...	...	...	...	...	...	...
Nonfinancial business	20.5	20.0	20.0	20.0	20.0	20.0	18.8	18.9	19.1	20.0	19.6	20.0	19.5
Nonrevolving	2,953.2	3,100.2	3,210.3	3,388.6	3,577.4	3,388.6	3,437.7	3,495.5	3,558.0	3,577.4	3,579.4	3,577.4	3,598.4
Depository institutions	740.2	790.5	812.2	883.0	936.6	883.0	902.7	925.7	937.5	936.6	938.3	936.6	936.0
Finance companies	510.7	515.9	534.3	563.6	568.5	563.6	559.9	558.6	558.5	568.5	566.0	568.5	569.8
Credit unions	418.8	431.5	442.8	467.4	555.3	467.4	482.4	516.6	545.9	555.3	551.1	555.3	555.7
Federal government[7]	1,236.3	1,319.2	1,381.0	1,436.4	1,481.0	1,436.4	1,455.0	1,457.1	1,479.1	1,481.0	1,487.8	1,481.0	1,500.7
Nonprofit and educational institutions[8]	31.3	27.3	24.1	22.4	20.3	22.4	22.0	21.6	21.1	20.3	20.4	20.3	20.2
Nonfinancial business	16.0	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.9	15.8	15.9	15.8	15.9
Memo													
Student Loans[9]	1,566.9	1,637.9	1,693.9	1,733.4	1,757.2	1,733.4	1,747.5	1,744.0	1,761.7	1,757.2	n.a.	1,757.2	n.a.
Motor Vehicle Loans[10]	1,139.6	1,184.1	1,224.4	1,314.2	1,412.3	1,314.2	1,332.1	1,366.8	1,397.0	1,412.3	n.a.	1,412.3	n.a.

Footnotes

1. Covers most credit extended to individuals, excluding loans secured by real estate. Includes receivables carried on the balance sheet of the institution as well as outstanding balances of pools upon which securities have been issued; under the current accounting rule, most of those balances remain on the balance sheets of the loan originator.
2. The series for consumer credit outstanding and its components may contain breaks that result from discontinuities in source data. Percent changes are adjusted to exclude the effect of such breaks. In addition, percent changes are at a simple annual rate and are calculated from unrounded data.
3. Includes motor vehicle loans and all other loans not included in revolving credit, such as loans for mobile homes, education, boats, trailers, or vacations. These loans may be secured or unsecured.
4. Flow data represent changes in the level of credit due to economic and financial activity, and exclude breaks in the data series due to changes in methodology, source data, and other technical aspects of the estimation that could affect the level of credit.
5. Interest rates are annual percentage rates (APR) as specified by the Federal Reserve's Regulation Z. Interest rates for new-car loans and personal loans at commercial banks are simple unweighted averages of each bank's most common rate charged during the first calendar week of the middle month of each quarter. For credit card accounts, the rate for all accounts is the stated APR averaged across all credit card accounts at all reporting banks. The rate for accounts assessed interest is the annualized ratio of total finance charges at all reporting banks to the total average daily balances against which the finance charges were assessed (excludes accounts for which no finance charges were assessed).

Consumer Credit Outstanding (Flows)
Not seasonally adjusted
Billions of dollars, annual rate

						2021	2022						2023
	2018	2019	2020	2021[r]	2022[r]	Q4[r]	Q1[r]	Q2[r]	Q3[r]	Q4[r]	Nov[r]	Dec[r]	Jan[p]
Total	172.7	185.1	-12.0	246.0	350.0	373.7	127.0	484.3	390.3	398.5	569.5	271.7	0.1
Major holders													
Depository institutions	50.6	86.6	-91.3	139.7	205.1	335.6	14.9	336.6	177.1	291.8	414.2	244.0	-232.9
Finance companies	-6.9	3.4	13.7	25.6	3.7	-3.9	-16.5	-8.0	-1.9	41.1	45.6	30.6	15.7
Credit unions	41.9	16.8	7.1	26.9	98.8	40.2	60.7	148.4	127.9	58.2	63.6	75.9	-14.7
Federal government[7]	90.7	83.0	61.7	55.4	44.6	-0.2	74.4	8.6	88.1	7.4	47.3	-82.3	236.9
Nonprofit and educational institutions[8]	-3.9	-4.0	-3.2	-1.6	-2.2	-1.1	-1.8	-1.5	-2.1	-3.3	-5.4	-1.4	-0.3
Nonfinancial business	0.2	-0.7	0.0	0.0	0.0	3.2	-4.6	0.3	1.2	3.2	4.2	4.8	-4.6
Major types of credit, by holder													
Revolving	37.3	38.1	-122.1	67.7	161.2	282.4	-69.7	253.3	140.4	320.7	465.1	295.6	-251.9
Depository institutions	35.5	36.4	-113.0	68.9	151.5	272.7	-63.8	244.4	130.2	295.3	435.2	264.2	-225.4
Finance companies	-2.9	-1.9	-4.8	-3.7	-1.2	-5.8	-2.0	-2.9	-1.2	1.1	1.0	1.1	-0.5
Credit unions	4.4	4.2	-4.3	2.4	10.9	12.0	0.8	11.5	10.6	20.8	24.3	25.3	-20.1
Federal government[7]	...	...	...	...	...	...	...	...	...	...	...	...	...
Nonprofit and educational institutions[8]	...	...	...	...	...	...	...	...	...	...	...	...	...
Nonfinancial business	0.3	-0.5	0.0	0.0	0.0	3.6	-4.7	0.4	0.7	3.6	4.7	5.1	-5.9
Nonrevolving	135.3	147.0	110.1	178.3	188.8	91.3	196.7	231.0	249.9	77.7	104.4	-24.0	252.0
Depository institutions	15.1	50.3	21.7	70.8	53.6	62.9	78.7	92.2	46.9	-3.5	-21.0	-20.2	-7.5
Finance companies	-4.1	5.2	18.5	29.2	4.9	1.9	-14.6	-5.1	-0.8	40.0	44.6	29.5	16.2
Credit unions	37.6	12.7	11.3	24.6	87.9	28.2	60.0	136.9	117.3	37.4	39.3	50.6	5.4
Federal government[7]	90.7	83.0	61.7	55.4	44.6	-0.2	74.4	8.6	88.1	7.4	47.3	-82.3	236.9
Nonprofit and educational institutions[8]	-3.9	-4.0	-3.2	-1.6	-2.2	-1.1	-1.8	-1.5	-2.1	-3.3	-5.4	-1.4	-0.3
Nonfinancial business	-0.1	-0.1	0.0	0.0	0.0	-0.3	0.0	-0.1	0.4	-0.3	-0.4	-0.3	1.3
Memo													
Student Loans[9]	78.0	71.0	56.0	39.6	23.8	-24.1	56.2	-13.8	70.9	-18.1	n.a.	-18.1	n.a.
Motor Vehicle Loans[10]	33.7	44.5	40.3	89.7	98.1	55.1	71.8	138.5	121.0	61.1	n.a.	61.1	n.a.

6. Covers most of the captive and non-captive finance companies. The series of finance company new car loan terms included in previous releases are discontinued. They remain available from the Data Download Program.
7. Includes student loans originated by the Department of Education under the Federal Direct Loan Program and the Perkins Loan Program, as well as Federal Family Education Program loans that the government purchased under the Ensuring Continued Access to Student Loans Act.
8. Includes student loans originated under the Federal Family Education Loan Program and held by educational institutions and nonprofit organizations.
9. Includes student loans originated under the Federal Family Education Loan Program and the Direct Loan Program; Perkins loans; and private student loans without government guarantees. This memo item includes loan balances that are not included in the nonrevolving credit balances. For additional information, see public documentation. Data for this memo item are released for each quarter-end month.
10. Includes motor vehicle loans owned and securitized by depository institutions, finance companies, credit unions, and nonfinancial business. Includes loans for passenger cars and other vehicles such as minivans, vans, sport-utility vehicles, pickup trucks, and similar light trucks for personal use. Loans for boats, motorcycles and recreational vehicles are not included. Data for this memo item are released for each quarter-end month.

r=revised. p=preliminary. n.a.=not available. ...=not applicable.

OKLAHOMA GAS & ELECTRIC

ELECTRIC UTILITY PLANT

DEPRECIATION RATE STUDY

AT DECEMBER 31, 2022

OG&E

ALLIANCE CONSULTING GROUP

http://www.utilityalliance.com

OKLAHOMA GAS AND ELECTRIC
RETIREMENTS REMOVAL COST AND NET SALVAGE ANALYSIS

FERC Account	Activity Year	Retirements	Salvage	Removal Cost	Net Salvage	Net Salv. %	2- yr Net Salv. %	3- yr Net Salv. %	4- yr Net Salv. %	5- yr Net Salv. %	6- yr Net Salv. %	7- yr Net Salv. %	8- yr Net Salv. %	9- yr Net Salv. %	10- yr Net Salv. %	15- yr Net Salv. %	20- yr Net Salv. %
311	Structures and Improvements																
311	1991	122,855.00	-	59,511.00	(59,511.00)	-48.44%											
311	1992	710,422.00	-	127,346.00	(127,346.00)	-17.93%	-22.42%										
311	1993	90,536.00	-	177,301.00	(177,301.00)	-195.83%	-38.04%	-39.42%									
311	1994	114,415.00	-	51,768.00	(51,768.00)	-45.25%	-111.77%	-38.94%	-40.06%								
311	1995	146,125.00	12,704.00	172.00	12,532.00	8.58%	-15.06%	-61.68%	-32.40%	-34.06%							
311	1996		-	-	-	NA	8.58%	-15.06%	-61.68%	-32.40%	-34.06%						
311	1997	927,136.00	-		-	0.00%	0.00%	1.17%	-3.30%	-16.94%	-17.29%	-19.10%					
311	1998	121,334.00	-	11,618.11	(11,618.11)	-9.58%	-1.11%	-1.11%	0.08%	-3.88%	-16.30%	-16.85%	-18.59%				
311	1999	8,500.00	-	1,926.88	(1,926.88)	-22.67%	-10.43%	-1.28%	-1.28%	-0.08%	-4.01%	-16.34%	-16.87%	-18.60%			
311	2000	107,870.08	-	112,984.95	(112,984.95)	-104.74%	-98.75%	-53.23%	-10.86%	-10.86%	-8.70%	-11.63%	-22.63%	-21.13%	-22.56%		
311	2001	40,873.00	-	45,815.22	(45,815.22)	-112.09%	-106.76%	-102.22%	-61.87%	-14.29%	-14.29%	-11.82%	-14.43%	-24.98%	-22.77%		
311	2002	39,476.62	-	-	-	0.00%	-57.02%	-84.37%	-81.70%	-54.19%	-13.84%	-13.84%	-11.49%	-14.05%	-24.36%		
311	2003	2,895.73	-	753,478.07	(753,478.07)	-26020.32%	-1778.23%	-960.17%	-477.34%	-457.98%	-288.46%	-74.18%	-74.18%	-65.51%	-63.97%		
311	2004	450,105.94	-	313,257.78	(313,257.78)	-69.60%	-235.48%	-216.61%	-208.60%	-191.13%	-188.92%	-160.70%	-72.96%	-72.96%	-66.50%		
311	2005	848,163.63	-	62,268.61	(62,268.61)	-7.34%	-28.93%	-86.77%	-84.21%	-85.04%	-86.47%	-86.10%	-80.37%	-51.11%	-51.11%	-45.69%	
311	2006	266,070.55	-	243,057.89	(243,057.89)	-91.35%	-27.40%	-39.54%	-87.55%	-85.40%	-86.06%	-87.21%	-86.90%	-81.92%	-54.91%	-48.74%	
311	2007	343,634.41	-	40,554.20	(40,554.20)	-11.80%	-46.52%	-23.73%	-34.55%	-73.93%	-72.43%	-73.24%	-74.86%	-74.65%	-71.11%	-51.37%	
311	2008	561,405.00	-	44,698.52	(44,698.52)	-7.96%	-9.42%	-28.03%	-19.34%	-28.50%	-58.95%	-58.02%	-58.89%	-60.74%	-60.62%	-41.95%	
311	2009	470,985.37	-	205,958.36	(205,958.36)	-43.73%	-24.28%	-21.16%	-32.54%	-23.95%	-30.94%	-56.51%	-55.76%	-56.52%	-58.19%	-42.06%	
311	2010	725,456.81	-	560,934.16	(560,934.16)	-77.32%	-64.10%	-46.17%	-40.55%	-46.26%	-35.99%	-40.12%	-60.63%	-59.98%	-60.55%	-48.77%	-45.91%
311	2011	2,435,150.23	-	138,493.98	(138,493.98)	-5.69%	-22.13%	-24.93%	-22.66%	-21.84%	-25.69%	-22.93%	-26.38%	-38.71%	-38.46%	-34.49%	-34.23%
311	2012	2,351,806.36	-	204,705.36	(204,705.36)	-8.70%	-7.17%	-16.40%	-18.55%	-17.64%	-17.35%	-20.10%	-18.75%	-21.46%	-30.36%	-31.23%	-29.41%
311	2013	1,224,168.27	-	63,216.68	(63,216.68)	-5.16%	-7.49%	-6.76%	-14.36%	-16.28%	-15.68%	-15.51%	-17.92%	-16.95%	-19.40%	-28.26%	-25.41%
311	2014	681,881.00	-	252,763.41	(252,763.41)	-37.07%	-16.58%	-12.23%	-9.85%	-16.45%	-18.08%	-17.40%	-17.18%	-19.36%	-18.33%	-28.84%	-25.89%
311	2015	1,107,711.55	-	293,562.00	(293,562.00)	-26.50%	-30.53%	-20.23%	-15.18%	-12.21%	-17.75%	-19.11%	-18.46%	-18.23%	-20.14%	-27.90%	-26.34%
311	2016	482,230.58	-	218,681.22	(218,681.22)	-45.35%	-32.22%	-33.67%	-23.69%	-17.66%	-14.14%	-19.23%	-20.45%	-19.75%	-19.49%	-28.32%	-27.04%
311	2017	1,423,459.93	-	483,430.92	(483,430.92)	-33.96%	-36.84%	-33.04%	-33.78%	-26.66%	-20.85%	-17.05%	-21.24%	-22.21%	-21.51%	-29.00%	-29.59%
311	2018	527,725.03		1,310,674.00	(1,310,674.00)	-248.36%	-91.95%	-82.71%	-65.13%	-60.60%	-48.14%	-36.25%	-28.98%	-32.18%	-32.65%	-31.92%	-37.95%
311	2019	3,012,396.45		499,120.00	(499,120.00)	-16.57%	-51.12%	-46.20%	-46.13%	-42.81%	-42.27%	-36.90%	-30.77%	-26.16%	-28.81%	-28.08%	-34.19%
311	2020	3,029,747.42		1,155,376.08	(1,155,376.08)	-38.13%	-27.38%	-45.13%	-43.14%	-43.27%	-41.33%	-41.05%	-37.22%	-32.38%	-28.39%	-30.65%	-34.41%
311	2021	2,486,879.97		2,161,468.99	(2,161,468.99)	-86.91%	-60.12%	-44.74%	-56.61%	-53.53%	-53.17%	-50.72%	-49.99%	-46.07%	-40.68%	-36.59%	-40.08%
311	2022	4,982,873.91		2,572,505.36	(2,572,505.36)	-51.63%	-63.38%	-56.09%	-47.28%	-54.84%	-52.92%	-52.69%	-50.99%	-50.45%	-47.53%	-39.86%	-42.23%
312	1991	240,206.00	-	223,305.00	(223,305.00)	-92.96%											
312	1992	1,987,189.00	6,388.00	511,877.00	(505,489.00)	-25.44%	-32.72%										
312	1993	886,683.00	4,160.00	213,537.00	(209,377.00)	-23.61%	-24.87%	-30.13%									
312	1994	530,963.00	17,088.00	214,630.00	(197,542.00)	-37.20%	-28.70%	-26.80%	-31.16%								
312	1995	1,885,384.00	28,937.00	24,272.00	4,665.00	0.25%	-7.98%	-12.18%	-17.16%	-20.45%							
312	1996	848,365.00	348,012.00	3,666.00	344,346.00	40.59%	12.77%	4.64%	-1.39%	-9.18%	-12.33%						
312	1997	1,411,397.00	-	-	-	0.00%	15.24%	8.42%	3.24%	-1.04%	-7.46%	-10.10%					
312	1998	2,906,967.00	-	24,796.02	(24,796.02)	-0.85%	-0.57%	6.18%	4.60%	1.67%	-0.98%	-5.62%	-7.59%				
312	1999	859,419.00	-	25,611.30	(25,611.30)	-2.98%	-1.34%	-0.97%	4.88%	3.77%	1.20%	-1.16%	-5.42%	-7.24%			
312	2000	2,104,476.31	40,000.00	614,246.24	(574,246.24)	-27.29%	-20.24%	-10.64%	-8.58%	-3.45%	-2.75%	-4.49%	-5.97%	-8.85%	-10.33%		
312	2001	1,190,403.75	-	5,565.60	(5,565.60)	-0.47%	-17.60%	-14.57%	-8.93%	-7.44%	-3.07%	-2.51%	-4.08%	-5.45%	-8.17%		
312	2002	1,121,399.30	467,215.04	36,196.80	431,018.24	38.44%	18.40%	-3.37%	-3.31%	-2.43%	-2.08%	1.39%	1.22%	-0.37%	-1.87%		
312	2003	5,595,908.44	63,378.89	474,249.83	(410,870.94)	-7.34%	0.30%	0.18%	-5.59%	-5.38%	-4.43%	-4.02%	-1.66%	-1.46%	-2.49%		
312	2004	2,919,931.74	37,188.58	978,915.35	(941,726.77)	-32.25%	-15.88%	-9.56%	-8.56%	-11.61%	-11.07%	-9.29%	-8.57%	-6.37%	-5.77%		
312	2005	4,145,928.40	30,421.01	628,267.16	(597,846.15)	-14.42%	-21.79%	-15.40%	-11.02%	-10.18%	-12.29%	-11.85%	-10.31%	-9.66%	-7.81%	-10.25%	
312	2006	3,542,799.01	153,933.65	2,691,402.80	(2,537,469.15)	-71.62%	-40.78%	-38.43%	-27.70%	-23.42%	-21.94%	-22.49%	-21.71%	-19.22%	-18.17%	-16.44%	
312	2007	2,114,003.86	459,060.00	298,101.90	160,958.10	7.61%	-42.01%	-30.34%	-30.78%	-23.62%	-20.04%	-18.91%	-19.69%	-19.08%	-17.08%	-14.30%	
312	2008	5,025,842.00	-	815,428.98	(815,428.98)	-16.22%	-9.17%	-29.88%	-25.56%	-26.66%	-22.03%	-19.26%	-18.39%	-19.06%	-18.58%	-14.34%	
312	2009	3,100,300.70	-	948,263.27	(948,263.27)	-30.59%	-21.70%	-15.65%	-30.04%	-26.43%	-27.24%	-23.03%	-20.53%	-19.70%	-20.22%	-15.32%	
312	2010	2,562,278.94	20,421.04	71,779.25	(51,358.21)	-2.00%	-17.65%	-16.98%	-12.92%	-25.64%	-23.37%	-24.48%	-21.17%	-18.96%	-18.25%	-15.20%	-15.85%
312	2011	7,549,685.03	78,878.00	1,965,416.96	(1,886,538.96)	-24.99%	-19.16%	-21.84%	-20.30%	-17.40%	-25.44%	-23.81%	-24.60%	-21.96%	-20.16%	-17.83%	-16.81%
312	2012	17,947,737.80	115,544.76	3,284,056.73	(3,168,511.97)	-17.65%	-19.83%	-18.20%	-19.43%	-18.99%	-17.52%	-22.10%	-21.41%	-22.05%	-20.54%	-18.18%	-16.78%
312	2013	16,687,161.93	-	3,011,758.62	(3,011,758.62)	-18.05%	-17.84%	-19.12%	-18.14%	-18.95%	-18.69%	-17.68%	-20.94%	-20.51%	-21.03%	-18.81%	-16.96%
312	2014	4,961,950.46	-	2,092,937.77	(2,092,937.77)	-42.18%	-23.58%	-20.89%	-21.55%	-20.54%	-21.13%	-20.71%	-19.71%	-22.60%	-22.10%	-20.42%	-18.25%
312	2015	8,291,420.84	55,247.54	4,679,766.81	(4,624,519.27)	-55.77%	-50.68%	-32.50%	-26.93%	-26.67%	-25.58%	-25.83%	-25.10%	-24.09%	-26.43%	-23.63%	-21.90%
312	2016	6,603,671.70	73,318.11	4,648,743.39	(4,575,425.28)	-69.29%	-61.76%	-56.87%	-39.14%	-32.07%	-31.20%	-30.05%	-30.07%	-29.11%	-28.08%	-27.20%	-25.54%
312	2017	5,484,809.62	127,495.38	4,228,168.08	(4,100,672.70)	-74.76%	-71.77%	-65.26%	-60.74%	-43.79%	-35.97%	-34.74%	-33.55%	-33.42%	-32.32%	-30.67%	-28.46%
312	2018	4,286,747.64	50,751.47	3,387,346.54	(3,336,595.07)	-77.84%	-76.11%	-73.36%	-67.45%	-63.22%	-46.94%	-38.76%	-37.31%	-36.10%	-35.88%	-34.16%	-31.21%
312	2019	9,444,295.00	145,327.81	6,981,703.73	(6,836,375.92)	-72.39%	-74.09%	-74.28%	-73.00%	-68.82%	-65.43%	-51.25%	-43.07%	-41.39%	-40.19%	-37.76%	-34.81%
312	2020	19,117,708.87	257,427.29	6,859,195.90	(6,601,768.61)	-34.53%	-47.05%	-51.07%	-54.46%	-56.64%	-56.50%	-55.28%	-46.98%	-41.31%	-40.08%	-38.06%	-34.89%
312	2021	9,803,367.58	516,384.72	6,608,255.01	(6,091,870.29)	-62.14%	-43.89%	-50.91%	-53.61%	-56.02%	-57.62%	-57.38%	-56.27%	-48.74%	-43.30%	-39.02%	-37.09%
312	2022	11,378,743.00	553,869.36	13,050,000.24	(12,496,130.88)	-109.82%	-87.75%	-62.51%	-64.38%	-65.45%	-66.31%	-66.61%	-65.40%	-63.95%	-55.97%	-45.85%	-43.15%
314	1991	54,039.00	-	47,438.00	(47,438.00)	-87.78%											
314	1992	308,381.00	-	19,759.00	(19,759.00)	-6.41%	-18.54%										
314	1993	1,288,305.00	-	307,014.00	(307,014.00)	-23.83%	-20.47%	-22.67%									
314	1994	584,490.00	276,500.00	98,295.00	178,205.00	30.49%	-6.88%	-6.81%	-8.77%								
314	1995	770,000.00	-	-	-	0.00%	13.16%	-4.87%	-5.03%	-6.52%							
314	1996	387,379.00	155,267.00	1,636.00	153,631.00	39.66%	13.27%	19.05%	0.82%	0.15%	-1.25%						
314	1997	1,821,250.00	-	291,631.31	(291,631.31)	-16.01%	-6.25%	-4.63%	1.13%	-5.50%	-5.55%	-6.41%					
314	1998	989,827.00	-	(18,870.50)	18,870.50	1.91%	-9.70%	-3.72%	-3.00%	1.30%	-4.24%	-4.35%	-5.08%				
314	1999	7,836.09	-	104,381.25	(104,381.25)	-1332.06%	-8.57%	-13.38%	-6.97%	-5.62%	-0.99%	-6.02%	-6.04%	-6.75%			
314	2000	2,353,400.00	-	680,474.65	(680,474.65)	-28.91%	-33.24%	-22.86%	-20.45%	-16.26%	-14.28%	-10.50%	-12.59%	-12.37%	-12.84%		
314	2001	655,944.91	162,687.04	181,650.07	(18,963.03)	-2.89%	-23.24%	-26.64%	-19.59%	-18.47%	-14.85%	-13.21%	-9.84%	-11.87%	-11.69%		

Public Utility Division - Staff

Data Request PUD 07-01

Docket No. PUD2023-000087

PUD 07-01

Please refer to Direct Exhibit DAW-2, page 127, which contains the Retirement Removal Cost and Net Salvage Analysis for Account 355-Transmission Poles and Fixtures. The bottom row of this calculation has numbers which range from -686.73% to -169.01%. In arriving at a net salvage recommendation, should (1) more weight be given to the percent calculated using recent data, for example the average of the last five years, or should (2) more weight be given to the percent that includes many years, such as the 20-year average? Explain the reason for the answer provided.

