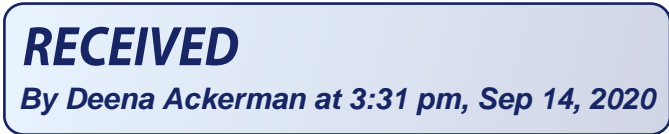


**BEFORE THE NEBRASKA PUBLIC SERVICE COMMISSION**

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**IN THE MATTER OF APPLICATION OF )  
BLACK HILLS NEBRASKA GAS, LLC, )  
D/B/A BLACK HILLS ENERGY, RAPID )  
CITY, SOUTH DAKOTA SEEKING )  
APPROVAL OF A GENERAL RATE )  
INCREASE )**

**Docket No. NG-109**



**DIRECT TESTIMONY AND EXHIBITS OF  
WILLIAM W. DUNKEL**

**ON BEHALF OF  
THE NEBRASKA PUBLIC ADVOCATE**

September 14, 2020

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- 1
- 2 Exhibit WWD-1, Professional Experience and Qualifications of William W. Dunkel
- 3 Exhibit WWD-2, Recommended Depreciation Rates and Summary Tables
- 4 Exhibit WWD-3, BHE Response to PA-226 [Re: the \$697,531 was not cost of removal]
- 5 Exhibit WWD-4, BHE Response to PA-227 [Re: \$697,531 included in Services COR]
- 6 Exhibit WWD-5, Company Reserve Adjustment in 2018 by Account
- 7 Exhibit WWD-6, Page 148 of BH NE Depreciation Study [Services Net Salvage]
- 8 Exhibit WWD-7, Corrected Services Net Salvage, Account 380
- 9 Exhibit WWD-8, Corrected Mains Net Salvage, Account 376
- 10 Exhibit WWD-9, BHE Response to PA-77 [Re: COR booked were only reserve adjustments]
- 11 Exhibit WWD-10, BHE Response to PA-197 [Re: Company Reserve Adjustment in 2018]
- 12 Exhibit WWD-11, BHE Response to PA-157. [Re: Company's practices, Account 380]
- 13 Exhibit WWD-12, BHE Response to PA-147 [Re: BHE proposed depreciation by component]
- 14 Exhibit WWD-13, BHE Response to PA-274. [Re: Both Company Net Salvage in 2013-2019]
- 15 Exhibit WWD-14, BHE Response to PA-224 [Re: \$494,489 was not cost of removal]
- 16 Exhibit WWD-15, BHE Response to PA-149. [Re: Little effort to abandon a pipeline in place]
- 17 Exhibit WWD-16, BHE Response to PA-225 [Re: \$494,489 included in Mains Cost of Removal]
- 18 Exhibit WWD-17, Page 145 of BH NE Depreciation Study [Mains Net Salvage]
- 19 Exhibit WWD-18, BHE Response to PA-146. [Re: Approx. 95% of pipe abandoned in place]
- 20 Exhibit WWD-19, BHE Response to PA-228. [Re: No impact making this reserve realignment]
- 21 Exhibit WWD-20, Services Life, 2013-2019 Experience, 1930-2019 Placement
- 22 Exhibit WWD-21, BHE Response to PA-255. [Re: Source Gas data not uploaded prior to 2012]
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- 24 Exhibit WWD-23, BHE Response to PA-249. [Re: Some older services booked mains account]
- 25 Exhibit WWD-24, BHE Response to PA-250. [Re: possible 2/3 of 1987 retirements by FIFO]
- 26 Exhibit WWD-25, BHE Response to PA-193. [Re: Elkhorn system sale]
- 27 Exhibit WWD-26, House Regulators Life, 2013-2019 Experience, 1932-2019 Placement
- 28 Exhibit WWD-27, Services Life, 1998-2012 & 2013-2019 Experience, 1930-2019 Placement

**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. BY WHOM ARE YOU EMPLOYED?**

A. I am the principal of William Dunkel and Associates (“WDA”).

**Q. ON WHOSE BEHALF ARE YOU TESTIFYING?**

A. I am testifying on behalf of the Nebraska Public Advocate.

**II. STATEMENT OF QUALIFICATIONS**

**Q. PLEASE SUMMARIZE YOUR PROFESSIONAL QUALIFICATIONS.**

A. I am the principal of William Dunkel and Associates, which was established in 1980. For over 30 years since that time, I have regularly provided consulting services in utility regulatory proceedings throughout the country. I have participated in over 250 state regulatory proceedings before over one-half of the state commissions in the United States. I provide, or have provided, services in utility regulatory proceedings to the following clients:

The Public Utility Commissions or their Staffs in these States:

Arkansas	Maryland
Arizona	Mississippi
Delaware	Missouri
District of Columbia	New Mexico
Georgia	North Carolina
Guam	Utah
Illinois	Virginia

1 Kansas Washington  
2 Maine U.S. Virgin Islands  
3

4 The Office of the Public Advocate, or its equivalent, in these States:  
5

6 Alaska Maryland  
7 California Massachusetts  
8 Colorado Michigan  
9 Connecticut Missouri  
10 District of Columbia Nebraska  
11 Florida New Jersey  
12 Georgia New Mexico  
13 Hawaii Ohio  
14 Illinois Oklahoma  
15 Indiana Pennsylvania  
16 Iowa Utah  
17 Maine Washington  
18

19 The Department of Administration in these States:  
20

21 Illinois South Dakota  
22 Minnesota Wisconsin  
23

24 I graduated from the University of Illinois in February 1970 with a Bachelor of Science  
25 Degree in Engineering Physics, with an emphasis on economics and other business-related  
26 subjects.

27 **Q. ARE YOU A MEMBER OF A DEPRECIATION PROFESSIONAL**  
28 **ORGANIZATION?**

29 A. Yes. I am a member in good standing of the Society of Depreciation Professionals. Along  
30 with a fellow expert from William Dunkel and Associates, I made a presentation pertaining  
31 to “The Largest Depreciation Issue that is Generally in Dispute in State Utility Depreciation  
32 Studies: Net Salvage” at the Society of Depreciation Professionals Conference held in  
33 September 2018 in Indianapolis, IN.

1 **Q. HAVE YOU INCLUDED A MORE DETAILED DESCRIPTION OF YOUR**  
2 **QUALIFICATIONS?**

3 A. Yes. A description of my qualifications is included as Exhibit WWD-1.

4 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE NEBRASKA PUBLIC**  
5 **SERVICE COMMISSION?**

6 A. Yes. In 2014 I testified before the Nebraska Public Service Commission pertaining to the  
7 Source Gas Nebraska depreciation rates. Source Gas is one of the two predecessor  
8 companies of Black Hills Nebraska.<sup>1</sup> I was the depreciation expert that testified on behalf  
9 of the Public Advocate in that case, Docket No. NG-0079.

10 **Q. OUTSIDE OF NEBRASKA, HAVE YOU TESTIFIED PERTAINING TO BLACK**  
11 **HILLS GAS DEPRECIATION RATES?**

12 A. Yes. In the neighboring state of Kansas, my expert testimony pertaining to the gas  
13 depreciation rates of Black Hills was filed in Docket No. 14-BHCG-502-RTS on behalf of  
14 the Kansas Corporation Commission Staff. The settlement accepted by the Kansas  
15 Corporation Commission adopted for Black Hills the depreciation rates I had proposed.<sup>2</sup>

16 **III. PURPOSE OF TESTIMONY**

17 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

---

<sup>1</sup> Page iii of the Black Hills "Application" in this proceeding.

<sup>2</sup> The Kansas Settlement "includes implementation of the depreciation rates proposed by Staff witness William Dunkel". The Settlement further states "By agreeing to such depreciation rates, Black Hills is not agreeing to the policy recommendations made by Mr. Dunkel. Black Hills is not precluded from advancing positions or arguments in future rate filings that differ from the policy recommendations made by Mr. Dunkel." Page 4 of "Stipulated Settlement Agreement, Exhibit A, attached to *Order Approving Stipulated Settlement Agreement*, dated 12-16-2014 in Kansas Docket No. 14-BHCG-502-RTS.

1 A. The primary purpose of my testimony is to address depreciation rates. I reviewed the Black  
2 Hills Nebraska (“Black Hills” or “Company”) Depreciation Study, Exhibit MCC-4, the  
3 Black Hills Service Company Depreciation Study, Exhibit MCC-5, and the associated  
4 workpapers. I reviewed the portions of the testimony of Michael Clevinger that address  
5 depreciation studies and depreciation rates, and the associated exhibits and workpapers. I  
6 prepared several rounds of discovery pertaining to depreciation and analyzed the responses.  
7 Using this information, along with my experience and judgment, I have prepared, and in  
8 this testimony present, the appropriate Black Hills Nebraska depreciation rates.

9 **Q. DO YOU ADDRESS ANY ISSUES IN THE BLACK HILLS SERVICE COMPANY**  
10 **DEPRECIATION STUDY (EXHIBIT NO. MCC-5)?**

11 A. No. All the issues I address in this testimony pertain to the Black Hills Nebraska  
12 Depreciation Study (Exhibit No. MCC-4).

13 **Q. CAN YOU SUMMARIZE THE PUBLIC ADVOCATE RECOMMENDED**  
14 **DEPRECIATION RATES?**

15 A. Yes. I recommend the depreciation rates shown on Exhibit WWD-2. The Public Advocate  
16 recommended depreciation rates, compared to the Black Hills proposed depreciation rates,  
17 are summarized below:<sup>3</sup>

18  
19

---

<sup>3</sup> Exhibit WWD-2 shows the annual accruals based on the November 30, 2019 investment levels. However, in the future as the investments change, the depreciation rates will be applied to the then current investments, which will produce a different accrual amount (generally a larger accrual in the future because the investments generally grow over time).

1  
 2

**Black Hills Nebraska**  
**Table 1: Summary of Accrual Rates and Annual Accrual Amounts**  
**At November 30, 2019 Investments**

Plant Category	11/30/19 Plant in Service	Company Proposal		Public Advocate Proposal		Difference from Company
		Accrual Rate	Annual Accrual Amount	Accrual Rate	Annual Accrual Amount	
Intangible Plant	\$1,363,943	5.50%	\$75,046	5.50%	\$75,046	
Transmission	\$6,161,197	0.66%	\$40,785	0.66%	\$40,785	
Distribution	\$669,304,085	2.32%	\$15,549,688	2.05%	\$13,731,848	(\$1,817,840)
General Plant	\$65,670,206	5.19%	\$3,411,092	5.19%	\$3,411,092	
Unrecovered Reserve			\$212,172		\$212,172	
<b>TOTAL PLANT</b>	<b>\$742,499,431</b>	<b>2.60%</b>	<b>\$19,288,783</b>	<b>2.35%</b>	<b>\$17,470,943</b>	<b>(\$1,817,840)</b>

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 4

**IV. OVERVIEW OF DEPRECIATION IN A UTILITY RATE CASE**

5 **Q. PLEASE PROVIDE AN OVERVIEW OF THE IMPACT OF DEPRECIATION**  
 6 **RATES ON THE REVENUE REQUIREMENT.**

7 A. The depreciation rate that the Commission adopts for an account is multiplied times the  
 8 investment in that account to produce a calculated annual depreciation expense for that  
 9 account. The calculated depreciation expenses for all accounts are included in the revenue  
 10 requirement that is to be recovered from the ratepayers.

11 **Q. LATER WE WILL DISCUSS “NET SALVAGE.” WHAT IMPACT DOES NET**  
 12 **SALVAGE HAVE IN THE CALCULATION OF A DEPRECIATION RATE?**



1 A. The higher the negative Net Salvage factor used, the higher the calculated depreciation rate  
2 and depreciation expense, everything else being equal. I will use the Account 380, Services,  
3 depreciation rate calculation in this case to demonstrate the impact of the Net Salvage  
4 factor.

5 On Table 2 below, line 1 is the Public Advocate recommendation and line 3 is the  
6 Company recommendation. To separate the impact of Net Salvage from the impact of Life,  
7 between lines 1 and 2, I change only the Net Salvage, and between lines 2 and 3 I change  
8 only the Life.

9 Line 1 in Table 2 shows the calculation of the annual depreciation expense for  
10 Account 380, Services, using the appropriate -20% Net Salvage factor and the appropriate  
11 44-year Average Service Life. Line 1 is my recommendation, as will be discussed.

12 Line 2 shows the impact of just changing the Net Salvage from -20% to the -40%  
13 Net Salvage factor the Company is proposing. The -40% Net Salvage factor the Company  
14 proposes increases the annual depreciation expense that would be charged to the ratepayers  
15 by \$805,702 compared to a -20% Net Salvage.<sup>4</sup> Later in this testimony, I will demonstrate  
16 the problems with the Company-proposed -40% Net Salvage.

---

<sup>4</sup> \$4,363,326 at -40% Net Salvage - \$3,557,624 at -20% Net Salvage = \$805,702 higher at -40%Net Salvage. Based on investments as of November 30, 2019.

1 Table 2: Calculation of the Depreciation Expense Using Different Net Salvages and Lives

**Account 380, Services**

11/30/2019							Annual	
Original	Net Salvage		Book	Total to	Life	Remaining	Deprec.	Deprec.
Cost	%	Amount	Reserve	Recover	Yrs.	Life	Expense	Rate
A	B	C = -A*B	D	E = A+C-D	F	G	H = E/G	I = H / A

**Line 1, Public Advocate Proposal, 44-year Life and -20% Net Salvage:**

132,537,973	-20%	26,507,595	41,999,727	117,045,841	44-S1	32.9	3,557,624	2.68%
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**Line 2, Change Only the Net Salvage, From -20% to -40%:**

132,537,973	<b>-40%</b>	53,015,189	41,999,727	143,553,435	44-S1	32.9	4,363,326	3.29%
-------------	-------------	------------	------------	-------------	-------	------	-----------	-------

**Line 3, Change Only the Life, From 44 year to 40 years,**

**With this Life Change and with the Net Salvage Change on Line 2, This is the Company Proposal:**

132,537,973	-40%	53,015,189	41,999,727	143,553,435	<b>40-S0</b>	30.6	4,695,090	3.54%
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2 **Q. LATER WE WILL DISCUSS THE “LIFE” OR “AVERAGE SERVICE LIFE.”**  
3 **WHAT IMPACT DOES THE “LIFE” SELECTED FOR USE IN THE**  
4 **CALCULATIONS HAVE IN THE CALCULATION OF A DEPRECIATION**  
5 **RATE?**

6 **A.** The shorter the life selected, the higher will be the calculated depreciation rate and  
7 depreciation expense, everything else being equal.

8 Line 2 in Table 2 uses the 44-year life I recommend.<sup>5</sup> Line 3 changes the life to the  
9 40-year life the Company recommends.<sup>6</sup> The Average Service Life is used in the  
10 calculation of the Remaining Life. As can be seen on Table 2, the Remaining Life is shorter

<sup>5</sup> As will be discussed, I recommended at 44-year Average Service Life with a S1 Iowa Curve for Account 380.

<sup>6</sup> The Company recommends a 40-year Average Service Life with a S0 Iowa Curve for Account 380. Page 51 of Exhibit MCC-4 [BH NE depreciation study].

1 when using a 40-year Average Service Life than when using a 44-year Average Service  
2 Life.

3 Comparing Line 3 to Line 2 shows the impact of changing just the Average Service  
4 Life from the 44-year life I recommend to the 40-year life the Company used. The 40-year  
5 life the Company proposes increases the annual depreciation expense that would be  
6 charged to the ratepayers by \$331,764 compared to using a 44-year life.<sup>7</sup> Later in this  
7 testimony, I will demonstrate the problems with the Company-proposed 40-year life.

8 **Q. FOR ACCOUNT 380, SERVICES, WHAT IS THE TOTAL DIFFERENCE**  
9 **BETWEEN THE PUBLIC ADVOCATE AND THE COMPANY**  
10 **RECOMMENDATIONS?**

11 A. Including both the \$805,702 difference, due to Net Salvage differences, and the \$331,764  
12 difference, due to the Life differences, the total Account 380 difference between the Public  
13 Advocate proposal (line 1 on Table 2) and the Company proposal (line 3 on Table 2) is  
14 \$1,137,466.<sup>8</sup>

15 Most of the rest of this testimony will demonstrate the appropriate Net Salvage  
16 factor and the appropriate Life for this and other accounts.

17 **Q. COULD YOU PLEASE PROVIDE THE DEFINITION OF DEPRECIATION?**

18 A. Yes. The Federal Energy Regulatory Commission (FERC) defines “depreciation” in the  
19 FERC Uniform System of Accounts (USOA), 18 CFR part 201:

---

<sup>7</sup> \$4,695,090 at 40-year life (line 3) -\$4,363,326 at 44-year life (line 2) = \$331,764 higher at 40-year life. Based on investments as of November 30, 2019.

<sup>8</sup> \$805,702+\$331,764= \$1,137,466. Based on investment as of November 30, 2019. The dollar amount of the depreciation expense will be difference in a different time period as the plant in service investment changes.

1           *Depreciation*, as applied to depreciable gas plant, means the loss in service  
2           value not restored by current maintenance, incurred in connection with the  
3           consumption or prospective retirement of gas plant in the course of service  
4           from causes which are known to be in current operation and against which  
5           the utility is not protected by insurance. Among the causes to be given  
6           consideration are wear and tear, decay, action of the elements, inadequacy,  
7           obsolescence, changes in the art, changes in demand and requirements of  
8           public authorities, and, in the case of natural gas companies, the exhaustion  
9           of natural resources.<sup>9</sup>

10           The FERC USOA definition specifically states depreciation is a “loss in service  
11           value.” FERC defines service value as “the difference between original cost and net salvage  
12           value of gas plant.”<sup>10</sup>

13           Since this is a utility regulatory proceeding, I rely on the USOA definition of  
14           depreciation which focuses on the “loss of service value.”

15   **Q.    WHAT IS A MAJOR STEP IN DETERMINING THE APPROPRIATE LIFE OR**  
16   **FUTURE NET SALVAGE FOR AN ACCOUNT?**

17   A.    A major step in determining the appropriate Average Service Life or future Net Salvage  
18           for an account is to analyze that utility’s actual Life and Net Salvage experience data for  
19           that account.

20           *Public Utility Depreciation Practices* published by the National Association of Regulatory  
21           Utility Commissioners (NARUC) agrees:

22           Knowing what happened yesterday may help one to better understand what  
23           is happening today and what may happen tomorrow. This is also true with  
24           depreciation studies. Historical life analysis is the study of past occurrences  
25           that may be used to indicate the future survivor characteristics of property.<sup>11</sup>

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<sup>9</sup> FERC Uniform System of Accounts Prescribed for Natural Gas Companies Subject to the Provision of the Natural Gas Act (18 CFR part 201).

<sup>10</sup> FERC USOA Definition 37 (18 CFR part 201).

<sup>11</sup> Page 111, *Public Utility Depreciation Practices* published by the National Association of Regulatory Utility Commissioners (NARUC) August 1996.

1 In addition to considering the Lives and Net Salvages indicated by actual Black  
2 Hills's experience data, I also reviewed and considered all other known relevant  
3 information and used informed judgment.

4 **Q. WHAT ARE THE TWO LARGEST ACCOUNTS IN THE BLACK HILLS**  
5 **NEBRASKA DEPRECIATION STUDY?**

6 A. The two largest accounts are (1) Mains, Account 376, and (2) Services, Account 380.  
7 Together these two accounts contain 67% of all the depreciable plant investment.<sup>12</sup>

8 **V. NET SALVAGE**

9 **Q. PLEASE SUMMARIZE THE ISSUE THAT WILL BE DISCUSSED IN THIS**  
10 **SECTION.**

11 A. The Company depreciation study includes claimed Cost of Removal amounts that the  
12 Company has now admitted were "not cost of removal."<sup>13</sup> For accounting reasons, in 2018  
13 the Company moved money among Depreciation Reserve subaccounts. The Company  
14 depreciation study misunderstood that activity as indicating Cost of Removal had occurred.  
15 However, that activity was not to pay for Cost of Removal; rather, it was just moving  
16 money among Depreciation Reserve subaccounts.

17 Money is taken out of the Depreciation Reserve, Account 108, to pay for the Cost  
18 of Removals.<sup>14</sup> That process is how Cost of Removals are paid for under the Uniform

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<sup>12</sup> This was determined from the Original Costs on pages 51-53 of Exhibit No. MCC-4 [the Black Hills Nebraska depreciation study].

<sup>13</sup> Company response to PA-226 which is attached as Exhibit WWD-3.

<sup>14</sup> Account 108 is the final account that effectively pays for the Cost of Removal. This fact is not altered if the money effectively passes thorough temporary or holding accounts during this process.

1 System of Accounts requirements.<sup>15</sup> As a result, observing the number of dollars taken out  
2 of the Depreciation Reserve<sup>16</sup> to pay for Cost of Removal is a means to measure the Cost  
3 of Removal amount.

4 For accounting reasons, in 2018 the Company moved \$2,683,783 among  
5 subaccounts within Account 108, the Depreciation Reserve. A total of \$2,683,783 was  
6 taken out of one Depreciation Reserve subaccount to be credited to another depreciation  
7 reserve subaccount.<sup>17</sup>

8 Moving money among the Depreciation Reserve subaccounts should have had no  
9 impact on the calculation of the depreciation rates. In response to discovery, the Company  
10 acknowledged that the reserve realignment should have no impact on the depreciation rates.