Response*

There is no hard and fast rule to how many years should be included in net salvage or if the last year is the most indicative. Much depends on the regularity of retirement and net salvage activity. The net salvage percentages for 2021 and 2022 are much larger than most prior years. More recent indications are generally more representative of current conditions and future experience than experience from 20 years ago. Mr. Watson generally will place more weight on the indications for the last 3, 5 and 10 years in making recommendations.

Another factor Mr. Watson considers is the current net salvage parameter for each account. In the case of Account 355, the current net salvage parameter is negative 58 percent. Mr. Watson made conservative recommendations that are gradual in nature, rather than moving all the way to the indications. In examining the overall trend for Account 355 for the years 1991-2022 (The longest available), the net salvage percentage is negative 121 percent. Mr. Watson is proposing negative 65 percent as a conservative move toward the indications. See also Exhibit DAW-2, page 96.

Response provided by: Dane Watson
Response provided on: 3/8/2024
Contact & Phone No: Peggy Millspaugh -- (405) 553-3504

*By responding to these Data Requests, OG&E is not indicating that the provided information is relevant, or material and OG&E is not waiving any objection as to relevance or materiality or confidentiality of the information or documents provided or the admissibility of such information or documents in this or in any other proceeding.

Full Impact of Mr. Watson's Proposal to use "interim removal cost percentages …. as a proxy to a dismantling study".

All Production Accounts

	Annual Accrual			
	At Current Rates	Full Impact of Mr. Watson's Policies	Increase At Full Impact	% Increase At Full Impact
STEAM PRODUCTION	$90,713,068	$230,877,671	$140,164,603	155%
OTHER PRODUCTION	$77,544,134	$121,993,234	$44,449,100	57%
TOTAL PRODUCTION	$168,257,202	$352,870,905	$184,613,703	110%

"At Current Rates" from page 111 and 113 of OGE Direct Exhbit DAW-2

Full Impact of Mr. Watson's Proposal to use "interim removal cost percentages …. as a proxy to a dismantling study".

312 BOILER PLANT EQUIPMENT

	Plant Balance	Book Reserve	Mid-Range Of Mr.Watson's 3-Yr, 5-Yr and 10-Yr "Indications" (p.120, DAW-2) Net Salvage %	Net Salvage Amount	Unaccrued Balance	Remaining Life	Accrual Amount	Annual Accrual Rate
312 BOILER PLANT EQUIPMENT								
HORSESHOE LAKE 6	20,996,286	19,730,210	-0.61	(12,807,734)	14,073,811	1.00	14,073,811	67.03%
HORSESHOE LAKE 7	15,246,822	15,143,144	-0.61	(9,300,561)	9,404,240	2.00	4,702,120	30.84%
HORSESHOE LAKE 8	22,959,876	18,818,872	-0.61	(14,005,524)	18,146,528	4.94	3,671,334	15.99%
SEMINOLE 1	59,087,267	40,108,209	-0.61	(36,043,233)	55,022,291	7.87	6,990,283	11.83%
SEMINOLE 2	49,105,513	32,903,936	-0.61	(29,954,363)	46,155,940	9.77	4,724,961	9.62%
SEMINOLE 3	68,970,927	46,127,446	-0.61	(42,072,266)	64,915,747	11.64	5,574,624	8.08%
MUSKOGEE 4	127,239,724	61,829,847	-0.61	(77,616,232)	143,026,108	19.02	7,519,974	5.91%
MUSKOGEE 5	118,189,382	63,003,471	-0.61	(72,095,523)	127,281,434	19.88	6,403,505	5.42%
MUSKOGEE 6	301,242,531	157,469,091	-0.61	(183,757,944)	327,531,383	25.02	13,091,219	4.35%
SOONER 1	549,266,125	188,313,664	-0.61	(335,052,336)	696,004,797	20.97	33,184,111	6.04%
SOONER 2	369,243,742	131,812,424	-0.61	(225,238,683)	462,670,001	21.82	21,199,431	5.74%
RIVER VALLEY 1	221,271,646	122,959,002	-0.61	(134,975,704)	233,288,348	24.24	9,622,641	4.35%
RIVER VALLEY 2	121,987,581	70,580,724	-0.61	(74,412,424)	125,819,281	24.20	5,199,768	4.26%
TOTAL BOILER PLANT EQ.	2,044,807,422	968,800,040		(1,247,332,527)	2,323,339,909		135,957,781	6.65%

OKLAHOMA GAS AND ELECTRIC COMPANY

COMPUTATION OF ANNUAL DEPRECIATION ACCRUAL AMOUNTS AND RATES
RELATED TO ELECTRIC PLANT AS OF DECEMBER 31, 2022

Full Impact of Mr. Watson's Proposal to use "interim removal cost percentages …. as a proxy to a dismantling study".

All Production Accounts

	ACCOUNT	Plant Balance	Reallocated Book Reserve	Mid-Range Of Mr.Watson's 3-Yr, 5-Yr and 10-Yr "Indications" (p.120-125 DAW-2) Net Salvage %	Net Salvage Amount	Unaccrued Balance	Remaining Life	Accrual Amount	Annual Accrual Rate
	STEAM PRODUCTION PLANT								
310.2	**RIGHTS OF WAY**	28,509	28,227	0.00%	0	282	1.00	282	0.99%
	HORSESHOE LAKE 6	78,916	77,193	0.00%	0	1,723	8.00	215	0.27%
	SEMINOLE 1	18,934	15,072	0.00%	0	3,862	20.00	193	1.02%
	MUSKOGEE 4	813,704	412,488	0.00%	0	401,216	22.00	18,237	2.24%
	SOONER 1	940,063	532,980		0	407,083	51.00	18,928	2.01%
	TOTAL RIGHTS OF WAY								
311	**STRUCTURES AND IMPROVEMENTS**								
	HORSESHOE LAKE 6	201,906	164,977	-52.00%	(104,991)	141,920	1.00	141,920	70.29%
	HORSESHOE LAKE 7	2,807,502	2,910,257	-52.00%	(1,459,901)	1,357,146	2.00	678,573	24.17%
	HORSESHOE LAKE 8	28,618,552	20,851,689	-52.00%	(14,881,647)	22,648,510	4.97	4,559,717	15.93%
	SEMINOLE 1	26,448,745	18,044,643	-52.00%	(13,753,347)	22,157,449	7.89	2,807,989	10.62%
	SEMINOLE 2	3,799,406	2,384,183	-52.00%	(1,975,691)	3,390,914	9.81	345,751	9.10%
	SEMINOLE 3	8,154,375	6,535,996	-52.00%	(4,240,275)	5,858,654	11.68	501,549	6.15%
	MUSKOGEE 4	69,811,751	26,416,417	-52.00%	(36,302,111)	79,697,445	19.32	4,125,457	5.91%
	MUSKOGEE 5	7,451,169	4,696,822	-52.00%	(3,874,608)	6,628,954	20.05	330,624	4.44%
	MUSKOGEE 6	58,954,946	33,076,243	-52.00%	(30,656,572)	56,535,276	25.41	2,225,262	3.77%
	SOONER 1	151,399,419	72,276,901	-52.00%	(78,727,698)	157,850,216	21.06	7,495,436	4.95%
	SOONER 2	12,655,397	9,102,955	-52.00%	(6,580,806)	10,133,249	21.73	466,430	3.69%
	RIVER VALLEY 1	61,139,973	35,282,810	-52.00%	(31,792,786)	57,649,949	24.61	2,342,463	3.83%
	RIVER VALLEY 2	54,656	23,723	-52.00%	(28,421)	59,354	24.83	2,390	4.37%
	TOTAL STRUCTURES AND IMPROVEMENTS	431,497,798	231,767,617		(224,378,855)	424,109,036		26,023,560	6.03%
312	**BOILER PLANT EQUIPMENT**								
	HORSESHOE LAKE 6	20,996,286	19,730,210	-61.00%	(12,807,734)	14,073,811	1.00	14,073,811	67.03%
	HORSESHOE LAKE 7	15,246,822	15,143,144	-61.00%	(9,300,561)	9,404,240	2.00	4,702,120	30.84%
	HORSESHOE LAKE 8	22,959,876	18,818,872	-61.00%	(14,005,524)	18,146,528	4.94	3,671,334	15.99%
	SEMINOLE 1	59,087,267	40,108,209	-61.00%	(36,043,233)	55,022,291	7.87	6,990,283	11.83%
	SEMINOLE 2	49,105,513	32,903,936	-61.00%	(29,954,363)	46,155,940	9.77	4,724,961	9.62%
	SEMINOLE 3	68,970,927	46,127,446	-61.00%	(42,072,266)	64,915,747	11.64	5,574,624	8.08%
	MUSKOGEE 4	127,239,724	61,829,847	-61.00%	(77,616,232)	143,026,108	19.02	7,519,974	5.91%
	MUSKOGEE 5	118,189,382	63,003,471	-61.00%	(72,095,523)	127,281,434	19.88	6,403,505	5.42%
	MUSKOGEE 6	301,242,531	157,469,091	-61.00%	(183,757,944)	327,531,383	25.02	13,091,219	4.35%
	SOONER 1	549,266,125	188,313,664	-61.00%	(335,052,336)	696,004,797	20.97	33,184,111	6.04%
	SOONER 2	369,243,742	131,812,424	-61.00%	(225,238,683)	462,670,001	21.82	21,199,431	5.74%
	RIVER VALLEY 1	221,271,646	122,959,002	-61.00%	(134,975,704)	233,288,348	24.24	9,622,641	4.35%
	RIVER VALLEY 2	121,987,581	70,580,724	-61.00%	(74,412,424)	125,819,281	24.20	5,199,768	4.26%
	TOTAL BOILER PLANT EQUIPMENT	2,044,807,422	968,800,040		(1,247,332,527)	2,323,339,909		135,957,781	6.65%
314	**TURBOGENERATOR UNITS**								
	HORSESHOE LAKE 6	10,842,200	9,455,483	-58.00%	(6,288,476)	7,675,193	1.00	7,675,193	70.79%
	HORSESHOE LAKE 7	10,985,415	10,662,444	-58.00%	(6,371,541)	6,694,512	2.00	3,347,256	30.47%
	HORSESHOE LAKE 8	29,108,074	21,970,062	-58.00%	(16,882,683)	24,020,695	4.91	4,896,850	16.82%
	SEMINOLE 1	32,468,391	24,503,463	-58.00%	(18,831,667)	26,796,594	7.72	3,471,456	10.69%
	SEMINOLE 2	44,903,852	28,389,077	-58.00%	(26,044,234)	42,559,010	9.57	4,448,898	9.91%

OKLAHOMA GAS AND ELECTRIC COMPANY

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All Production Accounts

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	SEMINOLE 3	32,494,674	21,973,682	-58.00%	(18,846,911)	29,367,903	11.44	2,567,281	7.90%
	MUSKOGEE 4	71,581,697	29,660,896	-58.00%	(41,517,384)	83,438,185	18.64	4,475,303	6.25%
	MUSKOGEE 5	52,439,504	29,487,119	-58.00%	(30,414,912)	53,367,297	18.95	2,816,501	5.37%
	MUSKOGEE 6	94,009,241	44,087,092	-58.00%	(54,525,360)	104,447,508	23.61	4,424,341	4.71%
	SOONER 1	43,344,918	23,197,755	-58.00%	(25,140,052)	45,287,216	19.78	2,289,519	5.28%
	SOONER 2	49,136,488	24,917,784	-58.00%	(28,499,163)	52,717,868	20.54	2,566,951	5.22%
	RIVER VALLEY 1	53,028,756	24,948,204	-58.00%	(30,756,679)	58,837,230	23.00	2,558,664	4.83%
	RIVER VALLEY 2	30,735,122	16,284,031	-58.00%	(17,826,371)	32,277,462	22.79	1,416,040	4.61%
	TOTAL TURBOGENERATOR UNITS	555,078,332	309,537,092		(321,945,432)	567,486,672		46,954,253	8.46%
315	**ACCESSORY ELECTRIC EQUIPMENT**								
	HORSESHOE LAKE 6	3,348,719	3,031,260	-101.00%	(3,382,206)	3,699,665	1.00	3,699,665	110.48%
	HORSESHOE LAKE 7	2,377,714	2,146,125	-101.00%	(2,401,491)	2,633,080	2.00	1,316,540	55.37%
	HORSESHOE LAKE 8	2,799,956	2,599,204	-101.00%	(2,827,956)	3,028,707	4.94	613,135	21.90%
	SEMINOLE 1	4,042,504	3,331,070	-101.00%	(4,082,929)	4,794,363	4.45	1,078,556	26.68%
	SEMINOLE 2	3,287,888	1,838,624	-101.00%	(3,320,767)	4,770,030	9.81	486,281	14.79%
	SEMINOLE 3	5,362,861	4,250,433	-101.00%	(5,416,490)	6,528,917	11.71	557,521	10.40%
	MUSKOGEE 4	34,848,214	20,036,281	-101.00%	(35,196,696)	50,008,630	18.98	2,634,184	7.56%
	MUSKOGEE 5	12,449,797	8,792,833	-101.00%	(12,574,295)	16,231,259	19.41	836,109	6.72%
	MUSKOGEE 6	44,124,866	28,632,906	-101.00%	(44,566,115)	60,058,074	24.77	2,424,517	5.49%
	SOONER 1	25,739,512	18,517,416	-101.00%	(25,996,907)	33,219,003	20.24	1,641,365	6.38%
	SOONER 2	13,215,686	9,604,513	-101.00%	(13,347,843)	16,959,016	21.03	806,368	6.10%
	RIVER VALLEY 1	41,676,296	23,634,689	-101.00%	(42,093,059)	60,134,666	24.49	2,455,316	5.89%
	RIVER VALLEY 2	1,565,529	221,238	-101.00%	(1,581,184)	2,925,475	25.50	114,727	7.33%
	TOTAL ACCESSORY ELECTRIC EQUIPMENT	194,839,542	126,636,594		(196,787,937)	264,990,886		18,664,285	9.58%
316	**MISCELLANEOUS POWER PLANT EQUIPMENT**								
	HORSESHOE LAKE 6	2,111,076	1,982,300	-8.00%	(168,886)	297,662	1.00	297,662	14.10%
	HORSESHOE LAKE 7	1,116,214	1,101,703	-8.00%	(89,297)	103,808	2.00	51,904	4.65%
	HORSESHOE LAKE 8	3,830,753	1,927,573	-8.00%	(306,460)	2,209,641	4.41	500,902	13.08%
	SEMINOLE 1	4,188,322	3,192,087	-8.00%	(335,066)	1,331,301	4.78	278,573	6.65%
	SEMINOLE 2	21,726	22,514	-8.00%	(1,738)	950	1.38	687	3.16%
	SEMINOLE 3	300,618	188,389	-8.00%	(24,049)	136,278	8.58	15,880	5.28%
	MUSKOGEE 4	10,582,057	4,704,330	-8.00%	(846,565)	6,724,292	13.34	503,898	4.76%
	MUSKOGEE 5	703,624	570,503	-8.00%	(56,290)	189,411	5.99	31,624	4.49%
	MUSKOGEE 6	4,642,616	4,009,306	-8.00%	(371,409)	1,004,719	6.72	149,427	3.22%
	SOONER 1	9,176,698	4,189,719	-8.00%	(734,136)	5,721,115	13.71	417,150	4.55%
	SOONER 2	2,423,736	1,962,460	-8.00%	(193,899)	655,175	6.69	97,986	4.04%
	RIVER VALLEY 1	20,631,345	14,784,100	-8.00%	(1,650,508)	7,497,753	9.52	787,839	3.82%
	RIVER VALLEY 2	32,329	1,772	-8.00%	(2,586)	33,144	20.94	1,583	4.90%
	POWER SUPPLY SERVICES	2,858,584	859,225	-8.00%	(228,687)	2,228,046	18.00	123,749	4.33%
	TOTAL MISCELLANEOUS POWER PLANT EQUIPMENT	62,619,698	39,495,981		(5,009,576)	28,133,293		3,258,864	5.20%
	TOTAL STEAM PRODUCTION PLANT	**3,289,782,854**	**1,676,770,304**		**(1,995,454,328)**	**3,608,466,879**		**230,877,671**	
	OTHER PRODUCTION PLANT								
340.2	RIGHTS OF WAY								