11 As the Company correctly stated in response to PA-228,

12 b) For depreciation studies and regulatory ratemaking there is no impact on  
13 making this reserve realignment as set forth in the attachment to PA-224.  
14 Depreciation studies are determined based on the total Account 108,  
15 Accumulated Depreciation, therefore, the impact is zero.<sup>18</sup> (Emphasis  
16 added.)

17 However, in some accounts the Black Hills depreciation study mistakenly  
18 interpreted the movement activity in the Depreciation Reserve as indicative of Cost of  
19 Removals occurring. However, this money was not taken out of the Depreciation Reserve

---

<sup>15</sup> The FERC Uniform System of Accounts, 18CFR201, requires the Cost of Removal be charged to the Depreciation Reserve, as follows:

**108 Accumulated provision for depreciation of gas utility plant.**

....

B. At the time of retirement of depreciable gas utility plant, this account shall be charged with the book cost of the property retired and the cost of removal and shall be credited with the salvage value and any other amounts recovered, such as insurance. (Emphasis added)

<sup>16</sup> Account 108 is the “Accumulated Provision for Depreciation of Gas Utility Plant” (“Accumulated Depreciation” or “Depreciation Reserve”).

<sup>17</sup> Attachment No.PA 9-224 Reserve Alignment, provided by the Company, shows that \$2,683,783.22 was taken out of the Depreciation Reserve subaccount 108002 and the same amount was deposited into the Depreciation Reserve subaccount 108000. This response is in Exhibit WWD-14.

<sup>18</sup> From the Company response to PA-228. This response is attached as Exhibit WWD-19.

1 subaccount to pay for Cost of Removal; it was taken out of one Depreciation Reserve  
2 subaccount to be credited to another Depreciation Reserve subaccount.

3 In response to discovery, Black Hills has admitted that some of the money they  
4 included in 2018 Cost of Removals “was not cost of removal.”<sup>19</sup>

5 I have therefore corrected these errors. I have used the correct 2018 Cost of  
6 Removals.

7 **Q. WHAT IS ONE PARAMETER THAT IS USED IN THE CALCULATION OF A**  
8 **DEPRECIATION RATE?**

9 A. Future Net Salvage is one of the parameters used in the calculation of a depreciation rate.  
10 “Net Salvage is Gross Salvage less Cost of Removal”.<sup>20</sup> Cost of Removal is the major  
11 factor in the calculation of the Net Salvage. Net Salvage has an impact in the calculation  
12 of a depreciation rate, as previously discussed.

13 **Q. WHAT IS COST OF REMOVAL?**

14 A. Cost of Removal is

15 The costs incurred in connection with the retirement from service and the  
16 disposition of depreciable plant. Cost of removal may be incurred for  
17 plant that is retired in place.<sup>21</sup>

---

<sup>19</sup> Company response to PA-226 which is attached as Exhibit WWD-3.

<sup>20</sup> Page 322, *Public Utilities Depreciation Practices*, published by the National Association of Regulatory Utility Commissioners (NARUC), August 1996.

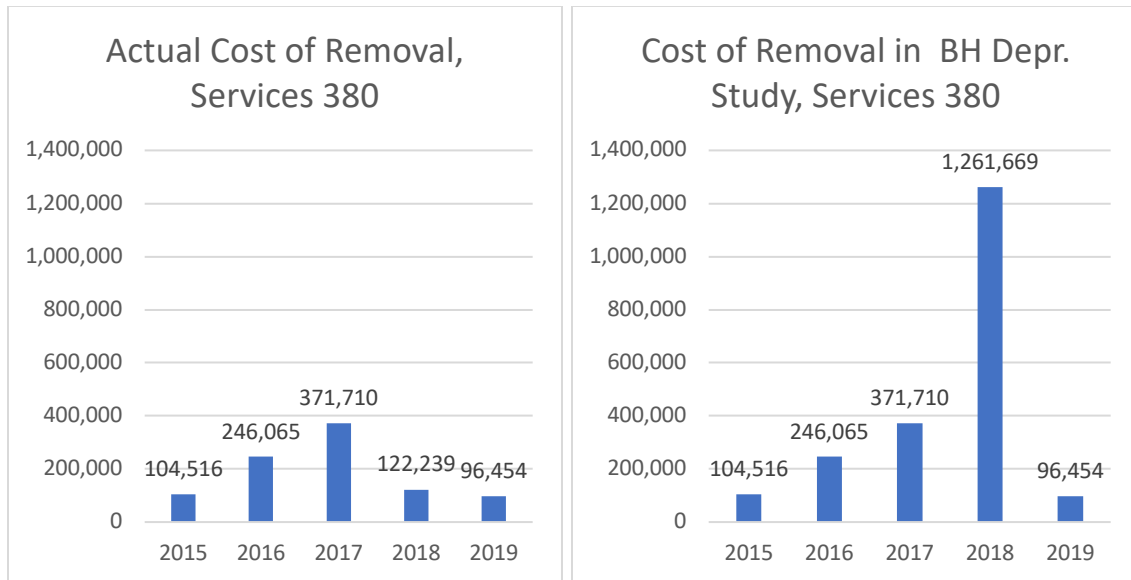
<sup>21</sup> Page 317, *Public Utilities Depreciation Practices*, published by the National Association of Regulatory Utility Commissioners (NARUC), August 1996.

**A. Net Salvage of Account 380, Services**

**Q. WHAT IS ONE ACCOUNT IN WHICH BLACK HILLS MISTAKENLY INCLUDED THE AMOUNTS TRANSFERRED AMONG DEPRECIATION RESERVE SUBACCOUNTS AS BEING COST OF REMOVAL?**

A. Account 380 is one of the accounts in which Black Hills mistakenly included the amounts transferred among Reserve subaccounts as being Cost of Removal. This error greatly overstated the 2018 Cost of Removal. For Account 380, Services, the chart below compares the actual Black Hills Nebraska Cost of Removals to the Cost of Removals for the last five years used in the Black Hills Nebraska depreciation study.<sup>22</sup>

Figure 1: Account 380 Cost of Removal



For Services, the actual Cost of Removal in 2018 was \$122,239. However, in its depreciation study Black Hills improperly used \$1,261,669 as the 2018 Cost of Removal.

<sup>22</sup> This shows the last five years. Net Salvage data for the years 2010-2019 are included in the BH NE depreciation study. There is no dispute about the Cost of Removal amounts in earlier years.



1 **Q. HAS BLACK HILLS ADMITTED THAT FOR SERVICES, THE 2018 COST OF**  
2 **REMOVAL AMOUNT IN ITS DEPRECIATION STUDY INCLUDED AMOUNTS**  
3 **THAT WERE NOT COST OF REMOVAL?**

4 Yes. In discovery we focused on a \$697,531 amount that was included in the \$1,216,669  
5 Cost of Removal Black Hills used for 2018. The Company admitted (1) the “\$697,531  
6 amount was not cost of removal,”<sup>23</sup> but the “\$697,531 was included in the \$1,261,669”<sup>24</sup>  
7 amount that the Black Hills depreciation study used as the 2018 Cost of Removal for  
8 Account 380, Services.

9 As shown on Figure 1 and on page 148 of the Black Hills depreciation study, the  
10 Black Hills depreciation study used \$1,216,669 as the 2018 Cost of Removal in Account  
11 380, Services.<sup>25</sup>

12 In summary, the “\$697,531 amount was not cost of removal,” but the “\$697,531  
13 was included in the \$1,261,669” amount that the Black Hills depreciation study used as the  
14 2018 Cost of Removal for Account 380, Services.

15 This \$697,531 was part of the transfer between two Depreciation Reserve  
16 subaccounts (“reserve realignment” or “reserve adjustment”) that the Company  
17 misinterpreted as being Cost of Removal.

18 **Q. WERE OTHER RESERVE REALIGNMENT AMOUNTS IMPROPERLY**  
19 **INCLUDED IN THE 2018 CLAIMED COST OF REMOVAL FOR ACCOUNT 380,**  
20 **SERVICES, IN THE BLACK HILLS DEPRECIATION STUDY?**

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<sup>23</sup> Company response to PA-226 which is attached as Exhibit WWD-3.

<sup>24</sup> Company response to PA-227 (c) which is attached as Exhibit WWD-4.

<sup>25</sup> The Cost of Removal amounts for Services used in the BH NE depreciation study are shown on page 148 of Exhibit No. MCC-4 [ the BH NE depreciation study]. For convenient reference that page 148 is attached as Exhibit WWD-6.

1 A. Yes. The \$697,531 is one specific amount in a larger problem. For Account 380, Services,  
2 a total of \$1,139,430 of reserve realignment, which was not Cost of Removal, was included  
3 in the 2018 Cost of Removal amount used in the Black Hills depreciation study, as shown  
4 on Exhibit WWD-5.

5 **Q. PLEASE PROVIDE THE CORRECTED SUMMARY OF BOOK SALVAGE FOR**  
6 **ACCOUNT 380, SERVICES.**

7 A. The corrected Summary of Book Salvage for Account 380, Services, is attached as Exhibit  
8 WWD-7. The only difference from page 148 of the Black Hills depreciation study is that  
9 I use the correct 2018 Cost of Removal.<sup>26</sup> All other inputs and formulas are the same as the  
10 Summary of Book Salvage for Account 380, Services, on page 148 of the Black Hills  
11 depreciation study (Exhibit No. MCC-4).

12 **Q. DID THE INCLUSION OF THE \$1,139,430 AMOUNT THAT WAS NOT COST OF**  
13 **REMOVAL RESULT IN A SIGNIFICANT ERROR IN THE COMPANY NET**  
14 **SALVAGE FOR SERVICES?**

15 A. Yes. For example, for Services, the correct average Net Salvage for the most recent five  
16 years is negative 21 percent.<sup>27</sup> The Company filing shows negative 47 percent as the  
17 claimed average Net Salvage for the most recent five years.<sup>28</sup> The negative 47 percent in  
18 the Company study is over twice the correct negative 21 percent. This difference is due  
19 entirely to the Company error in the 2018 Cost of Removal.

---

<sup>26</sup> The different 2018 Cost of Removal amount flows through the subsequent calculations.

<sup>27</sup> Exhibit WWD-7.

<sup>28</sup> Page 40 and page 148 of Exhibit No. MCC-4 [BH NE depreciation study]. That page 148 is attached as Exhibit WWD-6.

1 **B. Company Awareness of the Error**

2 **Q. WERE THE PERSONNEL PREPARING THE COMPANY DEPRECIATION**  
3 **STUDY AWARE THAT THESE REDISTRIBUTIONS WITHIN THE**  
4 **DEPRECIATION RESERVE SHOULD NOT BE INCLUDED IN THE COST OF**  
5 **REMOVAL?**

6 A. Yes. In Account 383, House Regulators, the Company depreciation study properly  
7 excluded these reserve adjustment amounts from the Cost of Removal. For Account 383, a  
8 Company response to discovery shows the personnel preparing the Company depreciation  
9 study excluded the reserve adjustment amounts because they were “Cost of Removal  
10 amounts booked that were only reserve adjustments.”<sup>29</sup> In another response the Company  
11 further correctly explained why the reserve adjustment amount was “removed” from the  
12 Cost of Removal for Account 383:

13 a) The \$560,735 amount that was recorded as Cost of Removal in 2018 for  
14 Account 383.01, House Regulators was not cost of removal of assets. This  
15 amount was an entry that was to correct the level of the accumulated  
16 depreciation amount for Account 383, not a cost of removal entry.  
17 Therefore, it was removed from the analysis of net salvage.<sup>30</sup> (Emphasis  
18 added.)

19 **Q. WAS THE RESERVE ADJUSTMENT THAT THE COMPANY PROPERLY**  
20 **EXCLUDED FROM THE 2018 COST OF REMOVAL IN ACCOUNT 383 PART**  
21 **OF THE SAME RESERVE ADJUSTMENT THAT THE COMPANY INCLUDED**  
22 **IN THE MAINS AND SERVICES ACCOUNTS?**

---

<sup>29</sup> Black Hills Response to request PA-77. “Cost of Removal” tab of Attachment No. PA 1-77A. This response is attached as Exhibit WWD-9.

<sup>30</sup> Black Hills Response to request PA-197(a). Exhibit WWD-10.

1 A. Yes. In response to PA-197, the Company provided a breakdown of the \$2,683,783.22  
2 reserve realignment amount by account.<sup>31</sup> This Company reserve realignment by account  
3 is summarized below:

4 Table 3: Company Reserve Adjustment by Account <sup>32</sup>

Account	Description	Amount
376	Distribution Mains	\$968,701
378	Measuring and Regulating Eq.	\$11,115
380	Services	\$1,139,430
383	House Regulators	\$564,580
398	Misc. Eq.	(\$43)
Total		\$2,683,783

5  
6 As this table shows, the over \$560,000 of the reserve adjustment in Account 383, which  
7 the Company properly excluded from the Account 383 Cost of Removal, is part of the same  
8 reserve adjustment that included the \$1,139,430 that the Company improperly included in  
9 the Account 380, Services, claimed Cost of Removal.<sup>33</sup>

10 In addition, the over \$560,000 of the reserve adjustment in Account 383, that the Company  
11 properly excluded from the Account 383 Cost of Removal, is part of the same reserve  
12 adjustment that included \$968,701 in Account 376, Mains. As will be discussed later, the  
13 Company improperly included this \$968,701 reserve adjustment amount in the claimed  
14 Cost of Removal of Account 376, Mains.

15 **Q. WHAT HAVE YOU DONE IN YOUR NET SALVAGE ANALYSIS?**

---

<sup>31</sup> The Company response to PA-197 is included in Exhibit WWD-10.

<sup>32</sup> Exhibit WWD-5 which is a summary by account of data on "Attachment No. PA 5-197 Reserve Adjustment", provided by Black Hills in response to Request PA-197 (PA-197 is Exhibit WWD-10).

<sup>33</sup> See Exhibit WWD-5. In addition to Mains and Services, Black Hills depreciation study also included the reserve adjustment amount in the 2018 COR of Account 378, Measuring and Regulating Equipment, in the amount of \$11,114.88. This amount was relatively small and therefore had no significant impact on the net salvage in that account.

1 In its depreciation study, Black Hills did properly remove the reserve adjustment amounts  
2 from the Cost of Removal in Account 383 because these were “Cost of Removal amounts  
3 booked that were only reserve adjustments.”<sup>34</sup> In my calculations, I have likewise removed  
4 the reserve adjustment amounts from the Cost of Removals of Services and Mains because  
5 they also were “Cost of Removal amounts booked that were only reserve adjustments.”  
6

7 **C. The Company-Proposed Charge to Ratepayers for Net Salvage is**  
8 **Excessive in Account 380**

9 **Q. PROVIDE AN OVERVIEW OF WHAT YOU WILL DEMONSTRATE IN THIS**  
10 **SECTION.**

11 A. In Account 380, Services, the annual net salvage the Company proposes to collect from  
12 ratepayers is seven times the average annual net salvage cost the Company incurs.

13 The negative Net Salvage cost incurred in Account 380 averages \$188,197 per  
14 year.<sup>35</sup> The Company proposes to collect \$1,341,454 per year just for net salvage in this  
15 same account, Account 380, Services.<sup>36</sup> Thus, for this account, the Company proposes to  
16 charge ratepayers over seven times as much per year for net salvage as the average cost the  
17 Company actually incurs per year for net salvage.<sup>37</sup>

---

<sup>34</sup> Black Hills Response to request PA-77. “Cost of Removal” tab of Attachment No. PA 1-77A. This response is attached as WWD-9.

<sup>35</sup> This \$188,197 annual average Net Salvage incurred is shown on the last line of Exhibit WWD-7.

<sup>36</sup> Exhibit WWD-12, which is the Company response to PA-147.

<sup>37</sup> \$1,341,454 proposed annual accrual / \$188,197 average incurred = 7.13 times. Account 380, Services.

1 **Q. PLEASE SUPPORT YOUR STATEMENT THAT UNDER THE COMPANY**  
2 **PROPOSAL, THE COMPANY WOULD COLLECT \$1,341,454 PER YEAR JUST**  
3 **FOR NET SALVAGE IN ACCOUNT 380, SERVICES.**

4 A. The Company depreciation proposal would produce \$4,695,090 per year depreciation  
5 expense in Account 380, Services.<sup>38</sup> In response to PA-147 the Company identified that  
6 \$1,341,454 of this accrual amount is specifically for Net Salvage. The Company stated:

7 PA-147 a. – The portion of the annual depreciation accrual amount for  
8 Account 380, Services, that relates to the net salvage is \$1,341,454 and the  
9 remaining amount of 3,353,636 relates to capital recovery or also known as  
10 the life component. (Emphasis added).<sup>39</sup>

11 **Q. FOR THE SERVICES ACCOUNT, PLEASE COMPARE THE COMPANY'S**  
12 **PROPOSAL, TO COLLECT \$1,341,454 PER YEAR FOR NET SALVAGE FROM**  
13 **THE RATEPAYERS, TO THE NET SALVAGE COSTS THE COMPANY**  
14 **ACTUAL INCURS EACH YEAR.**

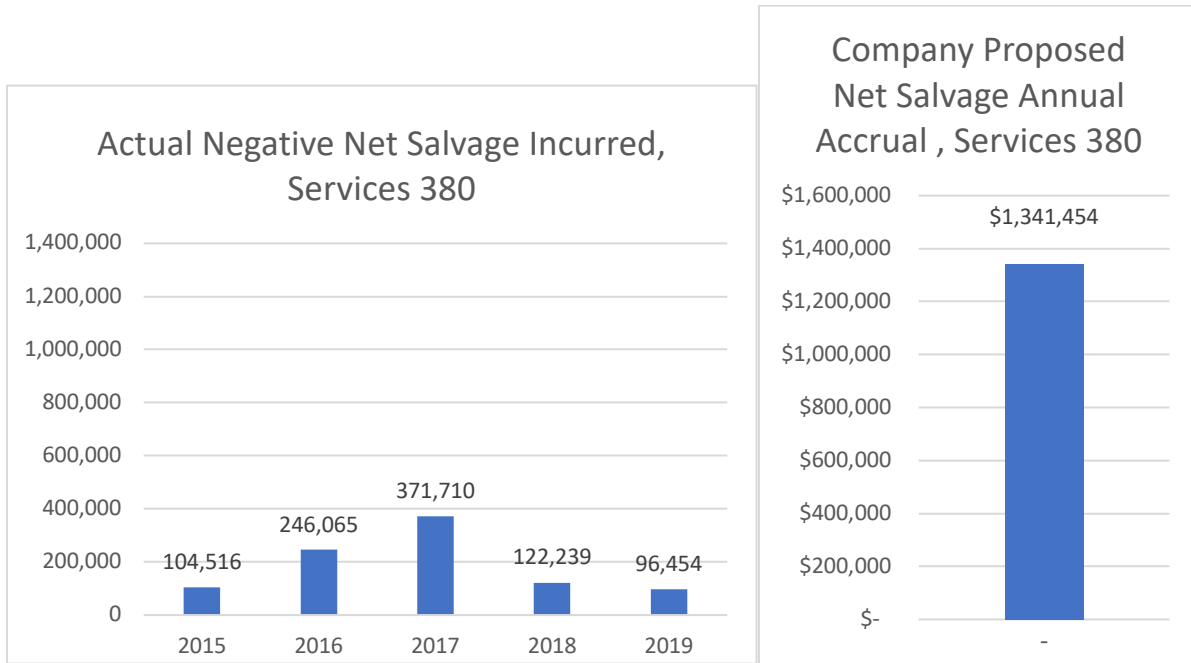
15 A. The chart below shows the Services Net Salvage costs the Company has actually incurred  
16 in each of the last five years compared to the annual accrual the Company proposes to  
17 collect from the ratepayers for Services Net Salvage:

---

<sup>38</sup> Page 51, Exhibit No. MCC-4 [BH NE Depreciation Study].

<sup>39</sup> The Company response to PA-147 is attached as Exhibit WWD-12.

1 Figure 2: Compare Net Salvage Incurred to Proposed Net Salvage Accrual, Account 380



2

3 The negative Net Salvage costs that Black Hills has actually incurred in the last five

4 years average \$188,197 per year in Account 380, Services.<sup>40</sup> The Company proposes to

5 charge the Black Hills ratepayers \$1,341,454 per year for net salvage in that same Account

6 380. For this account, the Company proposes to charge ratepayers over seven times as

7 much per year for net salvage as the average costs the Company actually incurs per year

8 for net salvage.<sup>41</sup> This excessive proposed net salvage depreciation expense (accrual) is not

9 appropriate.<sup>42</sup>

<sup>40</sup>  $+(104,516+246,065+371,710+122,239+96,454) / 5 = \$188,197$  average annual. The Company response to PA-274 states the net salvage data for these years includes the full years of data for both “BH Gas Utility” [former Aquila] and “BH Gas Distribution” [Former Source Gas]. The Company response to PA-274 is attached as Exhibit WWD-13.

<sup>41</sup> Account 380, Services.  $\$1,341,454$  proposed annual accrual /  $\$188,197$  average incurred = 7.13 times. Account 380, Services.