OKLAHOMA GAS AND ELECTRIC COMPANY

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	MUSTANG CTs	10,815	8,436	0.00%	0	2,379	32.00	74	0.69%
341	STRUCTURES AND IMPROVEMENTS								
	REDBUD 1	34,235,763	15,495,962	-52.00%	(17,802,597)	36,542,398	25.54	1,430,518	4.18%
	REDBUD 2	318,306	69,734	-52.00%	(165,519)	414,091	26.25	15,775	4.96%
	REDBUD 3	265,177	62,100	-52.00%	(137,892)	340,969	26.22	13,004	4.90%
	REDBUD 4	288,878	72,117	-52.00%	(150,217)	366,977	26.18	14,018	4.85%
	HORSESHOE LAKE 9 AND 10	1,201,774	873,050	-52.00%	(624,922)	953,647	12.65	75,372	6.27%
	TINKER	1,781,246	1,396,853	-52.00%	(926,248)	1,310,641	3.00	436,880	24.53%
	MCCLAIN GAS 1	11,750,959	4,894,114	-52.00%	(6,110,499)	12,967,344	12.65	1,024,876	8.72%
	MCCLAIN GAS 2	1,788,683	931,122	-52.00%	(930,115)	1,787,676	23.04	77,595	4.34%
	MCCLAIN STEAM 1	1,070,785	493,530	-52.00%	(556,808)	1,134,063	22.85	49,632	4.64%
	FRONTIER 1	8,395,038	5,192,401	-52.00%	(4,365,420)	7,568,058	22.05	343,192	4.09%
	MUSTANG CTs	43,721,045	9,565,462	-52.00%	(22,734,943)	56,890,527	30.25	1,880,496	4.30%
	TOTAL STRUCTURES AND IMPROVEMENTS	104,817,655	39,046,446		(54,505,180)	120,276,389		5,361,358	
341	STRUCTURES AND IMPROVEMENTS - WIND								
	CENTENNIAL	3,014,587	1,483,510	-5.00%	(150,729)	1,681,807	8.77	191,715	6.36%
	OU SPIRIT	5,228,646	2,559,921	-5.00%	(261,432)	2,930,157	11.56	253,456	4.85%
	CROSSROADS	11,538,638	4,638,406	-5.00%	(576,932)	7,477,164	14.37	520,285	4.51%
	TOTAL STRUCTURES AND IMPROVEMENTS - WIND	19,781,871	8,681,837		(989,094)	12,089,127		965,456	
341	STRUCTURES AND IMPROVEMENTS - SOLAR	4,465,531	568,873	-2.00%	(89,311)	3,985,969	21.06	189,304	4.24%
342	FUEL HOLDERS, PRODUCERS AND ACCESSORIES								
	REDBUD 1	12,117,606	5,638,479	-117.00%	(14,177,599)	20,656,726	26.18	788,889	6.51%
	REDBUD 2	690,651	324,592	-117.00%	(808,062)	1,174,121	26.17	44,861	6.50%
	REDBUD 3	691,292	324,849	-117.00%	(808,812)	1,175,254	26.17	44,904	6.50%
	REDBUD 4	719,786	331,808	-117.00%	(842,150)	1,230,127	26.20	46,959	6.52%
	TINKER	167,151	157,707	-117.00%	(195,567)	205,011	3.00	68,387	40.91%
	MCCLAIN GAS 1	354,085	197,079	-117.00%	(414,279)	571,286	23.18	24,642	6.96%
	MCCLAIN GAS 2	260,457	139,409	-117.00%	(304,735)	425,783	23.20	18,355	7.05%
	FRONTIER 1	978,948	792,666	-117.00%	(1,145,369)	1,331,651	20.71	64,314	6.57%
	MUSTANG CTs	7,657,023	1,303,302	-117.00%	(8,958,717)	15,312,438	31.56	485,248	6.34%
	TOTAL FUEL HOLDERS, PRODUCERS AND ACCESSORIES	23,636,999	9,209,890		(27,655,289)	42,082,397		1,586,558	
343	PRIME MOVERS								
	REDBUD 1	93,479,687	38,137,627	-34.00%	(31,783,094)	87,125,153	23.30	3,740,000	4.00%
	REDBUD 2	67,426,482	6,517,884	-34.00%	(22,925,004)	83,833,602	25.28	3,316,328	4.92%
	REDBUD 3	67,539,780	30,341,013	-34.00%	(22,963,525)	60,162,293	22.97	2,618,860	3.88%
	REDBUD 4	61,546,829	27,971,692	-34.00%	(20,925,922)	54,501,059	22.94	2,375,478	3.86%
	HORSESHOE LAKE 9 AND 10	8,902,621	5,498,734	-34.00%	(3,026,891)	6,430,778	11.75	547,315	6.15%
	TINKER	4,550,058	4,777,561	-34.00%	(1,547,020)	1,319,517	3.00	439,839	9.67%
	MCCLAIN GAS 1	110,863,190	55,411,522	-34.00%	(37,693,485)	93,145,152	20.61	4,519,691	4.08%
	MCCLAIN GAS 2	105,433,620	57,103,505	-34.00%	(35,847,431)	84,177,546	20.27	4,152,249	3.94%
	MCCLAIN STEAM 1	52,753,857	31,174,130	-34.00%	(17,936,311)	39,516,038	19.83	1,992,718	3.78%
	FRONTIER 1	65,667,528	46,931,663	-34.00%	(22,326,960)	41,062,825	15.85	2,590,216	3.94%

OKLAHOMA GAS AND ELECTRIC COMPANY

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	MUSTANG CTs	263,333,261	47,683,503	-34.00%	(89,533,309)	305,183,067	28.59	10,673,699	4.05%
	TOTAL PRIME MOVERS	901,496,913	351,548,833		(306,508,950)	856,457,030		36,966,394	
	LTSA								
343.1	6-YEAR								
	REDBUD 1	6,096,068	4,487,291	0.00%	0	1,608,777	2.50	643,511	10.56%
	REDBUD 2	13,864,899	10,205,897	0.00%	0	3,659,002	2.50	1,463,601	10.56%
	REDBUD 3	13,998,897	10,304,532	0.00%	0	3,694,365	2.50	1,477,746	10.56%
	REDBUD 4	5,993,168	4,411,547	0.00%	0	1,581,621	2.50	632,648	10.56%
	MCCLAIN GAS 1	15,798,603	11,629,289	0.00%	0	4,169,314	2.50	1,667,726	10.56%
	MCCLAIN GAS 2	15,810,675	11,638,175	0.00%	0	4,172,500	2.50	1,669,000	10.56%
	Total 6 - YR	71,562,310	52,676,731		0	18,885,579		7,554,232	
343.2	20-YEAR								
	REDBUD 1	1,490,678	1,363,765	0.00%	0	126,913	5.50	23,075	1.55%
	REDBUD 2	1,490,678	1,363,765	0.00%	0	126,913	5.50	23,075	1.55%
	REDBUD 3	1,490,678	1,363,765	0.00%	0	126,913	5.50	23,075	1.55%
	REDBUD 4	1,490,678	1,363,765	0.00%	0	126,913	5.50	23,075	1.55%
	Total 20-Yr	5,962,712	5,455,060		0	507,652		92,300	
343.3	30-YEAR								
	MCCLAIN GAS 1	349,749	272,160	0.00%	0	77,589	11.50	6,747	1.93%
	MCCLAIN GAS 2	343,590	267,368	0.00%	0	76,222	11.50	6,628	1.93%
	Total 30-YR	693,339	539,528	0	0	153,811		13,375	
	TOTAL LTSA	78,218,361	58,671,319		0	19,547,042		7,659,907	
	TOTAL ACCOUNT 343	979,715,274	410,220,152		-306,508,950	876,004,072		44,626,300	
344	GENERATORS								
	REDBUD 1	717,218	300,669	-35.00%	(251,026)	667,576	24.98	26,724	3.73%
	REDBUD 3	23,199	8,658	-35.00%	(8,120)	22,660	25.17	900	3.88%
	REDBUD 4	23,035	8,597	-35.00%	(8,062)	22,500	25.17	894	3.88%
	HORSESHOE LAKE 9 AND 10	36,135,688	26,258,616	-35.00%	(12,647,491)	22,524,563	12.50	1,802,653	4.99%
	TINKER	3,366,088	3,163,786	-35.00%	(1,178,131)	1,380,433	3.00	460,144	13.67%
	FRONTIER 1	8,118,041	6,198,140	-35.00%	(2,841,314)	4,761,215	20.99	226,857	2.79%
	MUSTANG CTs	31,405,980	5,354,001	-35.00%	(10,992,093)	37,044,072	29.89	1,239,320	3.95%
	TOTAL GENERATORS	79,789,249	41,292,468		(27,926,237)	66,423,018		3,757,493	
344	GENERATORS - WIND								
	CENTENNIAL	185,423,873	106,113,287	-8.00%	(14,833,910)	94,144,496	8.50	11,069,782	5.97%
	OU SPIRIT	237,888,863	114,013,976	-8.00%	(19,031,109)	142,905,996	11.17	12,796,848	5.38%
	CROSSROADS	349,390,682	138,314,649	-8.00%	(27,951,255)	239,027,287	13.77	17,357,904	4.97%
	TOTAL GENERATORS - WIND	772,703,418	358,441,912		(61,816,273)	476,077,780		41,224,535	
344	GENERATORS - SOLAR	39,650,005	6,030,438	0.00%	0	33,619,567	19.51	1,723,522	4.35%
345	ACCESSORY ELECTRIC EQUIPMENT								
	REDBUD 1	13,173,539	5,849,645	-322.00%	(42,418,796)	49,742,689	25.88	1,921,979	14.59%

OKLAHOMA GAS AND ELECTRIC COMPANY

COMPUTATION OF ANNUAL DEPRECIATION ACCRUAL AMOUNTS AND RATES
RELATED TO ELECTRIC PLANT AS OF DECEMBER 31, 2022

Full Impact of Mr. Watson's Proposal to use "interim removal cost percentages …. as a proxy to a dismantling study".

All Production Accounts

	ACCOUNT	Plant Balance	Reallocated Book Reserve	Mid-Range Of Mr.Watson's 3-Yr, 5-Yr and 10-Yr "Indications" (p.120-125 DAW-2) Net Salvage %	Net Salvage Amount	Unaccrued Balance	Remaining Life	Accrual Amount	Annual Accrual Rate
	REDBUD 2	9,557,253	4,349,658	-322.00%	(30,774,355)	35,981,949	25.86	1,391,364	14.56%
	REDBUD 3	9,330,337	4,276,678	-322.00%	(30,043,685)	35,097,344	25.85	1,357,656	14.55%
	REDBUD 4	9,593,118	4,377,380	-322.00%	(30,889,840)	36,105,578	25.86	1,396,261	14.55%
	HORSESHOE LAKE 9 AND 10	4,874,594	3,716,392	-322.00%	(15,696,193)	16,854,395	12.72	1,324,754	27.18%
	TINKER	3,078,637	3,131,897	-322.00%	(9,913,211)	9,859,951	3.00	3,286,650	106.76%
	MCCLAIN GAS 1	7,224,119	3,415,519	-322.00%	(23,261,663)	27,070,263	23.10	1,171,878	16.22%
	MCCLAIN GAS 2	6,049,899	3,312,275	-322.00%	(19,480,675)	22,218,299	22.95	967,927	16.00%
	MCCLAIN STEAM 1	3,740,436	2,112,285	-322.00%	(12,044,204)	13,672,355	22.90	596,930	15.96%
	FRONTIER 1	7,857,363	5,708,790	-322.00%	(25,300,709)	27,449,282	22.62	1,213,427	15.44%
	MUSTANG CTs	25,263,658	4,454,195	-322.00%	(81,348,979)	102,158,442	31.10	3,284,561	13.00%
	TOTAL ACCESSORY ELECTRIC EQUIPMENT	99,742,953	44,704,714		(321,172,309)	376,210,548		17,913,388	3
345	ACCESSORY ELECTRIC EQUIPMENT - WIND								
	CENTENNIAL	2,324,844	757,928	-11.00%	(255,733)	1,822,649	8.61	211,679	9.11%
	OU SPIRIT	4,871,019	972,681	-11.00%	(535,812)	4,434,150	11.38	389,813	8.00%
	CROSSROADS	45,877,900	17,180,518	-11.00%	(5,046,569)	33,743,951	13.32	2,533,529	5.52%
	TOTAL ACCESSORY ELECTRIC EQUIPMENT - WIND	53,073,763	18,911,127		(5,838,114)	40,000,750		3,135,021	0
345	ACCESSORY ELECTRIC EQUIPMENT - SOLAR	9,653,560	1,233,932	0.00%	0	8,419,628	20.96	401,710	4.16%
346	MISCELLANEOUS POWER PLANT EQUIPMENT								
	REDBUD 1	2,774,340	1,175,800	-14.00%	(388,408)	1,986,948	16.15	123,043	4.44%
	REDBUD 2	18,098	8,682	-14.00%	(2,534)	11,950	15.30	781	4.32%
	REDBUD 3	13,800	3,551	-14.00%	(1,932)	12,181	18.69	652	4.72%
	REDBUD 4	20,045	6,139	-14.00%	(2,806)	16,712	18.15	921	4.59%
	HORSESHOE LAKE 9 AND 10	1,033,095	833,176	-14.00%	(144,633)	344,552	8.48	40,627	3.93%
	TINKER	61,581	27,693	-14.00%	(8,621)	42,509	3.00	14,170	23.01%
	MCCLAIN GAS 1	5,975,450	3,511,194	-14.00%	(836,563)	3,300,819	12.94	255,153	4.27%
	FRONTIER 1	5,299,221	3,854,836	-14.00%	(741,891)	2,186,276	10.61	206,047	3.89%
	MUSTANG CTs	7,704,785	4,400,568	-14.00%	(1,078,670)	4,382,887	13.65	321,021	4.17%
	TOTAL MISCELLANEOUS POWER PLANT EQUIPMENT	22,900,415	13,821,639		(3,206,058)	12,284,834		962,414	
346	MISCELLANEOUS POWER PLANT EQUIPMENT - WIND								
	CENTENNIAL	885,860	398,637	-3.00%	(26,576)	513,799	8.18	62,838	7.09%
	OU SPIRIT	658,794	126,977	-3.00%	(19,764)	551,580	11.13	49,577	7.53%
	CROSSROADS	562,592	137,981	-3.00%	(16,878)	441,489	13.11	33,684	5.99%
	TOTAL MISCELLANEOUS POWER PLANT EQUIPMENT - WIND	2,107,246	663,596		(63,217)	1,506,868		146,099	
	TOTAL OTHER PRODUCTION PLANT	**2,212,048,754**	**952,835,459**		**-809,770,033**	**2,068,983,327**		**121,993,234**	

SUM OF STEAM PLUS OTHER PRODUCTION PLANT **352,870,905**

Public Utility

Depreciation Practices

August 1996

Compiled and Edited by

Staff Subcommittee on Depreciation of

The Finance and Technology Committee

of the

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Impact of Inflation and Deflation on the Recovery of Capital Through Depreciation Practices

Today's regulatory depreciation practices almost universally require charging the original cost of property as an expense to the various periods of operation. There is one important difference between depreciation expense and most other expenses. Depreciation expense is recovered with current dollars but is an allocation of a historical cost which was incurred years earlier. During sustained periods of inflation or deflation, the question arises: Should an adjustment be made to the depreciation expense in order to compensate for this value fluctuation?

The primary aim of depreciation under the original cost concept is to maintain the integrity of the original capital invested in the business. By reinvesting depreciation accruals, the capital investment in total dollars does not change even though the physical assets may change. In periods of rapid change in the purchasing power of the dollar, however, the integrity of the original capital investment is not strictly maintained. This is because accruals over the life of the original plant will equal the same number of dollars originally spent, but the dollars collected will purchase more or less new plant depending on whether inflation or deflation has taken place and whether technological enhancements have created more economical plant.

It is generally accepted that the cost of money includes an inflation component to compensate lenders for the reduced purchasing power of the repaid principal. The dollars paid by customers because of this inflation component are typically treated as a return on capital, not as a return of capital. Some have proposed removing the inflation component from the rate of return and including it in the depreciation schedule for equipment. This "economic depreciation" produces a series of annual accruals that increases with time, as opposed to the constant accruals with straight-line depreciation.

This concept erroneously implies that these adjustments are intended to ensure that at the end of the life of any item, there should be sufficient dollars in the accumulated depreciation account to replace the item at then current prices. This is unlikely, as no one can predict future replacement costs years in advance. Also, this approach amounts to having customers make contributions-in-aid-of-construction which will not accrue interest, which is not appropriate. Depreciation expense is accrued in installments over the life of the property. These installments are available for reinvestment in new property or other purposes as management deems appropriate.

In its *1943 NARUC Report*, the NARUC Committee on Depreciation reached the following related conclusions:

1. A cost depreciation base is consistent with the fundamental concept of depreciation as resulting in a cost of operation.

2. Cost of plant is a definitely known amount and is not subject to the vagaries of estimates of value or of replacement cost.

3. The use of cost as a base permits ready ascertainment of depreciation charges and facilitates the making of operating forecasts.

4. The use of cost as a depreciation base tends to prevent manipulation of depreciation charges for financial expediency because the percentage of depreciation charges to plant is readily apparent from consideration of the income and balance sheet statements.

5. A cost depreciation base conforms to the accepted accounting principle that operating expenses should be based on cost and not be influenced by fair value estimates nor by what costs may be at some future date.

The 1954 report of the Committee on Depreciation revisited the matter of a proper depreciation base and concluded:

> This Committee's re-examination of the question as to what is the proper depreciation base, leads firmly to the conclusion that the claims advanced in support of economic depreciation are lacking in probative force. The Committee is convinced that the long-established cost basis is sound, practical and equitable and should be continued.

As a result, economic depreciation is not used in a regulatory environment.

Regulatory Considerations

Under traditional rate base, rate of return regulation, measurement of the rate of return produced by present or prospective rates for service is important. The rate of return is the ratio of two quantities: net earnings after expenses and rate base.

At least since the decision in the *Knoxville Water Company*, 212 U.S. 1, (1909), depreciation has been recognized in both the numerator and the denominator of this ratio, in that the expenses in the numerator include depreciation and the property investment in the denominator is after deduction of an amount to cover accrued depreciation. Since the Knoxville case, there has been increased awareness that there should be a consistent relationship between depreciation expense and accumulated depreciation *(Lindheimer v. Illinois Bell Telephone Company,* 292 U.S. 151, (1934)). That is, the depreciation deducted from rate base should be consistent with the annual depreciation expense.

If the objective is consistent treatment of depreciation, there are a number of questions which must be decided before a regulatory body arrives at an equitable final result. A number of regulatory bodies prescribe depreciation rates for utilities under their jurisdiction. The FCC, for example, prescribes rates for large telephone companies. It revises them every three years after receiving basic data, depreciation studies, and recommended rates submitted by the utility.

Prescribing depreciation rates is one of the most important regulatory commission activities impacting customer rates. The estimation of depreciation parameters is not, of course, a scientifically exact process, since it involves a large element of informed judgment regarding future developments. At the same time, it cannot be an arbitrary figure selected

Statement of Financial Accounting Standards No. 143

FAS143 Status Page
FAS143 Summary

Accounting for Asset Retirement Obligations

June 2001

Financial Accounting Standards Board
of the Financial Accounting Foundation
401 MERRITT 7, P.O. BOX 5116, NORWALK, CONNECTICUT 06856-5116

d. A contractor would typically demand and receive a premium (market risk premium) for bearing the uncertainty and unforeseeable circumstances inherent in "locking in" today's price for a project that will not occur for 10 years. The entity estimates the amount of that premium to be 5 percent of the estimated inflation-adjusted cash flows.
e. The risk-free rate of interest on January 1, 2003, is 5 percent. The entity adjusts that rate by 3.5 percent to reflect the effect of its credit standing. Therefore, the credit-adjusted risk-free rate used to compute expected present value is 8.5 percent.
f. The entity assumes a rate of inflation of 4 percent over the 10-year period.

C4. On December 31, 2012, the entity settles its asset retirement obligation by using its internal workforce at a cost of $351,000. Assuming no changes during the 10-year period in the cash flows used to estimate the obligation, the entity would recognize a gain of $89,619 on settlement of the obligation:

Labor	$195,000
Allocated overhead and equipment charges (80 percent of labor)	156,000
Total costs incurred	351,000
ARO liability	440,619
Gain on settlement of obligation	$ 89,619

Initial Measurement of the ARO Liability at January 1, 2003

	Expected Cash Flows 1/1/03
Expected labor costs	$131,250
Allocated overhead and equipment charges (.80 × $131,250)	105,000
Contractor's markup [.20 × ($131,250 + $105,000)]	47,250
Expected cash flows before inflation adjustment	283,500
Inflation factor assuming 4 percent rate for 10 years	1.4802
Expected cash flows adjusted for inflation	419,637
Market-risk premium (.05 × $419,637)	20,982
Expected cash flows adjusted for market risk	$440,619
Present value using credit-adjusted risk-free rate of 8.5 percent for 10 years	$194,879

Interest Method of Allocation

Year	Liability Balance 1/1	Accretion	Liability Balance 12/31
2003	$194,879	$16,565	$211,444
2004	211,444	17,973	229,417
2005	229,417	19,500	248,917
2006	248,917	21,158	270,075
2007	270,075	22,956	293,031
2008	293,031	24,908	317,939
2009	317,939	27,025	344,964
2010	344,964	29,322	374,286
2011	374,286	31,814	406,100
2012	406,100	34,519	440,619

Schedule of Expenses

Year-End	Accretion Expense	Depreciation Expense	Total Expense
2003	$16,565	$19,488	$36,053
2004	17,973	19,488	37,461
2005	19,500	19,488	38,988
2006	21,158	19,488	40,646
2007	22,956	19,488	42,444
2008	24,908	19,488	44,396
2009	27,025	19,488	46,513
2010	29,322	19,488	48,810
2011	31,814	19,488	51,302
2012	34,519	19,488	54,007

FULL IMPACT OF MR. WATSON'S PROPOSAL TO CHARGE CURRENT RATEPAYERS FOR FUTURE INFLATION.
ON DISTRIBUTION AND TRANSMISSION PLANTS

	Annual Accrual			
	At Current Rates	Full Impact of Watson Policies	Increase At Full Impact	% Increase At Full Impact
TRANSMISSION	$63,825,227	$110,446,530	$46,621,303	73%
DISTRIBUTION	$149,218,749	$318,138,090	$168,919,341	113%
TOTAL TRAN. & DIST.	$213,043,976	$428,584,620	$215,540,644	101%

At Current Rates from page 113 of OGE Direct Exhbit DAW-2

FULL IMPACT OF MR. WATSON'S PROPOSALS :
(1) TO CHARGE CURRENT RATEPAYERS FOR FUTURE INFLATION, AND
(2) TO USE INTERIM COST OF REMOVAL PERCENTAGE AS A "PROXY" FOR TERMINAL DIMANTLEMENT COST

	Increase At Full Impact
TRANSMISSION AND DISTIBUTION (From Above)	$215,540,644
PRODUCTION (From Exhbit WWD-15)	$184,613,703
TOTAL	$400,154,347

OKLAHOMA GAS AND ELECTRIC COMPANY

COMPUTATION OF ANNUAL DEPRECIATION ACCRUAL AMOUNTS AND RATES
RELATED TO ELECTRIC PLANT AS OF DECEMBER 31, 2022
TRANSMISSION, DISTRIBUTION, AND GENERAL RESERVE PER BOOK
FULL MPACT OF THE NET SALVAGE "INDICATIONS" MR. WATSON CALCULATES ON PAGES 125-133 OF DIRECT EXHIBIT DAW-2.
TRANSMISSION AND DISTRIBUTION PLANT