<sup>42</sup> In evaluating the future, the number of BH NE customers is only growing at 0.6% per year. That is a customer growth rate equivalent to 6% per decade. There is no rapid growth in customers. (Customer count data for 2019 over 2011 from responses to PA-86 and PA-223).

1 **D. Net Salvage Recommendation for Account 380, Services**

2 **Q. WHAT IS ANOTHER CONSIDERATION REGARDING THE COST OF**  
3 **REMOVAL OF SERVICES?**

4 A. One might think that to retire a service line the Company would incur the cost of excavating  
5 the entire length of a retiring service line. However, for the vast majority (approximately  
6 95%) of retiring service lines, Black Hills retires them in place, as noted in this Company  
7 response to a discovery request pertaining to Account 380, Services:

8 PA-146 b. – The construction planning manager estimated that pipe  
9 abandoned in place is approximately 95%. As most pipe would need to be  
10 excavated to be removed, the pipe is usually capped and left in place.<sup>43</sup>  
11 (Emphasis added)

12 Capping the pipe and leaving it in place is a relatively low-cost way for Black Hills to retire  
13 service lines.<sup>44</sup> In response to request PA-149, the Company stated this retirement method  
14 requires “little effort”:

15 Since there is such little effort to abandon a pipeline in place, the Company  
16 would not see a separate line item on the contractor invoices.<sup>45</sup> (Emphasis  
17 added)

18 **Q. ARE YOU OBJECTING TO BLACK HILLS RETIRING SERVICES IN PLACE?**

19 A. No, I am not objecting to Black Hills retiring services in place. However, when determining  
20 how much to collect from ratepayers for net Cost of Removal,<sup>46</sup> the Commission should be  
21 aware that for approximately 95% of the services retired, Black Hills uses the relatively  
22 low cost practice of retiring-in-place, which requires “little effort.”

---

<sup>43</sup> The Company response to PA-146 is attached as Exhibit WWD-18.

<sup>44</sup> The process to retire-in-place can be referred to as cut, cap, and purge.

<sup>45</sup> Company response to PA-149, attached as Exhibit WWD-15.

<sup>46</sup> Net Cost of Removal is the negative of Net Salvage. For example -\$100 Net Salvage = + \$100 Net Cost of Removal.



1 **Q. WHAT FUTURE NET SALVAGE DO YOU RECOMMEND FOR ACCOUNT 380,**  
2 **SERVICES?**

3 A. As shown on Exhibit WWD-7, for Account 380, Services, the overall net salvage percent  
4 for all ten years of the Black Hills data is negative 13 percent. The most recent five-year  
5 average is negative 21 percent.<sup>47</sup> Considering this and other relevant factors, I recommend  
6 a negative 20% future Net Salvage for Account 380, Services.

7 **E. Net Salvage of Account 376, Mains**

8 **Q. ABOVE YOU DISCUSSED ACCOUNT 380, SERVICES. IS THERE ANOTHER**  
9 **MAJOR ACCOUNT IN WHICH BLACK HILLS MISTAKENLY INCLUDED THE**  
10 **RESERVE REALIGNMENT AMOUNTS AS BEING COST OF REMOVAL?**

11 A. Yes. Account 376, Mains, is another major account in which Black Hills mistakenly  
12 included the amounts transferred among Depreciation Reserve subaccounts as being Cost  
13 of Removal.

14 For Account 376, Mains, the chart below shows the actual Black Hills Cost of  
15 Removal compared to the Cost of Removal used in the Black Hills depreciation study.<sup>48</sup>

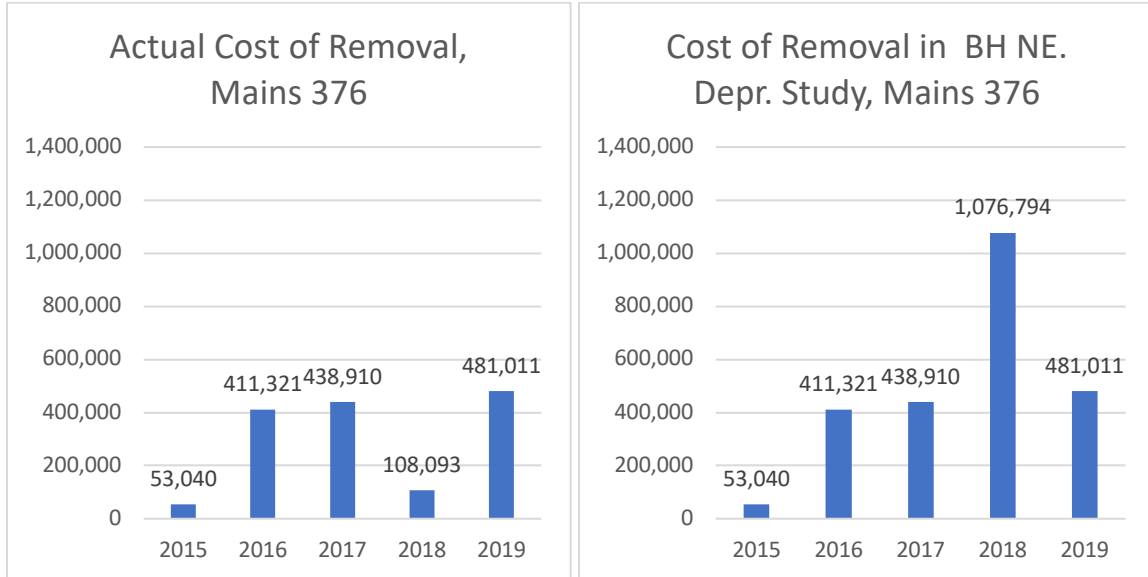
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<sup>47</sup> Exhibit WWD-7.

<sup>48</sup> This shows the last five years. Net Salvage data for the years 2010-2019 are included in the BH NE depreciation study. There is no dispute about the Cost of Removal amounts in the earlier years.

1

Figure 3: Account 376, Mains, Cost of Removal



2

3

4

For Mains, Account 376, the actual Cost of Removal in 2018 was \$108,093. However, in its depreciation study Black Hills improperly used \$1,076,794 as the 2018 Cost of Removal.

6

7

**Q. HAS BLACK HILLS ADMITTED THAT FOR MAINS, ACCOUNT 376, THE 2018 COST OF REMOVAL AMOUNT IN ITS DEPRECIATION STUDY INCLUDED AMOUNTS THAT WERE NOT COST OF REMOVAL?**

8

9

10

Yes. In discovery we focused on a \$494,489 amount that was included in the \$1,076,794 Cost of Removal Black Hills used. The Company admitted that (1) “the \$494,489 amount was not cost of removal,”<sup>49</sup> but (2) “the \$494,489 was included in the \$1,076,794 amount”<sup>50</sup> that the Black Hills depreciation study used as the 2018 Cost of Removal for Account 376, Mains.

11

12

13

14

<sup>49</sup> Company response to PA-224 which is attached as Exhibit WWD-14.

<sup>50</sup> (Emphasis added) PA-225 which is attached as Exhibit WWD-16.

1 As shown on the prior Figure 3, and on page 145 of the Black Hills depreciation  
2 study, for Account 376, Mains, the Black Hills depreciation study used \$1,076,794 as the  
3 2018 Cost of Removal.<sup>51</sup> For convenient reference, page 145 of the Black Hills  
4 depreciation study is attached as Exhibit WWD-17.

5 In summary, the “\$494,489 amount was not cost of removal” but the “\$494,489  
6 was included in the \$1,076,794 amount for 2018 shown” in the Black Hills depreciation  
7 study as the Cost of Removal for Account 376, Mains.

8 **Q. WERE OTHER RESERVE REALIGNMENT AMOUNTS IMPROPERLY**  
9 **INCLUDED IN THE 2018 CLAIMED COST OF REMOVAL FOR ACCOUNT 376,**  
10 **MAINS, IN THE BLACK HILLS DEPRECIATION STUDY?**

11 A. Yes. The \$494,489 is one specific amount in a larger problem. In total \$968,701 of reserve  
12 realignment that was not Cost of Removal was included in the 2018 Cost of Removal  
13 amount used in the Black Hills depreciation study for Account 376, Mains. This amount is  
14 shown on Exhibit WWD-5.

15 **Q. PROVIDE THE CORRECTED SUMMARY OF BOOK SALVAGE FOR**  
16 **ACCOUNT 376, MAINS.**

17 A. The corrected Summary of Book Salvage for Account 376, Mains, is attached as Exhibit  
18 WWD-8.

19 **Q. WHAT IS ANOTHER CONSIDERATION ABOUT THE COST OF REMOVAL OF**  
20 **MAINS?**

---

<sup>51</sup> The Cost of Removal amounts for Account 376, Mains, used in the BH NE depreciation study are shown on page 145 of Exhibit No. MCC-4 [ the BH NE depreciation study]. This page 145 is attached as Exhibit WWD-17.

1 A. To retire a main, one might think that the Company would incur the cost of excavating the  
2 entire length of the retiring main. However, for the vast majority (approximately 95%) of  
3 retiring mains, Black Hills retires them in place, as noted in this response to a discovery  
4 request pertaining to Account 376, Mains:

5 PA-146 a. – The construction planning manager estimated that pipe  
6 abandoned in place is approximately 95%. As most pipe would need to be  
7 excavated to be removed, the pipe is usually capped and left in place.<sup>52</sup>  
8 (Emphasis added.)

9 Cutting, purging, capping the pipe and leaving it in place is the relatively low-cost way in  
10 which Black Hills retires approximately 95% of its mains.

11 **Q. ARE YOU OBJECTING TO BLACK HILLS RETIRING MAINS IN PLACE?**

12 A. No, I am not objecting to Black Hills retiring mains in place. However, when determining  
13 how much to collect from ratepayers for net Cost of Removal, the Commission should be  
14 aware that the relatively low cost of retiring-in-place is the Cost of Removal/Retirement  
15 that is incurred for approximately 95% of the mains retired.

16 **Q. WHAT FUTURE NET SALVAGE DO YOU RECOMMEND FOR ACCOUNT 376,  
17 MAINS?**

18 As shown on Exhibit WWD-8, the overall net salvage percent for all ten years of the data  
19 is negative 19 percent. The most recent five-year average is negative 28 percent.<sup>53</sup>  
20 Considering this and other relevant factors, I recommend a negative 25% future Net  
21 Salvage for Account 376, Mains.

---

<sup>52</sup> The Company response to PA-146 is attached as Exhibit WWD-18.

<sup>53</sup> Exhibit WWD-8.

1 **Q. WHAT NET SALVAGE FACTORS DO YOU RECOMMEND?**

2 A. For the reasons discussed in this testimony, the net salvage factors I recommend which  
3 differ from the Company recommendations are:

- 4 (1) Negative 25 percent for Account 376, Mains  
5 (2) Negative 20 percent for Account 380, Services.

6 These are the two accounts that were significantly impacted by the Company  
7 inclusion of claimed Cost of Removal that “was not cost of removal.”<sup>54</sup>

8

9 **VI. LIFE OF ACCOUNT 380, SERVICES**

10 **Q. DOES THE COMPANY DEPRECIATION STUDY ADMIT THAT THE 40-YEAR**  
11 **SERVICE LIFE THE COMPANY PROPOSES FOR ACCOUNT 380, SERVICES,**  
12 **IS ON THE “LOWER END OF THE TYPICAL SERVICE LIFE RANGE”?**

13 A. Yes. The Company depreciation study admits its 40-year life proposal is at the lower end:

14 The 40-year service life is at the lower end of the typical service life range  
15 of 40 to 55 years for services.<sup>55</sup> (Emphasis added.)

16 **Q. WHAT IS THE IMPACT OF LIVES ON DEPRECIATION RATES?**

17 A. A shorter average service life produces a higher depreciation rate, everything else being  
18 equal.

19 **Q. PAGE iii OF THE COMPANY APPLICATION STATES,**

---

<sup>54</sup> From Company response to both PA-226 (Exhibit WWD-3) and PA- 224 (Exhibit WWD-14).

<sup>55</sup> Page 36 of Exhibit No. MCC-4 [BH NE depreciation study]. The use of this quotation from the Company does not imply I am necessarily supporting any survey or evaluation that the Company may have used in arriving at the Company-stated “typical service life range”. This is a statement by the Company against the Company’s interest.

1 Black Hills Nebraska Gas, LLC is the combination of Black Hills/Nebraska  
2 Gas Utility Company, LLC (“BH Gas Utility” formerly Aquila) and Black  
3 Hills Gas Distribution, LLC (“BH Gas Distribution” formerly Source Gas)

4 **IS IT PROPOSED THAT AS A RESULT OF THIS CASE THE SAME SET OF**  
5 **DEPRECIATION RATES WILL APPLY TO BOTH THE FORMER AQUILA AND**  
6 **THE FORMER SOURCE GAS?**

7 A. Yes. Currently the depreciation rates for BH Gas Utility (“former Aquila” or “Aquila”) are  
8 different from the depreciation rates for BH Gas Distribution (“former Source Gas” or  
9 “Source Gas”). The Company proposes, and I do not object, that in this case one set of  
10 depreciation rates be developed to apply to all Black Hills Nebraska Gas, including both  
11 the former Aquila and the former Source Gas.

12 **Q. WHAT DATA SHOULD BE USED TO DEVELOP THE COMMON**  
13 **DEPRECIATION RATES?**

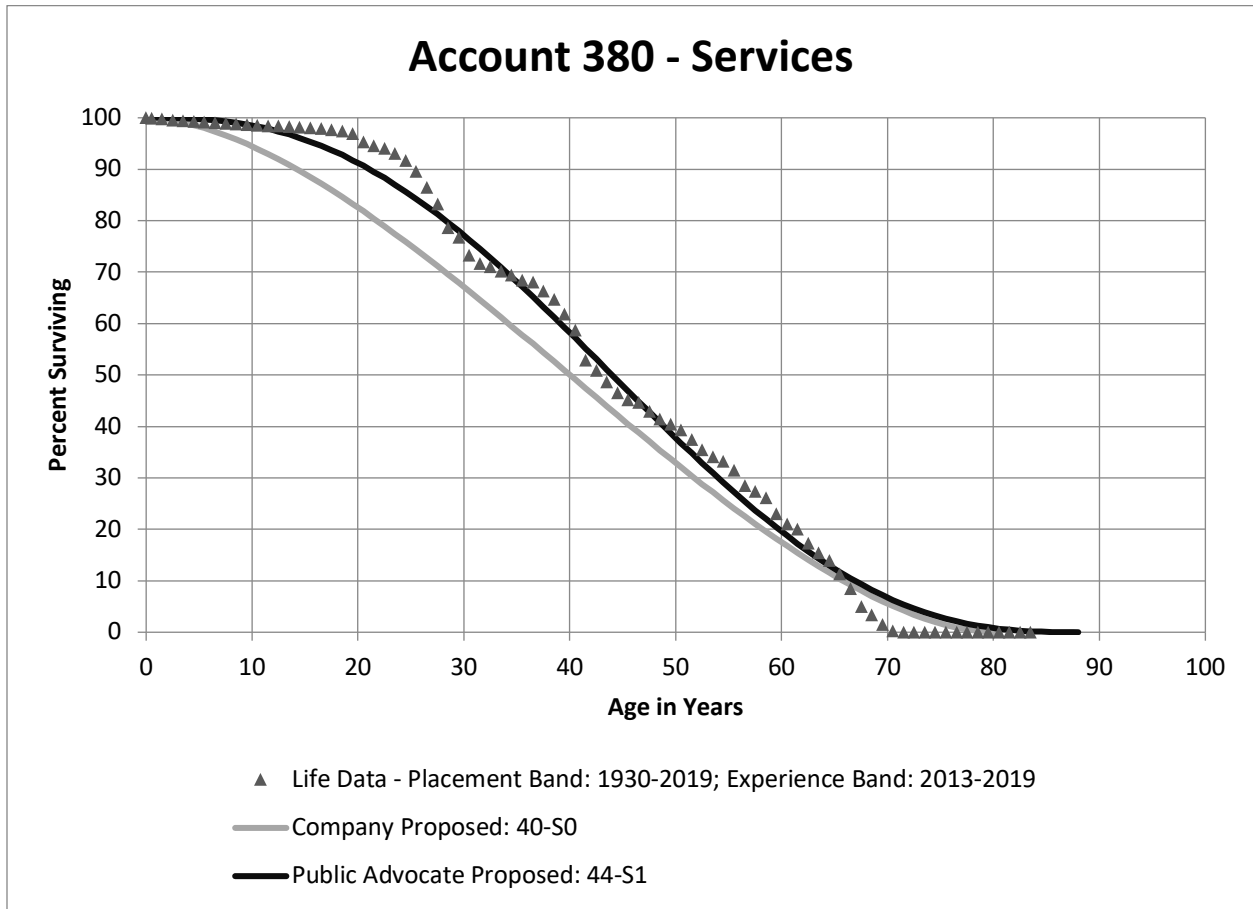
14 A. Data from both the former Aquila and the former Source Gas should consistently be used  
15 to develop a set of depreciation rates that will apply to both the former Aquila and the  
16 former Source Gas.

17 **Q. DO WE HAVE THE DATA FOR A LIFE ANALYSIS FROM BOTH THE FORMER**  
18 **AQUILA AND THE FORMER SOURCE GAS?**

19 A. Yes. The Life Data on the following Figure 4 consistently includes the life data for all  
20 Black Hills Nebraska Gas, including both the former Aquila and the former Source Gas  
21 data. This chart is for one of the largest accounts, Account 380, Services.

1

Figure 4: Account 380, Services, Life Data <sup>56</sup>



2

3

This figure also shows the Survivor Curve recommended by the Office of the Public Advocate (which includes a 44-year Average Service Life) and the Survivor Curve recommended by Black Hills (which includes a 40-year Average Service Life).

6

It is obvious from a visual inspection of Figure 4 that the Survivor Curve recommended by the Office of Public Advocate is more consistent with the actual data.

8

In addition, I have also performed the standard mathematical analysis which proves that the Survivor Curve recommended by the Office of Public Advocate is a better

9

<sup>56</sup> See Exhibit WWD-20.

1 mathematical fit to the actual data than is the Survivor Curve proposed by Black Hills. This  
2 analysis is shown on the second page of Exhibit WWD-20.

3 **A. The Company Depreciation Study Experience Years.**

4 **Q. THE COMPANY DEPRECIATION STUDY PROVIDES A CHART FOR**  
5 **ACCOUNT 380, SERVICES, IN WHICH THE “ORIGINAL” DATA APPEARS TO**  
6 **SUPPORT A 40-YEAR SERVICE LIFE.<sup>57</sup> WHAT WAS INCLUDED IN THE**  
7 **ORIGINAL DATA THE COMPANY LIFE STUDY USED?**

8 A. The Company chose to use a time period which included only Aquila life data for most of  
9 the experience years. They included the experience data for seven years that included  
10 experience data from both former Source Gas and former Aquila, the experience years  
11 2013-2019.<sup>58</sup> Instead of including just the years that contained the experience data for both  
12 companies, the Company study chose to add to this data the experience data for 15 earlier  
13 years, 1998-2012, which contains only the former Aquila experience numbers.<sup>59</sup>

14 **Q. PLEASE DEMONSTRATE THAT THE FORMER SOURCE GAS EXPERIENCE DATA**  
15 **WAS NOT INCLUDED PRIOR TO 2013.**

16 A. Regarding BH Gas Distribution (formerly Source Gas), the Company stated, “Plant detail  
17 data was not uploaded into PowerPlan prior to 2012.”<sup>60</sup> In response to another discovery  
18 request, the Company stated, “The BH Gas Distribution transactional data was available  
19 from 2013-2019.”<sup>61</sup>

<sup>57</sup> Page 90 of Exhibit MCC-4 [BN NE depreciation study].

<sup>58</sup> The experience years 2013-2019 contained the experience data from both companies.

<sup>59</sup> The experience years 1998-2012 contained only former Aquila experience data.

<sup>60</sup> Company response to PA-255(d). This response is attached as Exhibit WWD-21.

<sup>61</sup> Company response to PA-248 (a). This response is attached as Exhibit WWD-22.



1 The Company depreciation study includes only Aquila life data for most of the  
2 experience years. The result is not representative of the current Black Hills Nebraska Gas.

3 **B. Some Older Services Were Omitted from the Aquila Services Life**  
4 **Data.**

5 **Q. PLEASE PROVIDE AN ANALOGY TO WHAT THE COMPANY STUDY DOES**  
6 **IN THE LIFE ANALYSIS FOR SERVICES.**

7 A. Assume a person was asked to calculate the average age of people in this country and had  
8 the needed data. However, the data for “some older” people was inadvertently omitted from  
9 the calculation. The average age so calculated would be shorter than the true average age  
10 because it was calculated omitting the data for “some older” people.

11 **Q. DID THE COMPANY LIFE ANALYSIS IN ACCOUNT 380, SERVICES, OMIT**  
12 **DATA FOR “SOME OLDER SERVICES”?**

13 A. Yes. In response to discovery, Black Hills admitted this omission:

14 Some older services were booked in the mains account due to accounting  
15 practices of the predecessor companies.<sup>62</sup>(Emphasis added)

16 Key data for some “older services” is not in the Services account, because it is in  
17 the Mains account. Therefore, the Company analysis of the data in the Services account  
18 omitted data for “[s]ome older services.” Omitting the data for some of the older services  
19 resulted in understating the true average service life of Services.