	ACCOUNT	Plant Balance	Book Reserve	Mid-Range Of Mr. Watson's 3 Yr, 5 Yr, & 10 Yr. Indications (p.125-133 DAW-2) Net Salvage %	Net Salvage Amount	Unaccrued Balance	Remaining Life	Accrual Amount	Annual Accrual Rate
350.2	LAND RIGHTS	131,963,405	26,357,019	0%	0	105,606,386	58.21	1,814,290	1.37%
352.0	STRUCTURES AND IMPROVEMENTS	9,042,721	2,184,920	-140%	(12,659,809)	19,517,610	55.93	348,987	3.86%
353.0	STATION EQUIPMENT	954,383,732	202,724,022	-68%	(648,980,938)	1,400,640,648	46.50	30,121,719	3.16%
354.0	TOWERS AND FIXTURES	173,271,523	60,653,413	-61%	(105,695,629)	218,313,739	54.02	4,041,592	2.33%
355.0	POLES AND FIXTURES	1,117,698,049	284,310,845	-224%	(2,503,643,630)	3,337,030,834	65.91	50,631,805	4.53%
356.0	OVERHEAD CONDUCTORS AND DEVICES	693,683,857	234,327,621	-138%	(957,283,723)	1,416,639,959	60.31	23,488,373	3.39%
358.0	UNDERGROUND CONDUCTORS AND DEVICES	110,494	112,091	0%	0	(1,597)	6.76	(236)	0.00%
	TOTAL TRANSMISSION PLANT	**3,080,153,781**	**810,669,931**		**(4,228,263,729)**	**6,497,747,578**		**110,446,530**	
	DISTRIBUTION PLANT								
360.2	LAND RIGHTS	6,459,925	1,856,485	0%	0	4,603,440	54.55	84,383	1.31%
361.0	STRUCTURES AND IMPROVEMENTS	7,971,930	2,384,771	-140%	(11,160,702)	16,747,861	52.94	316,326	3.97%
362.0	STATION EQUIPMENT	877,615,427	199,661,000	-160%	(1,404,184,683)	2,082,139,111	48.55	42,886,878	4.89%
363.0	STORAGE BATTERY	851,046	173,818	0%	0	677,228	11.52	58,780	6.91%
364.0	POLES, TOWERS AND FIXTURES	786,956,009	304,180,726	-129%	(1,015,173,252)	1,497,948,535	43.01	34,824,014	4.43%
365.0	OVERHEAD CONDUCTORS AND DEVICES	1,101,396,821	231,506,879	-132%	(1,453,843,804)	2,323,733,746	53.38	43,532,043	3.95%
366.0	UNDERGROUND CONDUIT	335,409,588	88,577,525	-133%	(446,094,752)	692,926,815	53.10	13,049,177	3.89%
367.0	UNDERGROUND CONDUCTORS AND DEVICES	971,654,868	280,382,265	-126%	(1,224,285,134)	1,915,557,736	41.08	46,625,562	4.80%
368.0	LINE TRANSFORMERS	670,460,796	128,190,027	-154%	(1,032,509,626)	1,574,780,395	31.01	50,789,538	7.58%
369.0	SERVICES	266,118,193	149,026,905	-192%	(510,946,931)	628,038,219	45.47	13,812,633	5.19%
	METERS								
370.0	METERS - SMART METERS	184,961,833	93,760,342	-134%	(247,848,856)	339,050,347	7.52	45,114,474	24.39%
370.1	METERS - METERING EQUIPMENT	39,490,060	26,311,722	0%	0	13,178,338	21.22	621,112	1.57%
	TOTAL METERS								
371.0	INSTALLATIONS ON CUSTOMERS' PREMISES	57,414,311	42,421,298	0%	0	14,993,013	6.45	2,324,969	4.05%
373.0	STREET LIGHTING AND SIGNAL SYSTEMS	316,836,035	47,184,922	-114%	(361,193,080)	630,844,193	26.18	24,098,201	7.61%
	TOTAL DISTRIBUTION PLANT	**5,623,596,842**	**1,595,618,685**		**(7,707,240,819)**	**11,735,218,976**		**318,138,090**	

Source: PUD- 06-02(c) Att1, but NS changed to the mid point of Mr. Watson's preferred Indications from pages 125-133 of Direct Exhibit DAW-2.

OKLAHOMA GAS AND ELECTRIC COMPANY

	Current Rates	OGE Proposed			PUD Proposed		
	$ Accrual	$ Accrual	Difference From Current		$ Accrual	Difference From Current	Difference From OGE.
TOTAL INTANGIBLE PLANT	29,115,125	38,800,197	9,685,072		24,393,648	(4,721,477)	(14,406,549)
TOTAL STEAM PRODUCTION PLANT	90,713,068	100,261,931	9,548,862		93,094,144	2,381,076	(7,167,787)
TOTAL OTHER PRODUCTION PLANT	77,544,134	86,999,795	9,455,661		71,887,498	(5,656,635)	(15,112,296)
TOTAL TRANSMISSION PLANT	63,825,227	62,559,272	(1,265,955)		55,572,898	(8,252,329)	(6,986,374)
TOTAL DISTRIBUTION PLANT	149,218,749	178,229,924	29,011,174		156,712,818	7,494,069	(21,517,105)
TOTAL GENERAL PLANT	33,750,850	34,738,050	987,200		34,738,050	987,200	0
TOTAL DEPRECIABLE ELECTRIC PLANT	444,167,153	501,589,168	57,422,015		436,399,056	(7,768,097)	(65,190,112)

	Current Rates	OGE Proposed			PUD Proposed		
	Accrual Rate	Accrual Rate	Difference From Current		Accrual Rate	Difference From Current	Difference From OGE.
TOTAL INTANGIBLE PLANT	8.63%	11.49%	2.87%		8.05%	-0.57%	-3.44%
TOTAL STEAM PRODUCTION PLANT	2.76%	3.05%	0.29%		2.83%	0.07%	-0.22%
TOTAL OTHER PRODUCTION PLANT	3.51%	3.93%	0.43%		3.25%	-0.26%	-0.68%
TOTAL TRANSMISSION PLANT	2.07%	2.03%	-0.04%		1.80%	-0.27%	-0.23%
TOTAL DISTRIBUTION PLANT	2.65%	3.17%	0.52%		2.79%	0.13%	-0.38%
TOTAL GENERAL PLANT	6.22%	6.40%	0.18%		6.40%	0.18%	0.00%
TOTAL DEPRECIABLE ELECTRIC PLANT	2.94%	3.32%	0.38%		2.89%	-0.05%	-0.43%

OKLAHOMA GAS AND ELECTRIC COMPANY

COMPUTATION OF ANNUAL DEPRECIATION ACCRUAL AMOUNTS AND RATES
RELATED TO ELECTRIC PLANT AS OF DECEMBER 31, 2022

PUD RECOMMENDED DEPRECIATION RATES

	Account	Plant Balance	Reallocated Book Reserve	Net Salvage %	Net Salvage Amount	Unaccrued Balance	Remaining Life	Accrual Amount	Annual Accrual Rate
	INTANGIBLE PLANT								
302	FRANCHISES AND CONSENTS	1,551,188	830,287	0.00%	0	720,901	10.85	66,413	4.28%
303.1	MISCELLANEOUS INTANGIBLE PLANT - SOFTWARE -	113,907,272	43,455,282	0.00%	0	70,451,990	7.68	9,173,436	8.05%
303.2	MISCELLANEOUS INTANGIBLE PLANT - SOFTWARE - 10-YEAR								
	FULLY DEPRECIATED	73,273,842	73,273,842						
	AMORTIZED	148,826,972	79,876,570	0.00%	0	68,950,402	4.55	15,153,799	10.18%
	TOTAL SOFTWARE - 10-YEAR	337,559,274	197,435,981	0.00%	0	140,123,293		24,393,648	
	TOTAL INTANGIBLE PLANT								
	STEAM PRODUCTION PLANT								
310.2	**RIGHTS OF WAY**								
	HORSESHOE LAKE 6	28,509	28,227	0.00%	0	282	1.00	282	0.99%
	SEMINOLE 1	78,916	77,193	0.00%	0	1,723	8.00	215	0.27%
	MUSKOGEE 4	18,934	15,072	0.00%	0	3,862	20.00	193	1.02%
	SOONER 1	813,704	412,488	0.00%	0	401,216	22.00	18,237	2.24%
	TOTAL RIGHTS OF WAY	940,063	532,980		0	407,083	51.00	18,928	2.01%
311	**STRUCTURES AND IMPROVEMENTS**								
	HORSESHOE LAKE 6	201,906	164,977	-0.36%	(732)	37,660	1.00	37,660	18.65%
	HORSESHOE LAKE 7	2,807,502	2,910,257	-0.86%	(24,135)	(78,619)	2.00	(39,310)	-1.40%
	HORSESHOE LAKE 8	28,618,552	20,851,689	-0.81%	(231,430)	7,998,293	4.97	1,610,258	5.63%
	SEMINOLE 1	26,448,745	18,044,643	-1.13%	(299,231)	8,703,332	7.89	1,102,964	4.17%
	SEMINOLE 2	3,799,406	2,384,183	-1.64%	(62,403)	1,477,626	9.81	150,664	3.97%
	SEMINOLE 3	8,154,375	6,535,996	-1.69%	(137,554)	1,755,933	11.68	150,322	1.84%
	MUSKOGEE 4	69,811,751	26,416,417	-2.41%	(1,681,827)	45,077,161	19.32	2,333,373	3.34%
	MUSKOGEE 5	7,451,169	4,696,822	-3.14%	(233,613)	2,987,959	20.05	149,027	2.00%
	MUSKOGEE 6	58,954,946	33,076,243	-3.91%	(2,304,349)	28,183,053	25.41	1,109,302	1.88%
	SOONER 1	151,399,419	72,276,901	-2.30%	(3,481,500)	82,604,018	21.06	3,922,409	2.59%
	SOONER 2	12,655,397	9,102,955	-2.73%	(346,016)	3,898,459	21.73	179,445	1.42%
	RIVER VALLEY 1	61,139,973	35,282,810	-3.48%	(2,130,476)	27,987,639	24.61	1,137,209	1.86%
	RIVER VALLEY 2	54,656	23,723	-3.82%	(2,087)	33,021	24.83	1,330	2.43%
	TOTAL STRUCTURES AND IMPROVEMENTS	431,497,798	231,767,617		(10,935,353)	210,665,534		11,844,653	2.75%
312	**BOILER PLANT EQUIPMENT**								
	HORSESHOE LAKE 6	20,996,286	19,730,210	-0.36%	(76,076)	1,342,152	1.00	1,342,152	6.39%
	HORSESHOE LAKE 7	15,246,822	15,143,144	-0.86%	(131,072)	234,750	2.00	117,375	0.77%
	HORSESHOE LAKE 8	22,959,876	18,818,872	-0.81%	(185,670)	4,326,674	4.94	875,355	3.81%
	SEMINOLE 1	59,087,267	40,108,209	-1.13%	(668,490)	19,647,548	7.87	2,496,114	4.22%
	SEMINOLE 2	49,105,513	32,903,936	-1.64%	(806,529)	17,008,106	9.77	1,741,112	3.55%
	SEMINOLE 3	68,970,927	46,127,446	-1.69%	(1,163,450)	24,006,931	11.64	2,061,589	2.99%
	MUSKOGEE 4	127,239,724	61,829,847	-2.41%	(3,065,317)	68,475,194	19.02	3,600,264	2.83%
	MUSKOGEE 5	118,189,382	63,003,471	-3.14%	(3,705,535)	58,891,445	19.88	2,962,817	2.51%
	MUSKOGEE 6	301,242,531	157,469,091	-3.91%	(11,774,551)	155,547,991	25.02	6,217,153	2.06%

OKLAHOMA GAS AND ELECTRIC COMPANY

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RELATED TO ELECTRIC PLANT AS OF DECEMBER 31, 2022

PUD RECOMMENDED DEPRECIATION RATES

	Account	Plant Balance	Reallocated Book Reserve	Net Salvage %	Net Salvage Amount	Unaccrued Balance	Remaining Life	Accrual Amount	Annual Accrual Rate
	SOONER 1	549,266,125	188,313,664	-2.30%	(12,630,630)	373,583,091	20.97	17,811,692	3.24%
	SOONER 2	369,243,742	131,812,424	-2.73%	(10,095,647)	247,526,966	21.82	11,341,628	3.07%
	RIVER VALLEY 1	221,271,646	122,959,002	-3.48%	(7,710,406)	106,023,049	24.24	4,373,222	1.98%
	RIVER VALLEY 2	121,987,581	70,580,724	-3.82%	(4,658,820)	56,065,677	24.20	2,317,042	1.90%
	TOTAL BOILER PLANT EQUIPMENT	2,044,807,422	968,800,040		(56,672,192)	1,132,679,574		57,257,515	2.80%
314	**TURBOGENERATOR UNITS**								
	HORSESHOE LAKE 6	10,842,200	9,455,483	-0.36%	(39,285)	1,426,002	1.00	1,426,002	13.15%
	HORSESHOE LAKE 7	10,985,415	10,662,444	-0.86%	(94,438)	417,409	2.00	208,705	1.90%
	HORSESHOE LAKE 8	29,108,074	21,970,062	-0.81%	(235,388)	7,373,400	4.91	1,503,139	5.16%
	SEMINOLE 1	32,468,391	24,503,463	-1.13%	(367,334)	8,332,262	7.72	1,079,431	3.32%
	SEMINOLE 2	44,903,852	28,389,077	-1.64%	(737,519)	17,252,295	9.57	1,803,465	4.02%
	SEMINOLE 3	32,494,674	21,973,682	-1.69%	(548,143)	11,069,135	11.44	967,641	2.98%
	MUSKOGEE 4	71,581,697	29,660,896	-2.41%	(1,724,466)	43,645,267	18.64	2,340,964	3.27%
	MUSKOGEE 5	52,439,504	29,487,119	-3.14%	(1,644,110)	24,596,495	18.95	1,298,099	2.48%
	MUSKOGEE 6	94,009,241	44,087,092	-3.91%	(3,674,503)	53,596,652	23.61	2,270,326	2.42%
	SOONER 1	43,344,918	23,197,755	-2.30%	(996,737)	21,143,900	19.78	1,068,941	2.47%
	SOONER 2	49,136,488	24,917,784	-2.73%	(1,343,461)	25,562,166	20.54	1,244,679	2.53%
	RIVER VALLEY 1	53,028,756	24,948,204	-3.48%	(1,847,834)	29,928,385	23.00	1,301,500	2.45%
	RIVER VALLEY 2	30,735,122	16,284,031	-3.82%	(1,173,803)	15,624,894	22.79	685,478	2.23%
	TOTAL TURBOGENERATOR UNITS	555,078,332	309,537,092		(14,427,022)	259,968,262		17,198,370	3.10%
315	**ACCESSORY ELECTRIC EQUIPMENT**								
	HORSESHOE LAKE 6	3,348,719	3,031,260	-0.36%	(12,134)	329,592	1.00	329,592	9.84%
	HORSESHOE LAKE 7	2,377,714	2,146,125	-0.86%	(20,440)	252,030	2.00	126,015	5.30%
	HORSESHOE LAKE 8	2,799,956	2,599,204	-0.81%	(22,642)	223,394	4.94	45,224	1.62%
	SEMINOLE 1	4,042,504	3,331,070	-1.13%	(45,735)	757,169	4.45	170,335	4.21%
	SEMINOLE 2	3,287,888	1,838,624	-1.64%	(54,002)	1,503,265	9.81	153,251	4.66%
	SEMINOLE 3	5,362,861	4,250,433	-1.69%	(90,464)	1,202,892	11.71	102,718	1.92%
	MUSKOGEE 4	34,848,214	20,036,281	-2.41%	(839,524)	15,651,458	18.98	824,434	2.37%
	MUSKOGEE 5	12,449,797	8,792,833	-3.14%	(390,332)	4,047,296	19.41	208,485	1.67%
	MUSKOGEE 6	44,124,866	28,632,906	-3.91%	(1,724,692)	17,216,651	24.77	695,028	1.58%
	SOONER 1	25,739,512	18,517,416	-2.30%	(591,892)	7,813,988	20.24	386,093	1.50%
	SOONER 2	13,215,686	9,604,513	-2.73%	(361,336)	3,972,508	21.03	188,885	1.43%
	RIVER VALLEY 1	41,676,296	23,634,689	-3.48%	(1,452,247)	19,493,854	24.49	795,940	1.91%
	RIVER VALLEY 2	1,565,529	221,238	-3.82%	(59,789)	1,404,080	25.50	55,063	3.52%
	TOTAL ACCESSORY ELECTRIC EQUIPMENT	194,839,542	126,636,594		(5,665,230)	73,868,178		4,081,063	2.09%
316	**MISCELLANEOUS POWER PLANT EQUIPMENT**								
	HORSESHOE LAKE 6	2,111,076	1,982,300	-0.36%	(7,649)	136,425	1.00	136,425	6.46%
	HORSESHOE LAKE 7	1,116,214	1,101,703	-0.86%	(9,596)	24,107	2.00	12,053	1.08%
	HORSESHOE LAKE 8	3,830,753	1,927,573	-0.81%	(30,978)	1,934,159	4.41	438,453	11.45%
	SEMINOLE 1	4,188,322	3,192,087	-1.13%	(47,385)	1,043,620	4.78	218,376	5.21%
	SEMINOLE 2	21,726	22,514	-1.64%	(357)	(431)	1.38	(312)	-1.43%
	SEMINOLE 3	300,618	188,389	-1.69%	(5,071)	117,300	8.58	13,668	4.55%
	MUSKOGEE 4	10,582,057	4,704,330	-2.41%	(254,931)	6,132,658	13.34	459,563	4.34%
	MUSKOGEE 5	703,624	570,503	-3.14%	(22,060)	155,182	5.99	25,909	3.68%
	MUSKOGEE 6	4,642,616	4,009,306	-3.91%	(181,464)	814,774	6.72	121,177	2.61%

OKLAHOMA GAS AND ELECTRIC COMPANY

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	Account	Plant Balance	Reallocated Book Reserve	Net Salvage %	Net Salvage Amount	Unaccrued Balance	Remaining Life	Accrual Amount	Annual Accrual Rate
	SOONER 1	9,176,698	4,189,719	-2.30%	(211,022)	5,198,001	13.71	379,008	4.13%
	SOONER 2	2,423,736	1,962,460	-2.73%	(66,268)	527,544	6.69	78,898	3.26%
	RIVER VALLEY 1	20,631,345	14,784,100	-3.48%	(718,917)	6,566,163	9.52	689,951	3.34%
	RIVER VALLEY 2	32,329	1,772	0.00%	0	30,557	20.94	1,459	4.51%
	POWER SUPPLY SERVICES	2,858,584	859,225	-5.00%	(142,929)	2,142,288	18.00	118,986	4.16%
	TOTAL MISCELLANEOUS POWER PLANT EQUIPMENT	62,619,698	39,495,981		(1,698,629)	24,822,346		2,693,615	4.30%
	TOTAL STEAM PRODUCTION PLANT	**3,289,782,854**	**1,676,770,304**		**(89,398,426)**	**1,702,410,977**		**93,094,144**	
	OTHER PRODUCTION PLANT								
340.2	RIGHTS OF WAY								
	MUSTANG CTs	10,815	8,436	0.00%	0	2,379	32.00	74	0.69%
341	STRUCTURES AND IMPROVEMENTS								
	REDBUD 1	34,235,763	15,495,962	-1.00%	(342,358)	19,082,159	25.54	747,006	2.18%
	REDBUD 2	318,306	69,734	-1.00%	(3,183)	251,755	26.25	9,591	3.01%
	REDBUD 3	265,177	62,100	-1.00%	(2,652)	205,729	26.22	7,846	2.96%
	REDBUD 4	288,878	72,117	-1.00%	(2,889)	219,650	26.18	8,390	2.90%
	HORSESHOE LAKE 9 AND 10	1,201,774	873,050	0.00%	0	328,724	12.65	25,981	2.16%
	TINKER	1,781,246	1,396,853	0.00%	0	384,393	3.00	128,131	7.19%
	MCCLAIN GAS 1	11,750,959	4,894,114	-1.00%	(117,510)	6,974,354	12.65	551,219	4.69%
	MCCLAIN GAS 2	1,788,683	931,122	-1.00%	(17,887)	875,448	23.04	37,999	2.12%
	MCCLAIN STEAM 1	1,070,785	493,530	-1.00%	(10,708)	587,963	22.85	25,732	2.40%
	FRONTIER 1	8,395,038	5,192,401	-2.00%	(167,901)	3,370,538	22.05	152,845	1.82%
	MUSTANG CTs	43,721,045	9,565,462	-1.00%	(437,210)	34,592,794	30.25	1,143,452	2.62%
	TOTAL STRUCTURES AND IMPROVEMENTS	104,817,655	39,046,446		(1,102,297)	66,873,506		2,838,193	
341	STRUCTURES AND IMPROVEMENTS - WIND								
	CENTENNIAL	3,014,587	1,483,510	-1.00%	(30,146)	1,561,223	13.36	116,898	3.88%
	OU SPIRIT	5,228,646	2,559,921	-2.00%	(104,573)	2,773,298	15.83	175,145	3.35%
	CROSSROADS	11,538,638	4,638,406	-2.00%	(230,773)	7,131,005	17.72	402,406	3.49%
	TOTAL STRUCTURES AND IMPROVEMENTS - WIND	19,781,871	8,681,837		(365,492)	11,465,525		694,449	
341	STRUCTURES AND IMPROVEMENTS - SOLAR	4,465,531	568,873	0.00%	0	3,896,659	32.21	120,977	2.71%
342	FUEL HOLDERS, PRODUCERS AND ACCESSORIES								
	REDBUD 1	12,117,606	5,638,479	-1.00%	(121,176)	6,600,303	26.18	252,068	2.08%
	REDBUD 2	690,651	324,592	-1.00%	(6,907)	372,966	26.17	14,250	2.06%
	REDBUD 3	691,292	324,849	-1.00%	(6,913)	373,355	26.17	14,265	2.06%
	REDBUD 4	719,786	331,808	-1.00%	(7,198)	395,175	26.20	15,085	2.10%
	TINKER	167,151	157,707	0.00%	0	9,444	3.00	3,150	1.88%
	MCCLAIN GAS 1	354,085	197,079	-1.00%	(3,541)	160,547	23.18	6,925	1.96%
	MCCLAIN GAS 2	260,457	139,409	-1.00%	(2,605)	123,653	23.20	5,330	2.05%
	FRONTIER 1	978,948	792,666	-2.00%	(19,579)	205,861	20.71	9,942	1.02%
	MUSTANG CTs	7,657,023	1,303,302	-1.00%	(76,570)	6,430,292	31.56	203,775	2.66%
	TOTAL FUEL HOLDERS, PRODUCERS AND ACCESSORIES	23,636,999	9,209,890		(244,488)	14,671,596		524,792	
343	PRIME MOVERS								