20 **Q. WHICH PREDECESSOR COMPANY HAD THIS PROBLEM?**

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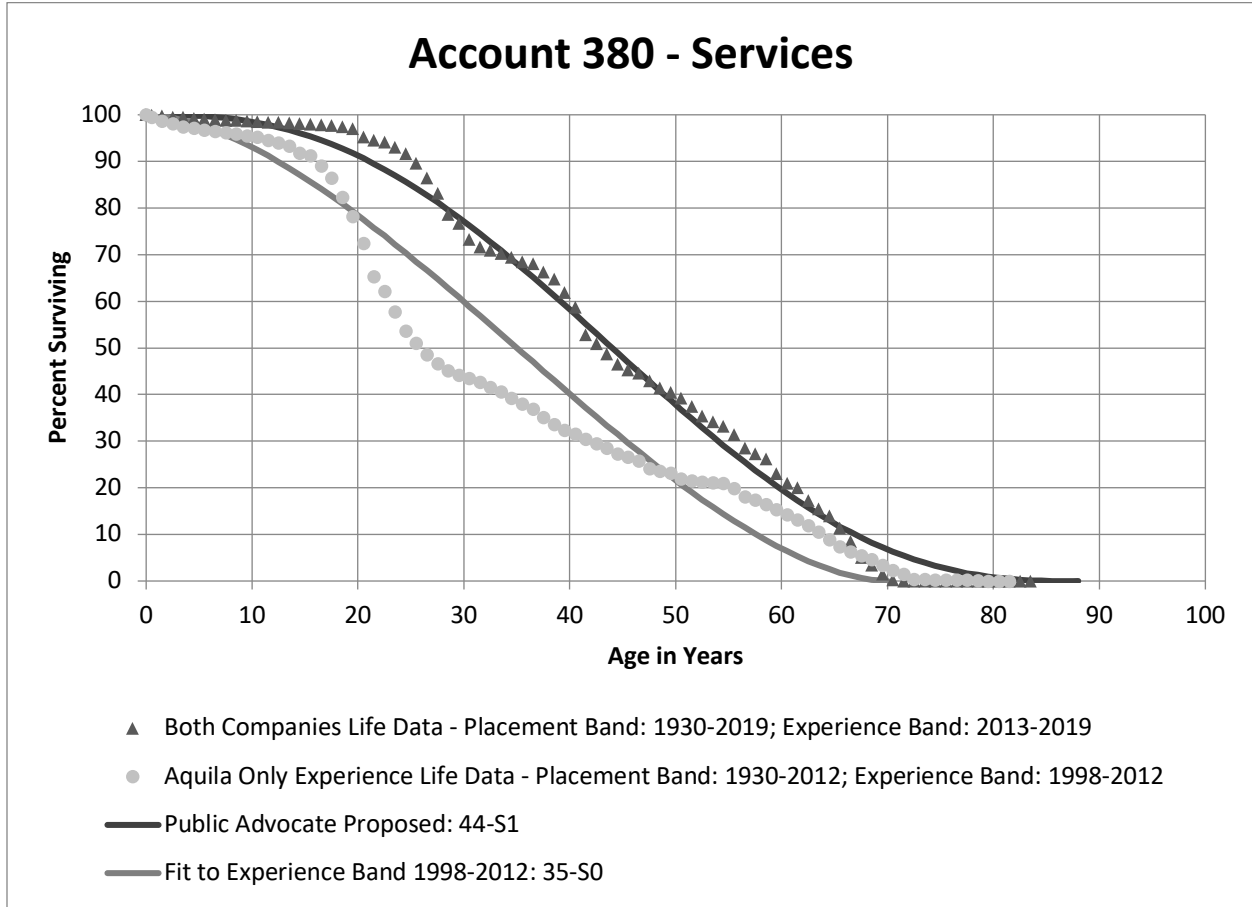
<sup>62</sup> Company response to PA-249 (d). This response is attached as Exhibit WWD-23.

1 A. This problem occurred in the former Aquila books. To make matters worse, Aquila failing  
2 to book some older services in the Services account had the greatest impact in the 1998-  
3 2012 experience years in which the Company analysis includes only Aquila experience  
4 data.

5 The Figure 5 below shows the life data for the experience years of 2013-2019,  
6 which contains experience data for both companies. It also charts to the “Aquila only”  
7 experience years, which are the years 1998-2012. These are the years in which failing to  
8 include some of the “older services” in the Services account had the greatest life-shortening  
9 impact on the Aquila data.

10 I have also fit survivor curves.

Figure 5: Account 380, Services, Life Data by Experience Bands<sup>63</sup>



As can be seen, the data from the “Aquila only” experience years, 1998-2012, is not consistent with, and is not representative of, the experience data that includes both companies, 2013-2019.

The experience band of recent years, that include data from both companies, 2013-2019, indicates a service life of 44 years,

However, the experience in the earlier band of years, 1998-2012, which contain only Aquila experience numbers, indicates a service life of 35 years.

<sup>63</sup> Data from Exhibit WWD-27.

1 **Q. CAN YOU DEMONSTRATE HOW FAILING TO INCLUDE THE DATA FOR**  
2 **THE “OLDER SERVICES” IN THE SERVICES ACCOUNT IMPROPERLY**  
3 **SHORTENED THE APPARENT LIFE IN THE COMPANY STUDY?**

4 A. Yes. Utilities generally keep detailed property records of when a facility went into service  
5 and when it retired.<sup>64</sup> These records are used to determine how long a facility actually lived.  
6 For example, assume that a service line was installed in 1958 and retired in 2008.  
7 Therefore, that service line was 50 years old when it was retired. The 50-year life of this  
8 service line would be included in the data that is used to determine how long services live  
9 on average.

10 However, if the Company does not know when that service line was installed, the  
11 Company will use as the installation year the oldest service of that type still listed as  
12 unretired in the Services account.<sup>65</sup> This practice is called First-In-First-Out (FIFO).  
13 Normally the oldest service line still in service is many decades old. Therefore, using FIFO  
14 should produce a life that is several decades long.

15 **Q. WHEN THE COMPANY APPLIED FIFO, DID THE COMPANY NECESSARILY**  
16 **LOCATE THE OLDEST SERVICE THAT WAS STILL IN SERVICE?**

17 A. No. The oldest service line listed in Account 380, Services is not necessarily the oldest  
18 service line still in service, because some older services are not recorded in Account 380,  
19 Services. The Company had stated this fact:

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<sup>64</sup> These detailed property records are the Continuing Property Records (CPR). See page 317 of the *Public Utilities Depreciation Practices*, published by the of National Association of Regulatory Utility Commissioners (NARUC), August 1996

<sup>65</sup> See PA-250 (d). This response is attached as Exhibit WWD-24.

1           Some older services were booked in the mains account due to accounting  
2           practices of the predecessor companies.<sup>66</sup> (Emphasis added)

3   **Q.   PLEASE PROVIDE AN ACTUAL EXAMPLE OF THE COMPANY USE OF FIFO**  
4   **IN THE SERVICES ACCOUNT THAT DID NOT INCLUDE SOME OLDER**  
5   **SERVICES.<sup>67</sup>**

6   A.   Discovery revealed that in 2008, the Company retired a large amount in the Services  
7   account, and for many of these retirements used FIFO to determine the vintage (installation  
8   year) that would be used.<sup>68</sup>

9           However, instead of FIFO resulting in an apparent life of several decades, FIFO as  
10   done by the Company, assumed an installation year of 1987. A supposed 1987 installation  
11   year made these Services appear to be retiring at the relatively young age of 21 years old  
12   in 2008. When we asked whether “the Company claim” is that the services that they had  
13   assigned a 1987 vintage “had physically gone into service in the year 1987,” the Company  
14   did not claim that. The Company specifically explained that the determination of the 1987  
15   vintage had been impacted by the fact that some of the Services were recorded in the Mains  
16   account. Specifically, the Company response stated,

17           The accounting practices for the individual system in 2008 had some  
18           service(blankets) recorded in the mains account if the service was installed  
19           at the same time the main was installed.<sup>69</sup> (Emphasis added)

20           The Company study has a large amount of investment allegedly retiring at the  
21   young age of 21 as determined by applying FIFO to data that does not include some of the  
22   older services.

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<sup>66</sup> Company response to PA-249 (d). This response is attached as Exhibit WWD-23.

<sup>67</sup> For purposed of this testimony I am not objecting to the use of FIFO if the actual vintage is not known. What I am objecting to is the shorting of apparent life resulting from the Company not locating the oldest vintage still in service, because “[s]ome older services were booked in the mains account”/

<sup>68</sup> Company response to PA-250, which is attached as Exhibit WWD-24.

<sup>69</sup> Company response to PA-249 (c). This response is attached as Exhibit WWD-23.

1 **Q. ARE THE 2008 RETIRMENTS YOU DISCUSSED ABOVE THE ONLY**  
2 **INSTANCES IN WHICH THE COMPANY INCLUDED A VERY YOUNG**  
3 **CLAIMED RETIRMENT AGE RESULTING FROM THE FACT THAT SOME**  
4 **OLDER SERVICES WERE NOT IN THE SERVICES ACCOUNT?**

5 A. No. The four largest retirement amounts in any vintage year-experience year combination  
6 in the life data the Company used for Account 380 are shown below:

7 Table 4: Four Largest Retirement Amounts for Any Vintage-Experience Year Combination

Vintage Shown	Activity Year	Retirement Amount	Start of Year Age (Years)	FIFO Used For at Least 67 Percent? (PA-250)
1987	2008	\$ 572,710	20.5	Yes
1987	2007	\$ 571,274	19.5	Yes
1986	2007	\$ 233,770	20.5	Yes
1986	2006	\$ 213,388	19.5	Yes

8  
9 In response to discovery the Company admitted that FIFO was used for at least two-  
10 thirds of each of these amounts. For the \$572,710 retirement amount the Company  
11 responded, “Thus, it is possible that 2/3 of the 1987 vintage retirements were blankets and  
12 the FIFO methodology was utilized.” They also responded, “The expectation is that a high  
13 percentage were blankets which leads to a high percentage were FIFO.”<sup>70</sup>

14 We then asked the same questions about the other three largest retirement amounts  
15 above, and the Company response was the same.<sup>71</sup> These short lives for these significant

<sup>70</sup> Company response to PA-250 (b) and (c). This response is attached as Exhibit WWD-24.

<sup>71</sup> Company response to PA-250 (e), (f), and (g). This response is attached as Exhibit WWD-24.