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	Account	Plant Balance	Reallocated Book Reserve	Net Salvage %	Net Salvage Amount	Unaccrued Balance	Remaining Life	Accrual Amount	Annual Accrual Rate
	REDBUD 1	93,479,687	38,137,627	-1.00%	(934,797)	56,276,856	23.30	2,415,783	2.58%
	REDBUD 2	67,426,482	6,517,884	-1.00%	(674,265)	61,582,863	25.28	2,436,123	3.61%
	REDBUD 3	67,539,780	30,341,013	-1.00%	(675,398)	37,874,165	22.97	1,648,659	2.44%
	REDBUD 4	61,546,829	27,971,692	-1.00%	(615,468)	34,190,605	22.94	1,490,229	2.42%
	HORSESHOE LAKE 9 AND 10	8,902,621	5,498,734	0.00%	0	3,403,887	11.75	289,701	3.25%
	TINKER	4,550,058	4,777,561	0.00%	0	(227,503)	3.00	(75,834)	-1.67%
	MCCLAIN GAS 1	110,863,190	55,411,522	-1.00%	(1,108,632)	56,560,299	20.61	2,744,481	2.48%
	MCCLAIN GAS 2	105,433,620	57,103,505	-1.00%	(1,054,336)	49,384,451	20.27	2,436,000	2.31%
	MCCLAIN STEAM 1	52,753,857	31,174,130	-1.00%	(527,539)	22,107,266	19.83	1,114,827	2.11%
	FRONTIER 1	65,667,528	46,931,663	-2.00%	(1,313,351)	20,049,216	15.85	1,264,692	1.93%
	MUSTANG CTs	263,333,261	47,683,503	-1.00%	(2,633,333)	218,283,091	28.59	7,634,395	2.90%
	TOTAL PRIME MOVERS	901,496,913	351,548,833		(9,537,118)	559,485,197		23,399,054	
	LTSA								
343.1	6-YEAR								
	REDBUD 1	6,096,068	4,487,291	0.00%	0	1,608,777	2.50	643,511	10.56%
	REDBUD 2	13,864,899	10,205,897	0.00%	0	3,659,002	2.50	1,463,601	10.56%
	REDBUD 3	13,998,897	10,304,532	0.00%	0	3,694,365	2.50	1,477,746	10.56%
	REDBUD 4	5,993,168	4,411,547	0.00%	0	1,581,621	2.50	632,648	10.56%
	MCCLAIN GAS 1	15,798,603	11,629,289	0.00%	0	4,169,314	2.50	1,667,726	10.56%
	MCCLAIN GAS 2	15,810,675	11,638,175	0.00%	0	4,172,500	2.50	1,669,000	10.56%
	Total 6 - YR	71,562,310	52,676,731		0	18,885,579		7,554,232	
343.2	20-YEAR								
	REDBUD 1	1,490,678	1,363,765	0.00%	0	126,913	5.50	23,075	1.55%
	REDBUD 2	1,490,678	1,363,765	0.00%	0	126,913	5.50	23,075	1.55%
	REDBUD 3	1,490,678	1,363,765	0.00%	0	126,913	5.50	23,075	1.55%
	REDBUD 4	1,490,678	1,363,765	0.00%	0	126,913	5.50	23,075	1.55%
	Total 20-Yr	5,962,712	5,455,060		0	507,652		92,300	
343.3	30-YEAR								
	MCCLAIN GAS 1	349,749	272,160	0.00%	0	77,589	11.50	6,747	1.93%
	MCCLAIN GAS 2	343,590	267,368	0.00%	0	76,222	11.50	6,628	1.93%
	Total 30-YR	693,339	539,528		0	153,811		13,375	
	TOTAL LTSA	78,218,361	58,671,319		0	19,547,042		7,659,907	
	TOTAL ACCOUNT 343	979,715,274	410,220,152		-9,537,118	579,032,239		31,058,961	
344	GENERATORS								
	REDBUD 1	717,218	300,669	-1.00%	(7,172)	423,722	24.98	16,962	2.36%
	REDBUD 3	23,199	8,658	-1.00%	(232)	14,773	25.17	587	2.53%
	REDBUD 4	23,035	8,597	-1.00%	(230)	14,668	25.17	583	2.53%
	HORSESHOE LAKE 9 AND 10	36,135,688	26,258,616	0.00%	0	9,877,072	12.50	790,468	2.19%
	TINKER	3,366,088	3,163,786	0.00%	0	202,302	3.00	67,434	2.00%
	FRONTIER 1	8,118,041	6,198,140	-2.00%	(162,361)	2,082,261	20.99	99,213	1.22%
	MUSTANG CTs	31,405,980	5,354,001	-1.00%	(314,060)	26,366,039	29.89	882,083	2.81%
	TOTAL GENERATORS	79,789,249	41,292,468		(484,055)	38,980,836		1,857,330	
344	GENERATORS - WIND								

OKLAHOMA GAS AND ELECTRIC COMPANY

COMPUTATION OF ANNUAL DEPRECIATION ACCRUAL AMOUNTS AND RATES
RELATED TO ELECTRIC PLANT AS OF DECEMBER 31, 2022

PUD RECOMMENDED DEPRECIATION RATES

	Account	Plant Balance	Reallocated Book Reserve	Net Salvage %	Net Salvage Amount	Unaccrued Balance	Remaining Life	Accrual Amount	Annual Accrual Rate
	CENTENNIAL	185,423,873	106,113,287	-1.00%	(1,854,239)	81,164,825	12.56	6,461,647	3.48%
	OU SPIRIT	237,888,863	114,013,976	-2.00%	(4,757,777)	128,632,664	14.98	8,589,231	3.61%
	CROSSROADS	349,390,682	138,314,649	-2.00%	(6,987,814)	218,063,846	16.73	13,030,634	3.73%
	TOTAL GENERATORS - WIND	772,703,418	358,441,912		(13,599,830)	427,861,336		28,081,512	
344	GENERATORS - SOLAR	39,650,005	6,030,438	0.00%	0	33,619,567	26.49	1,269,142	3.20%
345	ACCESSORY ELECTRIC EQUIPMENT								
	REDBUD 1	13,173,539	5,849,645	-1.00%	(131,735)	7,455,629	25.88	288,074	2.19%
	REDBUD 2	9,557,253	4,349,658	-1.00%	(95,573)	5,303,167	25.86	205,065	2.15%
	REDBUD 3	9,330,337	4,276,678	-1.00%	(93,303)	5,146,963	25.85	199,098	2.13%
	REDBUD 4	9,593,118	4,377,380	-1.00%	(95,931)	5,311,669	25.86	205,411	2.14%
	HORSESHOE LAKE 9 AND 10	4,874,594	3,716,392	0.00%	0	1,158,202	12.72	91,035	1.87%
	TINKER	3,078,637	3,131,897	0.00%	0	(53,260)	3.00	(17,753)	-0.58%
	MCCLAIN GAS 1	7,224,119	3,415,519	-1.00%	(72,241)	3,880,841	23.10	168,002	2.33%
	MCCLAIN GAS 2	6,049,899	3,312,275	-1.00%	(60,499)	2,798,123	22.95	121,899	2.01%
	MCCLAIN STEAM 1	3,740,436	2,112,285	-1.00%	(37,404)	1,665,555	22.90	72,718	1.94%
	FRONTIER 1	7,857,363	5,708,790	-2.00%	(157,147)	2,305,720	22.62	101,927	1.30%
	MUSTANG CTs	25,263,658	4,454,195	-1.00%	(252,637)	21,062,100	31.10	677,181	2.68%
	TOTAL ACCESSORY ELECTRIC EQUIPMENT	99,742,953	44,704,714		(996,471)	56,034,710		2,112,655	0
345	ACCESSORY ELECTRIC EQUIPMENT - WIND								
	CENTENNIAL	2,324,844	757,928	-1.00%	(23,248)	1,590,164	12.87	123,517	5.31%
	OU SPIRIT	4,871,019	972,681	-2.00%	(97,420)	3,995,758	15.47	258,223	5.30%
	CROSSROADS	45,877,900	17,180,518	-2.00%	(917,558)	29,614,940	16.02	1,848,258	4.03%
	TOTAL ACCESSORY ELECTRIC EQUIPMENT - WIND	53,073,763	18,911,127		(1,038,227)	35,200,863		2,229,997	0
345	ACCESSORY ELECTRIC EQUIPMENT - SOLAR	9,653,560	1,233,932	0.00%	0	8,419,628	31.88	264,104	2.74%
346	MISCELLANEOUS POWER PLANT EQUIPMENT								
	REDBUD 1	2,774,340	1,175,800	-1.00%	(27,743)	1,626,284	16.15	100,709	3.63%
	REDBUD 2	18,098	8,682	-1.00%	(181)	9,597	15.30	627	3.47%
	REDBUD 3	13,800	3,551	-1.00%	(138)	10,387	18.69	556	4.03%
	REDBUD 4	20,045	6,139	-1.00%	(200)	14,106	18.15	777	3.88%
	HORSESHOE LAKE 9 AND 10	1,033,095	833,176	0.00%	0	199,919	8.48	23,573	2.28%
	TINKER	61,581	27,693	0.00%	0	33,888	3.00	11,296	18.34%
	MCCLAIN GAS 1	5,975,450	3,511,194	-1.00%	(59,755)	2,524,011	12.94	195,106	3.27%
	FRONTIER 1	5,299,221	3,854,836	-2.00%	(105,984)	1,550,370	10.61	146,116	2.76%
	MUSTANG CTs	7,704,785	4,400,568	-1.00%	(77,048)	3,381,265	13.65	247,658	3.21%
	TOTAL MISCELLANEOUS POWER PLANT EQUIPMENT	22,900,415	13,821,639		(271,050)	9,349,826		726,417	
346	MISCELLANEOUS POWER PLANT EQUIPMENT - WIND								
	CENTENNIAL	885,860	398,637	-1.00%	(8,859)	496,081	11.45	43,322	4.89%
	OU SPIRIT	658,794	126,977	-2.00%	(13,176)	544,992	14.70	37,074	5.63%
	CROSSROADS	562,592	137,981	-2.00%	(11,252)	435,863	15.29	28,499	5.07%
	TOTAL MISCELLANEOUS POWER PLANT EQUIPMENT - WIND	2,107,246	663,596		(33,286)	1,476,937		108,895	

OKLAHOMA GAS AND ELECTRIC COMPANY

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RELATED TO ELECTRIC PLANT AS OF DECEMBER 31, 2022

PUD RECOMMENDED DEPRECIATION RATES

Account		Plant Balance	Reallocated Book Reserve	Net Salvage %	Net Salvage Amount	Unaccrued Balance	Remaining Life	Accrual Amount	Annual Accrual Rate
TOTAL OTHER PRODUCTION PLANT		**2,212,048,754**	**952,835,459**		**-27,672,312**	**1,286,885,607**		**71,887,498**	

TRANSMISSION, DISTRIBUTION, AND GENERAL RESERVE PER BOOK

	ACCOUNT	**Plant Balance**	**Per Book Reserve**	**Net Salvage %**	**Net Salvage Amount**	**Unaccrued Balance**	**Remaining Life**	**Accrual Amount**	**Annual Accrual Rate**
350.2	LAND RIGHTS	131,963,405	26,357,019	0.00%	0	105,606,386	58.21	1,814,290	1.37%
352.0	STRUCTURES AND IMPROVEMENTS	9,042,721	2,184,920	-20.00%	(1,808,544)	8,666,345	55.93	154,960	1.71%
353.0	STATION EQUIPMENT	954,383,732	202,724,022	-20.00%	(190,876,746)	942,536,456	46.50	20,269,880	2.12%
354.0	TOWERS AND FIXTURES	173,271,523	60,653,413	-15.00%	(25,990,728)	138,608,838	54.02	2,566,034	1.48%
355.0	POLES AND FIXTURES	1,117,698,049	284,310,845	-45.00%	(502,964,122)	1,336,351,326	65.91	20,276,073	1.81%
356.0	OVERHEAD CONDUCTORS AND DEVICES	693,683,857	234,327,621	-25.00%	(173,420,964)	632,777,201	60.31	10,491,662	1.51%
358.0	UNDERGROUND CONDUCTORS AND DEVICES	110,494	112,091	0.00%	0	(1,597)	6.76	0	0.00%
	TOTAL TRANSMISSION PLANT	**3,080,153,781**	**810,669,931**		**(895,061,105)**	**3,164,544,955**		**55,572,898**	
	DISTRIBUTION PLANT								
360.2	LAND RIGHTS	6,459,925	1,856,485	0.00%	0	4,603,440	54.55	84,383	1.31%
361.0	STRUCTURES AND IMPROVEMENTS	7,971,930	2,384,771	-20.00%	(1,594,386)	7,181,545	52.94	135,642	1.70%
362.0	STATION EQUIPMENT	877,615,427	199,661,000	-35.00%	(307,165,399)	985,119,827	48.55	20,291,014	2.31%
363.0	STORAGE BATTERY	851,046	173,818	0.00%	0	677,228	11.52	58,780	6.91%
364.0	POLES, TOWERS AND FIXTURES	786,956,009	304,180,726	-65.00%	(511,521,406)	994,296,689	47.92	20,749,096	2.64%
365.0	OVERHEAD CONDUCTORS AND DEVICES	1,101,396,821	231,506,879	-50.00%	(550,698,411)	1,420,588,353	53.38	26,612,822	2.42%
366.0	UNDERGROUND CONDUIT	335,409,588	88,577,525	-20.00%	(67,081,918)	313,913,981	53.10	5,911,619	1.76%
367.0	UNDERGROUND CONDUCTORS AND DEVICES	971,654,868	280,382,265	-50.00%	(485,827,434)	1,177,100,037	50.87	23,139,376	2.38%
368.0	LINE TRANSFORMERS	670,460,796	128,190,027	-60.00%	(402,276,478)	944,547,246	35.89	26,317,839	3.93%
369.0	SERVICES	266,118,193	149,026,905	-30.00%	(79,835,458)	196,926,746	45.47	4,331,069	1.63%
	METERS								
370.0	METERS - SMART METERS	184,961,833	93,760,342	-10.00%	(18,496,183)	109,697,674	12.20	8,991,613	4.86%
370.1	METERS - METERING EQUIPMENT	39,490,060	26,311,722	-10.00%	(3,949,006)	17,127,344	21.22	807,233	2.04%
	TOTAL METERS								
371.0	INSTALLATIONS ON CUSTOMERS' PREMISES	57,414,311	42,421,298	0.00%	0	14,993,013	6.45	2,324,969	4.05%
373.0	STREET LIGHTING AND SIGNAL SYSTEMS	316,836,035	47,184,922	-55.00%	(174,259,819)	443,910,932	26.18	16,957,364	5.35%
	TOTAL DISTRIBUTION PLANT	**5,623,596,842**	**1,595,618,685**		**(2,602,705,897)**	**6,630,684,055**		**156,712,818**	
	GENERAL PLANT								
389.2	LAND RIGHTS	178,598	88,692	0.00%	0	89,906	23.96	3,753	2.10%

OKLAHOMA GAS AND ELECTRIC COMPANY

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PUD RECOMMENDED DEPRECIATION RATES

	Account	Plant Balance	Reallocated Book Reserve	Net Salvage %	Net Salvage Amount	Unaccrued Balance	Remaining Life	Accrual Amount	Annual Accrual Rate
390.0	STRUCTURES AND IMPROVEMENTS	228,678,766	64,711,425	-5.00%	(11,433,938)	175,401,279	39.49	4,441,385	1.94%
	OFFICE FURNITURE AND EQUIPMENT								
391.0	OFFICE FURNITURE AND EQUIPMENT	19,379,183	5,810,415	0.00%	0	13,568,767	6.95	1,951,594	10.07%
391.1	COMPUTER EQUIPMENT	74,525,311	42,563,446	0.00%	0	31,961,865	2.19	14,591,706	19.58%
	TOTAL OFFICE AND FURNITURE EQUIPMENT	93,904,494	48,373,862		0	45,530,632		16,543,300	
	TRANSPORTATION EQUIPMENT								
392.1	CARS AND TRUCKS	27,059,844	14,972,932	10.00%	2,705,984	9,380,928	4.97	1,887,734	6.98%
392.5	HEAVY TRUCKS	78,137,483	32,340,212	10.00%	7,813,748	37,983,523	8.05	4,720,062	6.04%
392.6	TRAILERS	10,015,704	3,582,039	10.00%	1,001,570	5,432,095	17.91	303,320	3.03%
	TOTAL TRANSPORTATION EQUIPMENT	115,213,031	50,895,183		11,521,303	52,796,545		6,911,115	
393.0	STORES EQUIPMENT	1,198,089	208,600	0.00%	0	989,489	16.95	58,387	4.87%
394.0	TOOLS, SHOP AND GARAGE EQUIPMENT	28,819,877	5,855,631	0.00%	0	22,964,246	18.79	1,222,160	4.24%
395.0	LABORATORY EQUIPMENT	11,310,063	4,348,664	0.00%	0	6,961,399	9.64	722,112	6.38%
396.0	POWER OPERATED EQUIPMENT	16,256,047	6,536,704	15.00%	2,438,407	7,280,936	9.88	737,212	4.54%
397.0	COMMUNICATION EQUIPMENT	34,537,031	19,729,114	0.00%	0	14,807,917	4.17	3,547,456	10.27%
398.0	MISCELLANEOUS EQUIPMENT	12,469,947	4,862,439	0.00%	0	7,607,508	13.80	551,169	4.42%
	TOTAL GENERAL PLANT	**542,565,943**	**205,610,313**		**2,525,772**	**334,429,858**		**34,738,050**	
	TOTAL DEPRECIABLE ELECTRIC PLANT	**15,085,707,448**	**5,438,940,672**		**(3,612,311,969)**	**13,259,078,745**		**436,399,056**	

NOTES:

1) ACCOUNTS BELOW WILL HAVE THE FOLLOWING RATES .

303.4 MISCELLANEOUS INTANGIBLE PLANT - SAP S4 SOFTWARE	6.67%
311-316 NEW UNITS AT HORSESHOE LAKE ARE PROJECTED TO HAVE A RATE OF	3.00%
358 WHEN PLANT IS ADDED WHERE THE PLANT BALANCE IS GREATER THAN ACCUMULATED DEPRECIATION PF	2.22%

OKLAHOMA GAS AND ELECTRIC COMPANY

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TRANSMISSION, DISTRIBUTION, AND GENERAL RESERVE PER BOOK

			Current		OGE Proposed			PUD Proposed			
	Account	Plant Balance	Accrual rate	Accrual $	OGE Proposed Accrual rate	OGE Proposal Accrual $	OGE Difference From Current	PUD Proposed Accrual rate	PUD Proposal Accrual $	PUD Difference From Current	PUD Difference From OGE.
	INTANGIBLE PLANT										
302.00	FRANCHISES AND CONSENTS	1,551,188	4.48	69,493	4.28%	66,413	-3,081	4.28%	66,413	-3,081	0
303.1	MISCELLANEOUS INTANGIBLE PLANT - SOFTWARE - 5-YEAR	113,907,272	15.87	18,077,084	20.70%	23,579,985	5,502,901	8.05%	9,173,436	-8,903,648	-14,406,549
303.2	MISCELLANEOUS INTANGIBLE PLANT - SOFTWARE - 10-YEAR										
	FULLY DEPRECIATED	73,273,842									
	AMORTIZED	148,826,972	7.37	10,968,548	10.18%	15,153,799	4,185,251	10.18%	15,153,799	4,185,251	0
	TOTAL SOFTWARE - 10-YEAR	222,100,814		10,968,548		15,153,799	4,185,251		15,153,799	4,185,251	0
	TOTAL INTANGIBLE PLANT	337,559,274	8.63%	29,115,125	**11.49%**	38,800,197	9,685,072	**7.23%**	24,393,648	(4,721,477)	-14,406,549
	STEAM PRODUCTION PLANT										
310.2	RIGHTS OF WAY										
	HORSESHOE LAKE 6	28,509	0.99	282	0.99%	282	(0)	0.99%	282	0	0
	SEMINOLE 1	78,916	2.11	1,665	0.27%	215	(1,450)	0.27%	215	-1,450	0
	MUSKOGEE 4	18,934	2.68	507	1.02%	193	(314)	1.02%	193	-314	0
	SOONER 1	813,704	3.18	25,876	2.24%	18,237	(7,639)	2.24%	18,237	-7,639	0
	TOTAL RIGHTS OF WAY	940,063	3.01	28,331	2.01%	18,928	(9,403)		18,928	(9,403)	0
311	STRUCTURES AND IMPROVEMENTS										
	HORSESHOE LAKE 6	201,906	23.29	47,024	23.29%	47,024	0	18.65%	37,660	-9,364	-9,364
	HORSESHOE LAKE 7	2,807,502	0.67	18,810	0.67%	18,810	0	-1.40%	(39,310)	-58,120	-58,120
	HORSESHOE LAKE 8	28,618,552	7.67	2,195,043	6.47%	1,851,747	(343,296)	5.63%	1,610,258	-584,785	-241,489
	SEMINOLE 1	26,448,745	4.07	1,076,464	4.66%	1,232,634	156,170	4.17%	1,102,964	26,500	-129,670
	SEMINOLE 2	3,799,406	3.43	130,320	4.31%	163,672	33,352	3.97%	150,664	20,345	-13,007
	SEMINOLE 3	8,154,375	1.70	138,624	2.13%	173,451	34,826	1.84%	150,322	11,698	-23,128
	MUSKOGEE 4	69,811,751	3.44	2,401,524	3.48%	2,427,002	25,478	3.34%	2,333,373	-68,151	-93,629
	MUSKOGEE 5	7,451,169	1.99	148,278	2.09%	155,957	7,678	2.00%	149,027	748	-6,930
	MUSKOGEE 6	58,954,946	1.22	719,250	1.92%	1,134,626	415,376	1.88%	1,109,302	390,051	-25,325
	SOONER 1	151,399,419	2.22	3,361,067	2.72%	4,116,548	755,481	2.59%	3,922,409	561,342	-194,139
	SOONER 2	12,655,397	1.13	143,006	1.52%	192,644	49,638	1.42%	179,445	36,439	-13,199
	RIVER VALLEY 1	61,139,973	0.36	220,104	1.92%	1,174,856	954,752	1.86%	1,137,209	917,105	-37,647
	RIVER VALLEY 2	54,656	0.25	137	2.48%	1,356	1,219	2.43%	1,330	1,193	-26
	TOTAL STRUCTURES AND IMPROVEMENTS	431,497,798	3.01	10,599,652	2.94%	12,690,325	2,090,674		11,844,653	1,245,001	(845,673)
312	BOILER PLANT EQUIPMENT										
	HORSESHOE LAKE 6	20,996,286	11.03	2,315,890	11.03%	2,315,890	0	6.39%	1,342,152	-973,738	-973,738
	HORSESHOE LAKE 7	15,246,822	2.84	433,010	2.84%	433,010	(0)	0.77%	117,375	-315,635	-315,635
	HORSESHOE LAKE 8	22,959,876	5.13	1,177,842	4.66%	1,070,049	(107,793)	3.81%	875,355	-302,486	-194,694
	SEMINOLE 1	59,087,267	6.55	3,870,216	4.72%	2,786,522	(1,083,694)	4.22%	2,496,114	-1,374,102	-290,408
	SEMINOLE 2	49,105,513	5.18	2,543,666	3.89%	1,909,893	(633,773)	3.55%	1,741,112	-802,554	-168,781
	SEMINOLE 3	68,970,927	3.82	2,634,689	3.27%	2,257,821	(376,868)	2.99%	2,061,589	-573,100	-196,232
	MUSKOGEE 4	127,239,724	3.77	4,796,938	2.97%	3,773,595	(1,023,343)	2.83%	3,600,264	-1,196,674	-173,331
	MUSKOGEE 5	118,189,382	2.91	3,439,311	2.60%	3,073,697	(365,614)	2.51%	2,962,817	-476,494	-110,880
	MUSKOGEE 6	301,242,531	1.83	5,512,738	2.11%	6,348,556	835,817	2.06%	6,217,153	704,415	-131,402
	SOONER 1	549,266,125	3.31	18,180,709	3.37%	18,518,884	338,175	3.24%	17,811,692	-369,017	-707,192
	SOONER 2	369,243,742	2.94	10,855,766	3.18%	11,724,981	869,215	3.07%	11,341,628	485,862	-383,353
	RIVER VALLEY 1	221,271,646	0.43	951,468	2.04%	4,511,533	3,560,065	1.98%	4,373,222	3,421,754	-138,311
	RIVER VALLEY 2	121,987,581	0.47	573,342	1.95%	2,376,576	1,803,234	1.90%	2,317,042	1,743,700	-59,534
	TOTAL BOILER PLANT EQUIPMENT	2,044,807,422		57,285,584	2.99%	61,101,006	3,815,422		57,257,515	(28,069)	(3,843,491)
314	TURBOGENERATOR UNITS										

OKLAHOMA GAS AND ELECTRIC COMPANY

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RELATED TO ELECTRIC PLANT AS OF DECEMBER 31, 2022
PRODUCTION AND OTHER PRODUCTION REALLOCATED WITHIN GROUP
TRANSMISSION, DISTRIBUTION, AND GENERAL RESERVE PER BOOK

			Current		OGE Proposed			PUD Proposed			
	Account	Plant Balance	Accrual rate	Accrual $	OGE Proposed Accrual rate	OGE Proposal Accrual $	OGE Difference From Current	PUD Proposed Accrual rate	PUD Proposal Accrual $	PUD Difference From Current	PUD Difference From OGE.
	HORSESHOE LAKE 6	10,842,200	17.79	1,928,827	17.79%	1,928,827	0	13.15%	1,426,002	-502,825	-502,825
	HORSESHOE LAKE 7	10,985,415	3.97	436,121	3.97%	436,121	0	1.90%	208,705	-227,416	-227,416
	HORSESHOE LAKE 8	29,108,074	9.57	2,785,643	6.02%	1,751,851	(1,033,792)	5.16%	1,503,139	-1,282,504	-248,712
	SEMINOLE 1	32,468,391	3.72	1,207,824	3.83%	1,242,155	34,331	3.32%	1,079,431	-128,393	-162,724
	SEMINOLE 2	44,903,852	4.59	2,061,087	4.37%	1,961,070	(100,017)	4.02%	1,803,465	-257,622	-157,604
	SEMINOLE 3	32,494,674	2.39	776,623	3.27%	1,061,754	285,132	2.98%	967,641	191,018	-94,113
	MUSKOGEE 4	71,581,697	3.27	2,340,721	3.41%	2,440,439	99,717	3.27%	2,340,964	243	-99,475
	MUSKOGEE 5	52,439,504	2.14	1,122,205	2.57%	1,349,707	227,501	2.48%	1,298,099	175,894	-51,608
	MUSKOGEE 6	94,009,241	2.60	2,444,240	2.46%	2,313,785	(130,455)	2.42%	2,270,326	-173,914	-43,459
	SOONER 1	43,344,918	1.83	793,212	2.60%	1,128,117	334,905	2.47%	1,068,941	275,729	-59,176
	SOONER 2	49,136,488	2.43	1,194,017	2.64%	1,298,891	104,874	2.53%	1,244,679	50,662	-54,212
	RIVER VALLEY 1	53,028,756	0.41	217,418	2.52%	1,336,447	1,119,029	2.45%	1,301,500	1,084,082	-34,946
	RIVER VALLEY 2	30,735,122	0.50	153,676	2.28%	701,401	547,725	2.23%	685,478	531,802	-15,923
	TOTAL TURBOGENERATOR UNITS	555,078,332		17,461,614	3.41%	18,950,563	1,488,949		17,198,370	(263,244)	(1,752,194)
315	ACCESSORY ELECTRIC EQUIPMENT										
	HORSESHOE LAKE 6	3,348,719	14.48	484,895	14.48%	484,895	0	9.84%	329,592	-155,302	-155,302
	HORSESHOE LAKE 7	2,377,714	7.37	175,238	7.37%	175,238	0	5.30%	126,015	-49,223	-49,223
	HORSESHOE LAKE 8	2,799,956	4.26	119,278	2.46%	68,982	(50,296)	1.62%	45,224	-74,054	-23,758
	SEMINOLE 1	4,042,504	3.67	148,360	5.08%	205,517	57,157	4.21%	170,335	21,975	-35,182
	SEMINOLE 2	3,287,888	7.16	235,413	5.00%	164,505	(70,908)	4.66%	153,251	-82,162	-11,254
	SEMINOLE 3	5,362,861	1.82	97,604	2.20%	117,890	20,286	1.92%	102,718	5,114	-15,172
	MUSKOGEE 4	34,848,214	3.00	1,045,446	2.50%	871,993	(173,453)	2.37%	824,434	-221,012	-47,559
	MUSKOGEE 5	12,449,797	1.68	209,157	1.77%	220,444	11,288	1.67%	208,485	-671	-11,959
	MUSKOGEE 6	44,124,866	1.27	560,386	1.62%	714,468	154,082	1.58%	695,028	134,642	-19,440
	SOONER 1	25,739,512	1.27	326,892	1.63%	420,437	93,545	1.50%	386,093	59,201	-34,344
	SOONER 2	13,215,686	1.58	208,808	1.54%	203,123	(5,685)	1.43%	188,885	-19,923	-14,238
	RIVER VALLEY 1	41,676,296	0.28	116,694	1.97%	821,727	705,033	1.91%	795,940	679,246	-25,787
	RIVER VALLEY 2	1,565,529	1.13	17,690	3.56%	55,788	38,098	3.52%	55,063	37,373	-725
	TOTAL ACCESSORY ELECTRIC EQUIPMENT	194,839,542		3,745,859	2.32%	4,525,007	779,148		4,081,063	335,204	(443,944)
316	MISCELLANEOUS POWER PLANT EQUIPMENT										
	HORSESHOE LAKE 6	2,111,076	11.10	234,329	11.10%	234,329	(0)	6.46%	136,425	-97,905	-97,905
	HORSESHOE LAKE 7	1,116,214	3.15	35,161	3.15%	35,161	0	1.08%	12,053	-23,107	-23,107
	HORSESHOE LAKE 8	3,830,753	2.94	112,624	12.40%	474,851	362,226	11.45%	438,453	325,829	-36,397
	SEMINOLE 1	4,188,322	4.89	204,809	6.02%	252,281	47,472	5.21%	218,376	13,567	-33,905
	SEMINOLE 2	21,726	7.49	1,627	0.99%	216	(1,411)	-1.43%	(312)	-1,939	-528
	SEMINOLE 3	300,618	2.96	8,898	4.93%	14,829	5,930	4.55%	13,668	4,770	-1,161
	MUSKOGEE 4	10,582,057	4.44	469,843	4.54%	480,108	10,265	4.34%	459,563	-10,281	-20,546
	MUSKOGEE 5	703,624	1.89	13,298	3.99%	28,100	14,801	3.68%	25,909	12,611	-2,191
	MUSKOGEE 6	4,642,616	1.75	81,246	2.77%	128,713	47,467	2.61%	121,177	39,932	-7,535
	SOONER 1	9,176,698	3.17	290,901	4.33%	397,077	106,176	4.13%	379,008	88,107	-18,069
	SOONER 2	2,423,736	2.16	52,353	3.59%	87,112	34,759	3.26%	78,898	26,545	-8,213
	RIVER VALLEY 1	20,631,345	0.19	39,200	3.50%	722,803	683,603	3.34%	689,951	650,751	-32,852
	RIVER VALLEY 2	32,329			4.75%	1,536	1,536	4.51%	1,459	1,459	-77
	POWER SUPPLY SERVICES	2,858,584	1.67	47,738	4.16%	118,986	71,247	4.16%	118,986	71,247	0
	TOTAL MISCELLANEOUS POWER PLANT EQUIPMENT	62,619,698		1,592,028		2,976,101	1,384,072		2,693,615	1,101,586	(282,486)
	TOTAL STEAM PRODUCTION PLANT	**3,289,782,854**	2.76%	**90,713,068**	**3.05%**	**100,261,931**	**9,548,862**	**2.83%**	**93,094,144**	**2,381,076**	**(7,167,787)**
	OTHER PRODUCTION PLANT										
340.2	RIGHTS OF WAY										
	MUSTANG CTs	10,815	0.00	0	0.69%	74	74	0.69%	74	74	0

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			Current		OGE Proposed			PUD Proposed				
	Account	Plant Balance	Accrual rate	Accrual $	OGE Proposed Accrual rate	OGE Proposal Accrual $	OGE Difference From Current	PUD Proposed Accrual rate	PUD Proposal Accrual $	PUD Difference From Current	PUD Difference From OGE.
341	STRUCTURES AND IMPROVEMENTS										
	REDBUD 1	34,235,763	2.11	722,375	2.34%	800,614	78,240	2.18%	747,006	24,631	-53,609
	REDBUD 2	318,306	3.33	10,600	3.17%	10,076	(524)	3.01%	9,591	-1,009	-485
	REDBUD 3	265,177	3.44	9,122	3.11%	8,251	(871)	2.96%	7,846	-1,276	-405
	REDBUD 4	288,878	3.32	9,591	3.06%	8,831	(759)	2.90%	8,390	-1,201	-441
	HORSESHOE LAKE 9 AND 10	1,201,774	3.14	37,736	2.56%	30,730	(7,006)	2.16%	25,981	-11,755	-4,749
	TINKER	1,781,246	8.86	157,818	8.86%	157,818	0	7.19%	128,131	-29,687	-29,687
	MCCLAIN GAS 1	11,750,959	2.56	300,825	5.01%	588,369	287,544	4.69%	551,219	250,395	-37,150
	MCCLAIN GAS 2	1,788,683	1.59	28,440	2.30%	41,105	12,665	2.12%	37,999	9,559	-3,106
	MCCLAIN STEAM 1	1,070,785	1.83	19,595	2.58%	27,607	8,011	2.40%	25,732	6,137	-1,875
	FRONTIER 1	8,395,038	2.44	204,839	1.96%	164,266	(40,573)	1.82%	152,845	-51,994	-11,421
	MUSTANG CTs	43,721,045	2.83	1,237,306	2.75%	1,201,260	(36,046)	2.62%	1,143,452	-93,853	-57,807
	TOTAL STRUCTURES AND IMPROVEMENTS	104,817,655		2,738,246		3,038,927	300,681		2,838,193	99,947	(200,734)
341	STRUCTURES AND IMPROVEMENTS - WIND										
	CENTENNIAL	3,014,587	3.22	97,070	6.36%	191,715	94,645	3.88%	116,898	19,829	-74,816
	OU SPIRIT	5,228,646	3.22	168,362	4.85%	253,456	85,094	3.35%	175,145	6,782	-78,312
	CROSSROADS	11,538,638	3.48	401,545	4.51%	520,285	118,740	3.49%	402,406	861	-117,879
	TOTAL STRUCTURES AND IMPROVEMENTS - WIND	19,781,871		666,977		965,456	298,479		694,449	27,472	(271,007)
341	STRUCTURES AND IMPROVEMENTS - SOLAR	4,465,531	2.74	122,356	4.24%	189,304	66,948	2.71%	120,977	-1,379	-68,327
342	FUEL HOLDERS, PRODUCERS AND ACCESSORIES										
	REDBUD 1	12,117,606	1.87	226,599	2.23%	270,579	43,980	2.08%	252,068	25,469	-18,511
	REDBUD 2	690,651	1.82	12,570	2.22%	15,306	2,736	2.06%	14,250	1,681	-1,056
	REDBUD 3	691,292	1.82	12,582	2.22%	15,322	2,740	2.06%	14,265	1,684	-1,057
	REDBUD 4	719,786	1.88	13,532	2.25%	16,184	2,653	2.10%	15,085	1,553	-1,099
	TINKER	167,151	3.55	5,934	3.55%	5,934	0	1.88%	3,150	-2,784	-2,784
	MCCLAIN GAS 1	354,085	1.53	5,418	2.13%	7,536	2,118	1.96%	6,925	1,507	-611
	MCCLAIN GAS 2	260,457	1.63	4,245	2.22%	5,780	1,534	2.05%	5,330	1,085	-449
	FRONTIER 1	978,948	1.37	13,412	1.16%	11,361	(2,051)	1.02%	9,942	-3,469	-1,418
	MUSTANG CTs	7,657,023	2.74	209,802	2.79%	213,481	3,678	2.66%	203,775	-6,028	-9,706
	TOTAL FUEL HOLDERS, PRODUCERS AND ACCESSORIES	23,636,999		504,093		561,482	57,389		524,792	20,699	(36,690)
343	PRIME MOVERS										
	REDBUD 1	93,479,687	2.92	2,729,607	2.76%	2,576,294	(153,313)	2.58%	2,415,783	-313,824	-160,511
	REDBUD 2	67,426,482	2.65	1,786,802	3.77%	2,542,815	756,013	3.61%	2,436,123	649,321	-106,692
	REDBUD 3	67,539,780	2.44	1,647,971	2.62%	1,766,259	118,289	2.44%	1,648,659	689	-117,600
	REDBUD 4	61,546,829	2.57	1,581,754	2.60%	1,597,532	15,778	2.42%	1,490,229	-91,525	-107,303
	HORSESHOE LAKE 9 AND 10	8,902,621	4.37	389,045	3.68%	327,585	(61,459)	3.25%	289,701	-99,344	-37,885
	TINKER	4,550,058	6.94	315,774	0.00%	0	(315,774)	-1.67%	(75,834)	-391,608	-75,834
	MCCLAIN GAS 1	110,863,190	2.15	2,383,559	2.67%	2,959,658	576,099	2.48%	2,744,481	360,922	-215,177
	MCCLAIN GAS 2	105,433,620	1.99	2,098,129	2.51%	2,644,031	545,902	2.31%	2,436,000	337,871	-208,030
	MCCLAIN STEAM 1	52,753,857	1.55	817,685	2.31%	1,221,238	403,553	2.11%	1,114,827	297,142	-106,411
	FRONTIER 1	65,667,528	2.35	1,543,187	2.12%	1,388,959	(154,227)	1.93%	1,264,692	-278,495	-124,268
	MUSTANG CTs	263,333,261	3.00	7,899,998	3.04%	8,002,795	102,797	2.90%	7,634,395	-265,603	-368,401
	TOTAL PRIME MOVERS	901,496,913		23,193,508		25,027,166	1,833,657		23,399,054	205,546	(1,628,111)
	LTSA										
343.1	20-YEAR										
	REDBUD 1	1,490,678	7.70	114,782	1.55%	23,075	(91,707)	1.55%	23,075	-91,707	0

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			Current		OGE Proposed			PUD Proposed				
	Account	Plant Balance	Accrual rate	Accrual $	OGE Proposed Accrual rate	OGE Proposal Accrual $	OGE Difference From Current	PUD Proposed Accrual rate	PUD Proposal Accrual $	PUD Difference From Current	PUD Difference From OGE.
	REDBUD 2	1,490,678	4.89	72,894	1.55%	23,075	(49,819)	1.55%	23,075	-49,819	0
	REDBUD 3	1,490,678	1.85	27,578	1.55%	23,075	(4,502)	1.55%	23,075	-4,502	0
	REDBUD 4	1,490,678	3.95	58,882	1.55%	23,075	(35,807)	1.55%	23,075	-35,807	0
	20 YR Total	5,962,712		274,136		92,300	(181,835)		92,300	(181,835)	0
343.2	6-YEAR										
	REDBUD 1	6,096,068	20.98	1,278,955	10.56%	643,511	(635,444)	10.56%	643,511	-635,444	0
	REDBUD 2	13,864,899	19.96	2,767,434	10.56%	1,463,601	(1,303,833)	10.56%	1,463,601	-1,303,833	0
	REDBUD 3	13,998,897	18.86	2,640,192	10.56%	1,477,746	(1,162,446)	10.56%	1,477,746	-1,162,446	0
	REDBUD 4	5,993,168	19.62	1,175,860	10.56%	632,648	(543,211)	10.56%	632,648	-543,211	0
	MCCLAIN GAS 1	15,798,603	15.94	2,518,297	10.56%	1,667,726	(850,572)	10.56%	1,667,726	-850,572	0
	MCCLAIN GAS 2	15,810,675	16.14	2,551,843	10.56%	1,669,000	(882,843)	10.56%	1,669,000	-882,843	0
	6 Yr Total	71,562,310		12,932,581		7,554,232	(5,378,349)		7,554,232	(5,378,349)	0
	30-YEAR										
	MCCLAIN GAS 1	349,749	2.15	7,520	1.93%	6,747	(773)	1.93%	6,747	-773	0
	MCCLAIN GAS 2	343,590	1.99	6,837	1.93%	6,628	(209)	1.93%	6,628	-209	0
	Total 30-YR	693,339		14,357		13,375	(982)		13,375	(982)	0
	TOTAL LTSA	78,218,361		13,221,073		7,659,907	(5,561,167)		7,659,907	(5,561,167)	0
344	GENERATORS										
	REDBUD 1	717,218	2.88	20,656	2.53%	18,111	(2,545)	2.36%	16,962	-3,694	-1,148
	REDBUD 3	23,199	2.85	661	2.69%	624	(37)	2.53%	587	-74	-37
	REDBUD 4	23,035	2.81	647	2.69%	619	(28)	2.53%	583	-64	-37
	HORSESHOE LAKE 9 AND 10	36,135,688	3.79	1,369,543	2.59%	935,066	(434,477)	2.19%	790,468	-579,075	-144,598
	TINKER	3,366,088	3.67	123,535	3.67%	123,535	0	2.00%	67,434	-56,101	-56,101
	FRONTIER 1	8,118,041	1.39	112,841	1.37%	110,817	(2,024)	1.22%	99,213	-13,628	-11,604
	MUSTANG CTs	31,405,980	2.89	907,633	2.94%	924,111	16,479	2.81%	882,083	-25,549	-42,028
	TOTAL GENERATORS	79,789,249		2,535,516		2,112,883	(422,632)		1,857,330	(678,186)	(255,553)
344	GENERATORS - WIND										
	CENTENNIAL	185,423,873	3.27	6,063,361	5.62%	10,415,702	4,352,341	3.48%	6,461,647	398,286	-3,954,055
	OU SPIRIT	237,888,863	3.72	8,849,466	5.11%	12,157,779	3,308,313	3.61%	8,589,231	-260,235	-3,568,548
	CROSSROADS	349,390,682	3.73	13,032,272	4.75%	16,596,733	3,564,461	3.73%	13,030,634	-1,638	-3,566,099
	TOTAL GENERATORS - WIND	772,703,418		27,945,099		39,170,214	11,225,115		28,081,512	136,413	(11,088,702)
344	GENERATORS - SOLAR	39,650,005	3.21	1,272,765	4.35%	1,723,522	450,757	3.20%	1,269,142	-3,623	-454,380
				0							
345	ACCESSORY ELECTRIC EQUIPMENT			0							
	REDBUD 1	13,173,539	2.10	276,644	2.34%	308,434	31,790	2.19%	288,074	11,429	-20,360
	REDBUD 2	9,557,253	1.82	173,942	2.30%	219,848	45,906	2.15%	205,065	31,123	-14,783
	REDBUD 3	9,330,337	1.79	167,013	2.29%	213,535	46,522	2.13%	199,098	32,085	-14,437
	REDBUD 4	9,593,118	1.79	171,717	2.30%	220,250	48,533	2.14%	205,411	33,694	-14,839
	HORSESHOE LAKE 9 AND 10	4,874,594	3.28	159,887	2.26%	110,192	(49,695)	1.87%	91,035	-68,852	-19,157
	TINKER	3,078,637	1.09	33,557	1.09%	33,557	(0)	-0.58%	(17,753)	-51,311	-51,311
	MCCLAIN GAS 1	7,224,119	1.96	141,593	2.50%	180,512	38,919	2.33%	168,002	26,410	-12,509
	MCCLAIN GAS 2	6,049,899	1.47	88,934	2.19%	132,441	43,508	2.01%	121,899	32,965	-10,542
	MCCLAIN STEAM 1	3,740,436	1.32	49,374	2.12%	79,250	29,876	1.94%	72,718	23,344	-6,532
	FRONTIER 1	7,857,363	1.43	112,360	1.43%	112,347	(13)	1.30%	101,927	-10,433	-10,420
	MUSTANG CTs	25,263,658	2.83	714,962	2.81%	709,672	(5,290)	2.68%	677,181	-37,781	-32,491
	TOTAL ACCESSORY ELECTRIC EQUIPMENT	99,742,953		2,089,982		2,320,037	230,055		2,112,655	22,673	(207,382)
345	ACCESSORY ELECTRIC EQUIPMENT - WIND										
	CENTENNIAL	2,324,844	5.32	123,682	8.41%	195,479	71,797	5.31%	123,517	-165	-71,962

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	OU SPIRIT	4,871,019	5.92	288,364	7.48%	364,120	75,755	5.30%	258,223	-30,142	-105,897
	CROSSROADS	45,877,900	4.04	1,853,467	5.07%	2,326,856	473,388	4.03%	1,848,258	-5,210	-478,598
	TOTAL ACCESSORY ELECTRIC EQUIPMENT - WIND	53,073,763		2,265,513		2,886,454	620,941		2,229,997	(35,516)	(656,457)
345	ACCESSORY ELECTRIC EQUIPMENT - SOLAR	9,653,560	2.77	267,404	4.16%	401,710	134,307	2.74%	264,104	-3,300	-137,606
346	MISCELLANEOUS POWER PLANT EQUIPMENT										
	REDBUD 1	2,774,340	3.12	86,559	3.88%	107,581	21,022	3.63%	100,709	14,149	-6,872
	REDBUD 2	18,098	2.85	516	3.73%	675	159	3.47%	627	112	-47
	REDBUD 3	13,800	3.44	475	4.24%	585	110	4.03%	556	81	-30
	REDBUD 4	20,045	3.27	655	4.10%	821	166	3.88%	777	122	-44
	HORSESHOE LAKE 9 AND 10	1,033,095	2.93	30,270	2.87%	29,663	(606)	2.28%	23,573	-6,697	-6,091
	TINKER	61,581	20.01	12,322	20.01%	12,322	0	18.34%	11,296	-1,026	-1,026
	MCCLAIN GAS 1	5,975,450	2.53	151,179	3.57%	213,582	62,403	3.27%	195,106	43,927	-18,476
	FRONTIER 1	5,299,221	2.10	111,284	3.04%	161,098	49,815	2.76%	146,116	34,832	-14,983
	MUSTANG CTs	7,704,785	3.02	232,685	3.51%	270,231	37,547	3.21%	247,658	14,973	-22,573
	TOTAL MISCELLANEOUS POWER PLANT EQUIPMENT	22,900,415		625,944	0	796,559	170,615		726,417	100,473	(70,142)
346	MISCELLANEOUS POWER PLANT EQUIPMENT - WIND										
	CENTENNIAL	885,860	4.46	39,509	7.09%	62,838	23,329	4.89%	43,322	3,813	-19,516
	OU SPIRIT	658,794	4.68	30,832	7.53%	49,577	18,745	5.63%	37,074	6,243	-12,502
	CROSSROADS	562,592	4.50	25,317	5.99%	33,684	8,367	5.07%	28,499	3,182	-5,185
	TOTAL MISCELLANEOUS POWER PLANT EQUIPMENT - WIND	2,107,246		95,658	0	146,099	50,441		108,895	13,237	(37,204)
	TOTAL OTHER PRODUCTION PLANT	**2,212,048,754**	3.51%	**77,544,134**	**3.93%**	**86,999,795**	**9,455,661**	**3.25%**	**71,887,498**	**(5,656,635)**	**(15,112,296)**
	TRANSMISSION PLANT										
350.2	LAND RIGHTS	131,963,405	1.40	1,847,488	1.37%	1,814,290	(33,198)	1.37%	1,814,290	-33,198	0
352	STRUCTURES AND IMPROVEMENTS	9,042,721	1.44	130,215	1.53%	138,791	8,576	1.71%	154,960	24,745	16,169
353	STATION EQUIPMENT	954,383,732	2.13	20,328,373	2.12%	20,269,880	(58,493)	2.12%	20,269,880	-58,493	0
354	TOWERS AND FIXTURES	173,271,523	1.58	2,737,690	1.57%	2,726,420	(11,270)	1.48%	2,566,034	-171,656	-160,387
355	POLES AND FIXTURES	1,117,698,049	2.16	24,142,278	2.12%	23,667,775	(474,503)	1.81%	20,276,073	-3,866,205	-3,391,702
356	OVERHEAD CONDUCTORS AND DEVICES	693,683,857	2.11	14,636,729	2.01%	13,942,116	(694,613)	1.51%	10,491,662	-4,145,068	-3,450,454
358	UNDERGROUND CONDUCTORS AND DEVICES	110,494	2.22	2,453	0.00%	0	(2,453)	0.00%	-	-2,453	0
	TOTAL TRANSMISSION PLANT	**3,080,153,781**	2.07%	**63,825,227**	**2.03%**	**62,559,272**	**(1,265,955)**	**1.80%**	**55,572,898**	**(8,252,329)**	**(6,986,374)**
	DISTRIBUTION PLANT										
360.2	LAND RIGHTS	6,459,925	1.27	82,041	1.31%	84,383	2,341	1.31%	84,383	2,341	0
361	STRUCTURES AND IMPROVEMENTS	7,971,930	1.47	117,187	1.51%	120,585	3,397	1.70%	135,642	18,454	15,057
362	STATION EQUIPMENT	877,615,427	2.18	19,132,016	2.31%	20,291,014	1,158,998	2.31%	20,291,014	1,158,998	0
363	STORAGE BATTERY	851,046	6.75	57,446	6.91%	58,780	1,334	6.91%	58,780	1,334	0
364	POLES, TOWERS AND FIXTURES	786,956,009	2.47	19,437,813	2.94%	23,115,215	3,677,401	2.64%	20,749,096	1,311,283	-2,366,119
365	OVERHEAD CONDUCTORS AND DEVICES	1,101,396,821	2.36	25,992,965	2.51%	27,644,482	1,651,517	2.42%	26,612,822	619,857	-1,031,660
366	UNDERGROUND CONDUIT	335,409,588	1.70	5,701,963	1.86%	6,227,440	525,477	1.76%	5,911,619	209,656	-315,821
367	UNDERGROUND CONDUCTORS AND DEVICES	971,654,868	2.35	22,833,889	3.07%	29,833,686	6,999,797	2.38%	23,139,376	305,486	-6,694,311
368	LINE TRANSFORMERS	670,460,796	3.59	24,069,543	4.70%	31,544,550	7,475,007	3.93%	26,317,839	2,248,297	-5,226,711
369	SERVICES	266,118,193	1.87	4,976,410	1.74%	4,623,710	(352,700)	1.63%	4,331,069	-645,341	-292,641
	METERS										
370	METERS - SMART METERS	184,961,833	4.48	8,286,290	7.89%	14,596,513	6,310,223	4.86%	8,991,613	705,323	-5,604,901
370.1	METERS - METERING EQUIPMENT	39,490,060	5.59	2,207,494	2.04%	807,233	(1,400,261)	2.04%	807,233	-1,400,261	0

OKLAHOMA GAS AND ELECTRIC COMPANY

COMPARISON OF ANNUAL DEPRECIATION ACCRUAL AMOUNTS AND RATES
RELATED TO ELECTRIC PLANT AS OF DECEMBER 31, 2022
PRODUCTION AND OTHER PRODUCTION REALLOCATED WITHIN GROUP
TRANSMISSION, DISTRIBUTION, AND GENERAL RESERVE PER BOOK

			Current		OGE Proposed			PUD Proposed			
	Account	Plant Balance	Accrual rate	Accrual $	OGE Proposed Accrual rate	OGE Proposal Accrual $	OGE Difference From Current	PUD Proposed Accrual rate	PUD Proposal Accrual $	PUD Difference From Current	PUD Difference From OGE.
	TOTAL METERS	224,451,893		10,493,784		15,403,746	4,909,962		9,798,846	(694,939)	(5,604,901)
371	INSTALLATIONS ON CUSTOMERS' PREMISES	57,414,311	4.04	2,319,538	4.05%	2,324,969	5,431	4.05%	2,324,969	5,431	0
373	STREET LIGHTING AND SIGNAL SYSTEMS	316,836,035	4.42	14,004,153	5.35%	16,957,364	2,953,211	5.35%	16,957,364	2,953,211	0
	TOTAL DISTRIBUTION PLANT	**5,623,596,842**	2.65%	**149,218,749**	**3.17%**	**178,229,924**	**29,011,174**	**2.79%**	**156,712,818**	**7,494,069**	**(21,517,105)**
	GENERAL PLANT										
389.2	LAND RIGHTS	178,598	2.24	4,001	2.10%	3,753	(248)	2.10%	3,753	-248	0
390	STRUCTURES AND IMPROVEMENTS	228,678,766	1.48	3,384,446	1.94%	4,441,385	1,056,939	1.94%	4,441,385	1,056,939	0
	OFFICE FURNITURE AND EQUIPMENT										
391	OFFICE FURNITURE AND EQUIPMENT	19,379,183	8.14	1,577,465	10.07%	1,951,594	374,128	10.07%	1,951,594	374,128	0
391.1	COMPUTER EQUIPMENT	74,525,311	21.69	16,164,540	19.58%	14,591,706	(1,572,834)	19.58%	14,591,706	-1,572,834	0
	TOTAL OFFICE AND FURNITURE EQUIPMENT	93,904,494		17,742,005		16,543,300	(1,198,706)	0.00%	16,543,300	-1,198,706	0
	TRANSPORTATION EQUIPMENT										
392.1	CARS AND TRUCKS	27,059,844	5.04	1,363,816	6.98%	1,887,734	523,918	6.98%	1,887,734	523,918	0
392.5	HEAVY TRUCKS	78,137,483	5.30	4,141,287	6.04%	4,720,062	578,775	6.04%	4,720,062	578,775	0
392.6	TRAILERS	10,015,704	3.23	323,507	3.03%	303,320	(20,187)	3.03%	303,320	-20,187	0
	TOTAL TRANSPORTATION EQUIPMENT	115,213,031		5,828,610		6,911,115	1,082,505		6,911,115	1,082,505	0
393	STORES EQUIPMENT	1,198,089	5.48	65,655	4.87%	58,387	(7,268)	4.87%	58,387	-7,268	0
394	TOOLS, SHOP AND GARAGE EQUIPMENT	28,819,877	5.07	1,461,168	4.24%	1,222,160	(239,008)	4.24%	1,222,160	-239,008	0
395	LABORATORY EQUIPMENT	11,310,063	8.75	989,631	6.38%	722,112	(267,518)	6.38%	722,112	-267,518	0
396	POWER OPERATED EQUIPMENT	16,256,047	3.48	565,710	4.54%	737,212	171,502	4.54%	737,212	171,502	0
397	COMMUNICATION EQUIPMENT	34,537,031	9.99	3,450,249	10.27%	3,547,456	97,207	10.27%	3,547,456	97,207	0
398	MISCELLANEOUS EQUIPMENT	12,469,947	2.08	259,375	4.42%	551,169	291,794	4.42%	551,169	291,794	0
	TOTAL GENERAL PLANT	**542,565,943**	6.22%	**33,750,850**	**6.40%**	**34,738,050**	**987,200**	**6.40%**	**34,738,050**	**987,200**	**0**
	TOTAL DEPRECIABLE ELECTRIC PLANT	**15,085,707,448**	2.94%	**444,167,153**	**3.32%**	**501,589,168**	**57,422,015**	**2.89%**	**436,399,056**	**(7,768,097)**	**(65,190,112)**

NOTES:

1) ACCOUNTS BELOW WILL HAVE THE FOLLOWING RATES .

303.4 MISCELLANEOUS INTANGIBLE PLANT - SAP S4 SOFTWARE	6.67%
311-316 NEW UNITS AT HORSESHOE LAKE ARE PROJECTED TO HAVE A RATE OF	3.00%
358 WHEN PLANT IS ADDED WHERE THE PLANT BALANCE IS GREATER THAN ACCUMULATED DEPRECIATION PROPOSEI	2.22%

OKLAHOMA GAS AND ELECTRIC COMPANY

BREAKDOWN OF ANNUAL DEPRECIATION ACCRUAL AMOUNTS AND RATES BASED ON SETTLEMENT
RELATED TO ELECTRIC PLANT AS OF DECEMBER 31, 2020
Source: OGE response to FEA 04-01

		EXISTING				OGE PROPOSED				PUD PROPOSED			
	ACCOUNT	PROBABLE RETIREMENT DATE	EXISTING SURVIVOR CURVE		NET SALVAGE PERCENT	PROBABLE RETIREMENT DATE	ASL	SURVIVOR CURVE	NET SALVAGE PERCENT	PROBABLE RETIREMENT DATE	ASL	SURVIVOR CURVE	NET SALVAGE PERCENT
	INTANGIBLE PLANT												
302.0	FRANCHISES AND CONSENTS		25-SQ		0		25	SQ	0		25	SQ	0%
303.1	MISCELLANEOUS INTANGIBLE PLANT - SOFTWARE - 5-YEAR		5-SQ		0		5	SQ	0		10	SQ	0%
303.2	MISCELLANEOUS INTANGIBLE PLANT - SOFTWARE - 10-YEAR												
	FULLY DEPRECIATED						10	SQ	0		10	SQ	0%
	AMORTIZED		10-SQ		0								
	TOTAL SOFTWARE - 10-YEAR												
	TOTAL INTANGIBLE PLANT												
	STEAM PRODUCTION PLANT												
310.2	RIGHTS OF WAY												
	HORSESHOE LAKE 6	06-2023	100-S4	*	0		100	S4	0		100	S4	0%
	SEMINOLE 1	12-2030	100-S4	*	0		100	S4	0		100	S4	0%
	MUSKOGEE 4	12-2042	100-S4	*	0		100	S4	0		100	S4	0%
	SOONER 1	12-2044	100-S4	*	0		100	S4	0		100	S4	0%
	TOTAL RIGHTS OF WAY												
311.0	STRUCTURES AND IMPROVEMENTS								-5				
	HORSESHOE LAKE 6	06-2023	105-R1.5	*	0		100	R1			100	R1	0%
	HORSESHOE LAKE 7	06-2025	105-R1.5	*	(1)		100	R1			100	R1	-1%
	HORSESHOE LAKE 8	06-2027	105-R1.5	*	(1)		100	R1			100	R1	-1%
	SEMINOLE 1	12-2030	105-R1.5	*	(1)		100	R1			100	R1	-1%
	SEMINOLE 2	12-2032	105-R1.5	*	(2)		100	R1			100	R1	-2%
	SEMINOLE 3	12-2034	105-R1.5	*	(2)		100	R1			100	R1	-2%
	MUSKOGEE 4	12-2042	105-R1.5	*	(2)		100	R1			100	R1	-2%
	MUSKOGEE 5	12-2043	105-R1.5	*	(3)		100	R1			100	R1	-3%
	MUSKOGEE 6	12-2049	105-R1.5	*	(4)		100	R1			100	R1	-4%
	SOONER 1	12-2044	105-R1.5	*	(2)		100	R1			100	R1	-2%
	SOONER 2	12-2045	105-R1.5	*	(3)		100	R1			100	R1	-3%
	RIVER VALLEY 1	12-2048	105-R1.5	*	(3)		100	R1			100	R1	-3%
	RIVER VALLEY 2	12-2048	105-R1.5	*	(4)		100	R1			100	R1	-4%
	TOTAL STRUCTURES AND IMPROVEMENTS												
312.0	BOILER PLANT EQUIPMENT								-5				
	HORSESHOE LAKE 6	06-2023	85-R1	*	0		85	R1			85	R1	0%
	HORSESHOE LAKE 7	06-2025	85-R1	*	(1)		85	R1			85	R1	-1%
	HORSESHOE LAKE 8	06-2027	85-R1	*	(1)		85	R1			85	R1	-1%
	SEMINOLE 1	12-2030	85-R1	*	(1)		85	R1			85	R1	-1%
	SEMINOLE 2	12-2032	85-R1	*	(2)		85	R1			85	R1	-2%
	SEMINOLE 3	12-2034	85-R1	*	(2)		85	R1			85	R1	-2%
	MUSKOGEE 4	12-2042	85-R1	*	(2)		85	R1			85	R1	-2%
	MUSKOGEE 5	12-2043	85-R1	*	(3)		85	R1			85	R1	-3%
	MUSKOGEE 6	12-2049	85-R1	*	(4)		85	R1			85	R1	-4%
	SOONER 1	12-2044	85-R1	*	(2)		85	R1			85	R1	-2%

OKLAHOMA GAS AND ELECTRIC COMPANY

BREAKDOWN OF ANNUAL DEPRECIATION ACCRUAL AMOUNTS AND RATES BASED ON SETTLEMENT
RELATED TO ELECTRIC PLANT AS OF DECEMBER 31, 2020
Source: OGE response to FEA 04-01

		EXISTING				OGE PROPOSED				PUD PROPOSED			
	ACCOUNT	PROBABLE RETIREMENT DATE	EXISTING SURVIVOR CURVE		NET SALVAGE PERCENT	PROBABLE RETIREMENT DATE	ASL	SURVIVOR CURVE	NET SALVAGE PERCENT	PROBABLE RETIREMENT DATE	ASL	SURVIVOR CURVE	NET SALVAGE PERCENT
	SOONER 2	12-2045	85-R1	*	(3)		85	R1			85	R1	-3%
	RIVER VALLEY 1	12-2048	85-R1	*	(3)		85	R1			85	R1	-3%
	RIVER VALLEY 2	12-2048	85-R1	*	(4)		85	R1			85	R1	-4%
	TOTAL BOILER PLANT EQUIPMENT												
314.0	TURBOGENERATOR UNITS								-5				
	HORSESHOE LAKE 6	06-2023	60-R1	*	0		60	R1			60	R1	0%
	HORSESHOE LAKE 7	06-2025	60-R1	*	(1)		60	R1			60	R1	-1%
	HORSESHOE LAKE 8	06-2027	60-R1	*	(1)		60	R1			60	R1	-1%
	SEMINOLE 1	12-2030	60-R1	*	(1)		60	R1			60	R1	-1%
	SEMINOLE 2	12-2032	60-R1	*	(2)		60	R1			60	R1	-2%
	SEMINOLE 3	12-2034	60-R1	*	(2)		60	R1			60	R1	-2%
	MUSKOGEE 4	12-2042	60-R1	*	(2)		60	R1			60	R1	-2%
	MUSKOGEE 5	12-2043	60-R1	*	(3)		60	R1			60	R1	-3%
	MUSKOGEE 6	12-2049	60-R1	*	(4)		60	R1			60	R1	-4%
	SOONER 1	12-2044	60-R1	*	(2)		60	R1			60	R1	-2%
	SOONER 2	12-2045	60-R1	*	(3)		60	R1			60	R1	-3%
	RIVER VALLEY 1	12-2048	60-R1	*	(3)		60	R1			60	R1	-3%
	RIVER VALLEY 2	12-2048	60-R1	*	(4)		60	R1			60	R1	-4%
	TOTAL TURBOGENERATOR UNITS												
315.0	ACCESSORY ELECTRIC EQUIPMENT								-5				
	HORSESHOE LAKE 6	06-2023	75-R2.5	*	0		75	R2.5			75	R2.5	0%
	HORSESHOE LAKE 7	06-2025	75-R2.5	*	(1)		75	R2.5			75	R2.5	-1%
	HORSESHOE LAKE 8	06-2027	75-R2.5	*	(1)		75	R2.5			75	R2.5	-1%
	SEMINOLE 1	12-2030	75-R2.5	*	(1)		75	R2.5			75	R2.5	-1%
	SEMINOLE 2	12-2032	75-R2.5	*	(2)		75	R2.5			75	R2.5	-2%
	SEMINOLE 3	12-2034	75-R2.5	*	(2)		75	R2.5			75	R2.5	-2%
	MUSKOGEE 4	12-2042	75-R2.5	*	(2)		75	R2.5			75	R2.5	-2%
	MUSKOGEE 5	12-2043	75-R2.5	*	(3)		75	R2.5			75	R2.5	-3%
	MUSKOGEE 6	12-2049	75-R2.5	*	(4)		75	R2.5			75	R2.5	-4%
	SOONER 1	12-2044	75-R2.5	*	(2)		75	R2.5			75	R2.5	-2%
	SOONER 2	12-2045	75-R2.5	*	(3)		75	R2.5			75	R2.5	-3%
	RIVER VALLEY 1	12-2048	75-R2.5	*	(3)		75	R2.5			75	R2.5	-3%
	RIVER VALLEY 2	12-2048	75-R2.5	*	(4)		75	R2.5			75	R2.5	-4%
	TOTAL ACCESSORY ELECTRIC EQUIPMENT												
316.0	MISCELLANEOUS POWER PLANT EQUIPMENT								-5				
	HORSESHOE LAKE 6	06-2023	55-R0.5	*	0		24	S1			24	S1	0%
	HORSESHOE LAKE 7	06-2025	55-R0.5	*	(1)		24	S1			24	S1	-1%
	HORSESHOE LAKE 8	06-2027	55-R0.5	*	(1)		24	S1			24	S1	-1%
	SEMINOLE 1	12-2030	55-R0.5	*	(1)		24	S1			24	S1	-1%
	SEMINOLE 2	12-2032	55-R0.5	*	(2)		24	S1			24	S1	-2%
	SEMINOLE 3	12-2034	55-R0.5	*	(2)		24	S1			24	S1	-2%
	MUSKOGEE 4	12-2042	55-R0.5	*	(2)		24	S1			24	S1	-2%
	MUSKOGEE 5	12-2043	55-R0.5	*	(3)		24	S1			24	S1	-3%

OKLAHOMA GAS AND ELECTRIC COMPANY

BREAKDOWN OF ANNUAL DEPRECIATION ACCRUAL AMOUNTS AND RATES BASED ON SETTLEMENT
RELATED TO ELECTRIC PLANT AS OF DECEMBER 31, 2020
Source: OGE response to FEA 04-01

		EXISTING				OGE PROPOSED				PUD PROPOSED			
	ACCOUNT	PROBABLE RETIREMENT DATE	EXISTING SURVIVOR CURVE		NET SALVAGE PERCENT	PROBABLE RETIREMENT DATE	ASL	SURVIVOR CURVE	NET SALVAGE PERCENT	PROBABLE RETIREMENT DATE	ASL	SURVIVOR CURVE	NET SALVAGE PERCENT
	MUSKOGEE 6	12-2049	55-R0.5	*	(4)		24	S1			24	S1	-4%
	SOONER 1	12-2044	55-R0.5	*	(2)		24	S1			24	S1	-2%
	SOONER 2	12-2045	55-R0.5	*	(3)		24	S1			24	S1	-3%
	RIVER VALLEY 1	12-2048	55-R0.5	*	(3)		24	S1			24	S1	-3%
	RIVER VALLEY 2	12-2048	55-R0.5	*	(3)		24	S1			24	S1	0%
	POWER SUPPLY SERVICES		55-R0.5		(5)		24	S1			24	S1	-5%
	TOTAL MISCELLANEOUS POWER PLANT EQUIPMENT												
	TOTAL STEAM PRODUCTION PLANT												
	OTHER PRODUCTION PLANT												
340.2	RIGHTS OF WAY												
	MUSTANG CTs	12-2054	75-S4	*	0		75	S4	0		75	S4	0%
341.0	STRUCTURES AND IMPROVEMENTS								-5				
	REDBUD 1	12-2049	55-R3	*	(1)		55	R3			55	R3	-1%
	REDBUD 2	12-2049	55-R3	*	(1)		55	R3			55	R3	-1%
	REDBUD 3	12-2049	55-R3	*	(1)		55	R3			55	R3	-1%
	REDBUD 4	12-2049	55-R3	*	(1)		55	R3			55	R3	-1%
	HORSESHOE LAKE 9 AND 10	12-2035	55-R3	*	0		55	R3			55	R3	0%
	TINKER	12-2025	55-R3	*	0		55	R3			55	R3	0%
	MCCLAIN GAS 1	12-2046	55-R3	*	(1)		55	R3			55	R3	-1%
	MCCLAIN GAS 2	12-2046	55-R3	*	(1)		55	R3			55	R3	-1%
	MCCLAIN STEAM 1	12-2046	55-R3	*	(1)		55	R3			55	R3	-1%
	FRONTIER 1	12-2048	55-R3	*	(2)		55	R3			55	R3	-2%
	MUSTANG CTs	12-2054	55-R3	*	(1)		55	R3			55	R3	-1%
	TOTAL STRUCTURES AND IMPROVEMENTS												
341.0	STRUCTURES AND IMPROVEMENTS - WIND								-5				
	CENTENNIAL	30 Year Life	45-S1.5	*	(1)	25 Year Life	45	S1.5		30 Year Life	45	S1.5	-1%
	OU SPIRIT	30 Year Life	45-S1.5	*	(2)	25 Year Life	45	S1.5		30 Year Life	45	S1.5	-2%
	CROSSROADS	30 Year Life	45-S1.5	*	(2)	25 Year Life	45	S1.5		30 Year Life	45	S1.5	-2%
	TOTAL STRUCTURES AND IMPROVEMENTS - WIND												
341.0	STRUCTURES AND IMPROVEMENTS - SOLAR	30 Year Life	35-S2		0	25 Year Life	35	S2	-2	30 Year Life	35	S2	0%
342.0	FUEL HOLDERS, PRODUCERS AND ACCESSORIES								-5				
	REDBUD 1	12-2049	55-R4	*	(1)		55	R4			55	R4	-1%
	REDBUD 2	12-2049	55-R4	*	(1)		55	R4			55	R4	-1%
	REDBUD 3	12-2049	55-R4	*	(1)		55	R4			55	R4	-1%
	REDBUD 4	12-2049	55-R4	*	(1)		55	R4			55	R4	-1%
	TINKER	12-2025	55-R4	*	0		55	R4			55	R4	0%
	MCCLAIN GAS 1	12-2046	55-R4	*	(1)		55	R4			55	R4	-1%
	MCCLAIN GAS 2	12-2046	55-R4	*	(1)		55	R4			55	R4	-1%
	FRONTIER 1	12-2048	55-R4	*	(2)		55	R4			55	R4	-2%
	MUSTANG CTs	12-2054	55-R4	*	(1)		55	R4			55	R4	-1%

OKLAHOMA GAS AND ELECTRIC COMPANY

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RELATED TO ELECTRIC PLANT AS OF DECEMBER 31, 2020
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		EXISTING				OGE PROPOSED				PUD PROPOSED			
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	TOTAL FUEL HOLDERS, PRODUCERS AND ACCESSORIES												
343.0	PRIME MOVERS								-5				
	REDBUD 1	12-2049	40-R2.5	*	(1)		40	R2.5	-1		40	R2.5	-1%
	REDBUD 2	12-2049	40-R2.5	*	(1)		40	R2.5			40	R2.5	-1%
	REDBUD 3	12-2049	40-R2.5	*	(1)		40	R2.5			40	R2.5	-1%
	REDBUD 4	12-2049	40-R2.5	*	(1)		40	R2.5			40	R2.5	-1%
	HORSESHOE LAKE 9 AND 10	12-2035	40-R2.5	*	0		40	R2.5			40	R2.5	0%
	TINKER	12-2025	40-R2.5	*	0		40	R2.5			40	R2.5	0%
	MCCLAIN GAS 1	12-2046	40-R2.5	*	(1)		40	R2.5			40	R2.5	-1%
	MCCLAIN GAS 2	12-2046	40-R2.5	*	(1)		40	R2.5			40	R2.5	-1%
	MCCLAIN STEAM 1	12-2046	40-R2.5	*	(1)		40	R2.5			40	R2.5	-1%
	FRONTIER 1	12-2048	40-R2.5	*	(2)		40	R2.5			40	R2.5	-2%
	MUSTANG CTs	12-2054	40-R2.5	*	(1)		40	R2.5			40	R2.5	-1%
	TOTAL PRIME MOVERS												
	LTSA												
343.1	6-YEAR								0				
	REDBUD 1		5-SQ		0		6	SQ			6	SQ	0%
	REDBUD 2		5-SQ		0		6	SQ			6	SQ	0%
	REDBUD 3		5-SQ		0		6	SQ			6	SQ	0%
	REDBUD 4		5-SQ		0		6	SQ			6	SQ	0%
	MCCLAIN GAS 1		5-SQ		0		6	SQ			6	SQ	0%
	MCCLAIN GAS 2		5-SQ		0		6	SQ			6	SQ	0%
343.2	20-YEAR												
	REDBUD 1		20-SQ		0		20	SQ			20	SQ	0%
	REDBUD 2		20-SQ		0		20	SQ			20	SQ	0%
	REDBUD 3		20-SQ		0		20	SQ			20	SQ	0%
	REDBUD 4		20-SQ		0		20	SQ			20	SQ	0%
	TOTAL LTSA												
	30-YEAR												
	MCCLAIN GAS 1		30-SQ		0		30	SQ			30	SQ	0%
	MCCLAIN GAS 2		30 SQ		0		30	SQ			30	SQ	0%
	TOTAL ACCOUNT 343												
344.0	GENERATORS								-5				
	REDBUD 1	12-2049	55-R2	*	(1)		55	R2			55	R2	-1%
	REDBUD 3	12-2049	55-R2	*	(1)		55	R2			55	R2	-1%
	REDBUD 4	12-2049	55-R2	*	(1)		55	R2			55	R2	-1%
	HORSESHOE LAKE 9 AND 10	12-2035	55-R2	*	0		55	R2			55	R2	0%
	TINKER	12-2025	55-R2	*	0		55	R2			55	R2	0%
	FRONTIER 1	12-2048	55-R2	*	(2)		55	R2			55	R2	-2%
	MUSTANG CTs	12-2054	55-R2	*	(1)		55	R2			55	R2	-1%
	TOTAL GENERATORS												

OKLAHOMA GAS AND ELECTRIC COMPANY

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		EXISTING				OGE PROPOSED				PUD PROPOSED			
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344.0	GENERATORS - WIND								-5				
	CENTENNIAL	30 Year Life	40-S0.5	*	(1)	25 Year Life	40	S0.5		30 Year Life	40	S0.5	-1%
	OU SPIRIT	30 Year Life	40-S0.5	*	(2)	25 Year Life	40	S0.5		30 Year Life	40	S0.5	-2%
	CROSSROADS	30 Year Life	40-S0.5	*	(2)	25 Year Life	40	S0.5		30 Year Life	40	S0.5	-2%
	TOTAL GENERATORS - WIND												
344.0	GENERATORS - SOLAR	30 Year Life	30-S2.5		0	25 Year Life	30	S2.5	0	30 Year Life	30	S2.5	0%
345.0	ACCESSORY ELECTRIC EQUIPMENT								-5				
	REDBUD 1	12-2049	60-R2.5	*	(1)		60	R3			60	R3	-1%
	REDBUD 2	12-2049	60-R2.5	*	(1)		60	R3			60	R3	-1%
	REDBUD 3	12-2049	60-R2.5	*	(1)		60	R3			60	R3	-1%
	REDBUD 4	12-2049	60-R2.5	*	(1)		60	R3			60	R3	-1%
	HORSESHOE LAKE 9 AND 10	12-2035	60-R2.5	*	0		60	R3			60	R3	0%
	TINKER	12-2025	60-R2.5	*	0		60	R3			60	R3	0%
	MCCLAIN GAS 1	12-2046	60-R2.5	*	(1)		60	R3			60	R3	-1%
	MCCLAIN GAS 2	12-2046	60-R2.5	*	(1)		60	R3			60	R3	-1%
	MCCLAIN STEAM 1	12-2046	60-R2.5	*	(1)		60	R3			60	R3	-1%
	FRONTIER 1	12-2048	60-R2.5	*	(2)		60	R3			60	R3	-2%
	MUSTANG CTs	12-2054	60-R2.5	*	(1)		60	R3			60	R3	-1%
	TOTAL ACCESSORY ELECTRIC EQUIPMENT												
345.0	ACCESSORY ELECTRIC EQUIPMENT - WIND								-5				
	CENTENNIAL	12-2036	35-S0	*	(1)		35	S0			35	S0	-1%
	OU SPIRIT	12-2039	35-S0	*	(2)		35	S0			35	S0	-2%
	CROSSROADS	12-2041	35-S0	*	(2)		35	S0			35	S0	-2%
	TOTAL ACCESSORY ELECTRIC EQUIPMENT - WIND												
345.0	ACCESSORY ELECTRIC EQUIPMENT - SOLAR	30 Year Life	35-S2.5		0	25 Year Life	35	S2.5	0	30 Year Life	35	S2.5	0%
346.0	MISCELLANEOUS POWER PLANT EQUIPMENT								-5				
	REDBUD 1	12-2049	45-R2	*	(1)		24	S1			24	S1	-1%
	REDBUD 2	12-2049	45-R2	*	(1)		24	S1			24	S1	-1%
	REDBUD 3	12-2049	45-R2	*	(1)		24	S1			24	S1	-1%
	REDBUD 4	12-2049	45-R2	*	(1)		24	S1			24	S1	-1%
	HORSESHOE LAKE 9 AND 10	12-2035	45-R2	*	0		24	S1			24	S1	0%
	TINKER	12-2025	45-R2	*	0		24	S1			24	S1	0%
	MCCLAIN GAS 1	12-2046	45-R2	*	(1)		24	S1			24	S1	-1%
	FRONTIER 1	12-2048	45-R2	*	(2)		24	S1			24	S1	-2%
	MUSTANG CTs	12-2054	45-R2	*	(1)		24	S1			24	S1	-1%
	TOTAL MISCELLANEOUS POWER PLANT EQUIPMENT												
346.0	MISCELLANEOUS POWER PLANT EQUIPMENT - WIND								-3				
	CENTENNIAL	30 Year Life	35-R2	*	(1)	25 Year Life	24	S1		30 Year Life	24	S1	-1%
	OU SPIRIT	30 Year Life	35-R2	*	(2)	25 Year Life	24	S1		30 Year Life	24	S1	-2%
	CROSSROADS	30 Year Life	35-R2	*	(2)	25 Year Life	24	S1		30 Year Life	24	S1	-2%

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	TOTAL MISCELLANEOUS POWER PLANT EQUIPMENT - WIND											
	TOTAL OTHER PRODUCTION PLANT											
	TRANSMISSION PLANT											
350.2	LAND RIGHTS		75-S4	0		75	S4	0		75	S4	0%
352.0	STRUCTURES AND IMPROVEMENTS		70-S3	(6)		70	S3	-10		70	S3	-20%
353.0	STATION EQUIPMENT		55-R1.5	(15)		57	R1.5	-20		57	R1.5	-20%
354.0	TOWERS AND FIXTURES		75-R4	(20)		75	R4	-20		75	R4	-15%
355.0	POLES AND FIXTURES		69-R0.5	(58)		75	R1	-65		75	R1	-45%
356.0	OVERHEAD CONDUCTORS AND DEVICES		70-R3	(51)		75	R3	-55		75	R3	-25%
358.0	UNDERGROUND CONDUCTORS AND DEVICES		45-S2.5	0		45	S2.5	0		45	S2.5	0%
	TOTAL TRANSMISSION PLANT											
	DISTRIBUTION PLANT											
360.2	LAND RIGHTS		75-S4	0		75	S4	0		75	S4	0%
361.0	STRUCTURES AND IMPROVEMENTS		70-R2.5	(10)		70	R2.5	-10		70	R2.5	-20%
362.0	STATION EQUIPMENT		61-R2	(30)		61	R2	-35		61	R2	-35%
363.0	STORAGE BATTERY		15-L3	0		15	L3	0		15	L3	0%
364.0	POLES, TOWERS AND FIXTURES		60-R1	(60)		55	R1	-65		60	R1	-65%
365.0	OVERHEAD CONDUCTORS AND DEVICES		60-R0.5	(50)		60	R0.5	-55		60	R0.5	-50%
366.0	UNDERGROUND CONDUIT		65-R2.5	(20)		65	R2.5	-25		65	R2.5	-20%
367.0	UNDERGROUND CONDUCTORS AND DEVICES		65-R2.5	(50)		55	R2.5	-55		65	R2.5	-50%
368.0	LINE TRANSFORMERS		48-O1	(60)		40	R0.5	-65		45	R0.5	-60%
369.0	SERVICES		60-R4	(30)		68	R4	-35		68	R4	-30%
	METERS											
370.0	METERS - SMART METERS		20-R3	(10)		15	R3	-10		20	R3	-10%
370.1	METERS - METERING EQUIPMENT		15-L0	(10)		30	L0	-10		30	L0	-10%
	TOTAL METERS											
371.0	INSTALLATIONS ON CUSTOMERS' PREMISES		15-R3	0		15	SQ	0		15	SQ	0%
373.0	STREET LIGHTING AND SIGNAL SYSTEMS		35-R1	(50)		33	R0.5	-55		33	R0.5	-55%
	TOTAL DISTRIBUTION PLANT											
	GENERAL PLANT											
389.2	LAND RIGHTS		55-R4	0		55	R4	0		55	R4	0%
390.0	STRUCTURES AND IMPROVEMENTS		50-R1	9		50	R1	-5		50	R1	-5%
	OFFICE FURNITURE AND EQUIPMENT											
391.0	OFFICE FURNITURE AND EQUIPMENT		15-SQ	0		15	SQ	0		15	SQ	0%
391.1	COMPUTER EQUIPMENT		5-SQ	0		5	SQ	0		5	SQ	0%

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	TOTAL OFFICE AND FURNITURE EQUIPMENT											
	TRANSPORTATION EQUIPMENT											
392.1	CARS AND TRUCKS		11-L3	10		11	L3	10		11	L3	10%
392.5	HEAVY TRUCKS		13-L2.5	10		13	L2.5	10		13	L2.5	10%
392.6	TRAILERS		24-S1	10		24	S1	10		24	S1	10%
	TOTAL TRANSPORTATION EQUIPMENT											
393.0	STORES EQUIPMENT		25-SQ	0		25	SQ	0		25	SQ	0%
394.0	TOOLS, SHOP AND GARAGE EQUIPMENT		25-SQ	0		25	SQ	0		25	SQ	0%
395.0	LABORATORY EQUIPMENT		20-SQ	0		20	SQ	0		20	SQ	0%
396.0	POWER OPERATED EQUIPMENT		20-L2	15		15	L0.5	15		15	L0.5	15%
397.0	COMMUNICATION EQUIPMENT		10-SQ	0		10	SQ	0		10	SQ	0%
398.0	MISCELLANEOUS EQUIPMENT		20-SQ	0		20	SQ	0		20	SQ	0%
	TOTAL GENERAL PLANT											
	TOTAL DEPRECIABLE ELECTRIC PLANT											

* INDICATES LIFE SPAN PROCEDURE WAS USED. CURVE SHOWN IS INTERIM SURVIVOR CURVE.
** NEW ASSETS IN ACCOUNT 358.00 WILL USE AN ACCRUAL RATE OF 2.22%.

NOTES:
1) NEW ACCOUNTS WILL BE ESTABLISHED AFTER DECEMBER 31, 2022 WITH THE FOLLOWING RATES .

	RATE
303.3 MISCELLANEOUS INTANGIBLE PLANT - BROADBAND LICENSING	5.00
303.4 MISCELLANEOUS INTANGIBLE PLANT - SAP S4 SOFTWARE	6.67

2) THE ACCRUAL RATE FOR NEW FIBER OPTIC ASSETS IN ACCOUNT 397.3 WILL BE 2.53% BASED ON A 40-YEAR LIFE.

CERTIFICATE OF ELECTRONIC SERVICE

This is to certify that on the 26th day of April, 2024, a true and correct copy of the above and foregoing was electronically served via the Electronic Case Filing System to those on the Official Electronic Case Filing Service List, or via electronic mail to the following persons:

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