1 retirement amounts were generated in large part by improperly applying FIFO to data that  
2 omitted “some older services.”

3 **Q. DOES THE INCLUSION OF THE FOUR SHORT LIVES DISCUSSED ABOVE**  
4 **HAVE A NOTICEABLE IMPACT ON THE TOTAL DATA FOR ALL YEARS IN**  
5 **THE COMPANY STUDY?**

6 A. Yes. If you look at page 91 of the Company depreciation study, Exhibit MCC-4, you will  
7 see that the two largest retirements out of all ages occurred at the ages of “19.5” and “20.5.”  
8 The largest retirement is \$1,420,605 at “age 19.5.” The second largest retirement is  
9 \$1,289,508 at “age 20.5.”<sup>72</sup>

10 The two “age 20.5” amounts we previously discussed total \$806,480.<sup>73</sup> That  
11 amount is included in the Company data as allegedly retiring at “age 20.5.” But as we have  
12 demonstrated, the vast majority of that \$806,480 was determined by FIFO, distorted by the  
13 fact that some of the “oldest services” were not recorded in the Services account. This  
14 \$806,480 is 63% of the total of \$1,289,508 that the Company study says retired at age  
15 20.5.<sup>74</sup> A large part of the \$1,289,508 the Company claims retired at the young age of 20.5  
16 in not based on fact but was determined by FIFO, distorted by the fact that some of the  
17 older services were recorded in the Mains account.

18 Likewise, the two “age 19.5” amounts we previously discussed total \$784,662.<sup>75</sup>  
19 That amount is included in the Company data as allegedly retiring at “age 19.5.” But as we

---

<sup>72</sup> These retirements are in the 12 months that starts with that age shown. So “19.5” means the retirement occurred between age 19.5 and age 20.5. When “20.5” is shown that means the retirements occurred between age 20.5 and 21.5.

<sup>73</sup>  $572,710 + 233,770 = 806,480$

<sup>74</sup>  $806480/1289508=62.54\%$

<sup>75</sup>  $571,274 + 213,388 = 784,662$

1 have demonstrated, the vast majority of that \$784,662 was determined by FIFO, distorted  
2 by the fact that some of the older services were recorded in the Mains account. This  
3 \$784,662 is 55% of the total of \$1,420,605 that the Company study says retired at “age  
4 19.5.”

5 All four of the largest amounts I just discussed are contained in the 1998-2012  
6 “Aquila only” experience data. Since I utilized the experience years in which we have data  
7 for both companies, the unreliable nature of those four amounts does not impact my  
8 analysis. It does impact the Company analysis.

9 **Q. IS IT REASONABLE TO EXPECT THAT THE FOUR SPECIFIC EXAMPLES**  
10 **YOU DISCUSSED ARE THE ONLY LIVES THAT WERE SHORTENED BY THE**  
11 **COMPANY APPLYING FIFO TO DATA THAT DID NOT INCLUDE SOME OF**  
12 **THE OLDER SERVICES?**

13 A. No. In this discovery I asked only about the four largest retirement amounts in the Company  
14 data. There is no reason to expect the problem caused by the fact that some of the older  
15 services were recorded in the Mains account, is limited to just those four amounts.

16 **Q. TO AVOID CONFUSION, IS THE MAJOR POINT IN THIS SECTION AN**  
17 **OBJECTION TO FIFO?**

18 A. No. The major point in this section is an objection to the Company presenting a claimed  
19 average service life based on data in the Services account, when the average service life  
20 presented was shortened because the data for “some older services” was not in the Services  
21 account.



1 **C. The Non-Recurring Sale of the Elkhorn System**

2 **Q. IS THERE ANOTHER PROBLEM IN THE 1988-2012 “AQUILA ONLY”**  
3 **EXPERIENCE DATA THAT THE COMPANY INCLUDED IN SERVICES?**

4 A. Yes. The former Aquila sold the Elkhorn system to the Metropolitan Utilities District of  
5 Omaha. Retirements caused by this Elkhorn system sale were recorded in the former  
6 Aquila books in 2010.<sup>76</sup> When facilities are sold, they are properly “retired” from the  
7 selling utility’s books, even if those facilities physically continue in service, owned by  
8 someone else.

9 For Account 376, Mains, the Company study properly considered the retirements  
10 recorded due to the Elkhorn system sale as not being a “normal or reoccurring transaction”  
11 and properly treated these requirements as “sale” retirement. Treating them as “sale”  
12 retirements removed those retirements from the “regular” retirements used in the life data  
13 for Account 376, Mains. The Company stated,

14 The determination of life characteristics/life estimation should reflect regular or  
15 normal retirements that could affect the life expectancy of the existing as well as  
16 future life characteristics of the assets within the account. A sale of mains is not  
17 considered a normal or reoccurring transaction for all mains in service. Therefore,  
18 these assets are coded differently in the life analysis and not considered a typical  
19 retirement.<sup>77</sup> (Emphasis added)  
20  
21

22 **Q. SINCE THE COMPANY STUDY PROPERLY MARKED THE ELKHORN**  
23 **SYSTEM SALE RETIREMENTS AS “SALE” RETIREMENTS IN ACCOUNT 376,**  
24 **MAINS, WHICH REMOVED THEM FROM THE REGULAR RETIREMENTS,**  
25 **DID THEY ALSO DO SO IN ACCOUNT 380?**

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<sup>76</sup> Company response to PA-193. This response is attached as Exhibit WWD-25.

<sup>77</sup> Company response PA-193(b). This response is attached as Exhibit WWD-25.

1 A. No. In other accounts, including Account 380, Services, the Company did not mark the  
2 Elkhorn system sale retirements as “sale” retirements.<sup>78</sup> The Company study left these in  
3 the “regular” retirements. These sale retirements are not “a normal or reoccurring  
4 transaction” and should be marked “sale” retirements for the same reasons the Company  
5 study marked them as “sale” retirements in Account 376, Mains.

6 Marking them as “sale” retirements would have properly excluded them from the  
7 regular retirement used in the life analysis. But for Accounts 380, 382, and 383 the  
8 Company study did not mark them as “sale” retirements.

9 This problem in the Company analysis is in the experience year 2010, which is an  
10 experience year that contains only Aquila experience data. Since my life analysis is based  
11 on the 2013-2019 experience years (the years in which we have experience data from both  
12 companies), this problem in the experience year 2010 does not impact my data.

13 **D. If the “Aquila Only” Experience Years Were Included, That**  
14 **Would Show an Upward Trend in Service Lives**

15 **Q. FOR THE SAKE OF ARGUMENT, IF WE WERE TO ACCEPT AS USABLE THE**  
16 **1998-2012 “AQUILA ONLY” EXPERINCE DATA, WHAT TREND WOULD**  
17 **RESULT?**

18 A. If, for sake of argument, we were to accept as usable the 1998-2012 “Aquila only”  
19 experience data, it would show an upward trend in the service life.

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<sup>78</sup> The accounts in which the Company did not mark the Elkhorn system sale retirements as “sale” retirement include Account 380, Services; Account 382, Meter Installations; and Account 383, House Regulators. Company response PA-193(c) and (g). This response is attached as Exhibit WWD-25.

1 As shown earlier on Figure 5, the experience band in the years 1998-2012 indicates  
2 an average service life of 35 years in that period. However, the data in the more recent  
3 experience band, the years 2013-2019, indicates a 44-year Average Service life.

4 A 35-year life in the past experience, compared to a 44-year life in recent  
5 experience, indicates an upward trend in the Average Service Life. The 40-year Average  
6 Service life that the Company proposes for the future is less than the recent 44-year life  
7 indications and is clearly inconsistent with an upward trend in life.

8 **Q. IS LOOKING AT THE TREND OF THE LIFE USING EXPERIENCE BANDS AN**  
9 **ACCEPTED DEPRECIATION PRACTICE?**

10 A. Yes. An accepted depreciation practice is to look at the trend of the life data. Page 113 of  
11 the NARUC *Public Utility Depreciation Practices* states,

12 Banding

13 Banding is the compositing of a number of years of data in order to merge  
14 them into a single data set for further analysis. Often, several bands are  
15 analyzed. By making determinations of the life and retirement dispersion  
16 indicated in successive bands, the analyst can get a clear indication of  
17 whether there is a trend in either the life of the plant or in the dispersion of  
18 the retirements. (Emphasis added).

19 If, for purpose of argument, we were to pretend that the 1998-2012 “Aquila only”  
20 experience data was accurate and comparable, the result would be that there is an upward  
21 trend. That upward trend is inconsistent with the 40-year Average Service life that the  
22 Company proposes for the future.

23 **Q. HAVE YOU BASED YOUR RECOMMENDATION ON AN UPWARD TREND IN**  
24 **THE LIFE THAT INCLUDES ACCEPTING THE 1998-2012 “AQUILA ONLY”**  
25 **EXPERIENCE DATA?**

1 A. No. As previously demonstrated, 1998-2012 “Aquila only” experience data is flawed and  
2 is not comparable to the later experience that includes data from both of the companies.  
3 The 1998-2012 “Aquila only” experience data should not be included in the life data used.  
4 For the same reasons, it should also not be used in a trend analysis.

5 I recommend the 44-year average service life as indicated by the recent experience  
6 data that consistently includes the experience of both companies.

7 **Q. ABOVE WE HAVE DISCUSSED THE COMPANY CLAIMS PERTAINING TO**  
8 **THE LIFE DATA FOR ACCOUNT 380, SERVICE. WHAT ELSE DID THE**  
9 **COMPANY SAY IN SUPPORT OF ITS PROPOSED 40-YEAR SERVICE LIFE?**

10 A. In addition to referring to the Company version of the historical life analysis, the Company  
11 study also said the proposed 40-year life “is consistent with the Company’s practices  
12 relating to assets in this account.”<sup>79</sup>

13 **Q. WHAT DID THE COMPANY PROVIDE TO SUPPORT THIS STATEMENT?**

14 When we asked the Company to “provide the documents” that support the statement about  
15 “the Company’s practices,” they provided no new document. They referred to the  
16 Company version of the historical life analysis.

17 I have previously refuted the Company version of the historical life analysis the  
18 Company claims indicates a 40-year life. In response to our request about “the Company’s  
19 practices,” the Company said “These causes of retirement have been in place in the past  
20 and will continue into the future.”<sup>80</sup>

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<sup>79</sup> Page 36, Exhibit MCC-4 [BH NE depreciation study].

<sup>80</sup> Company response to PA-157. This response is attached as Exhibit WWD-11.

1           As I have demonstrated, the causes of retirement that are “in place” in recent years  
2           are indicating a 44-year average service life. Since these causes of retirement “will continue  
3           into the future,” a 44-year life is appropriate.

4                           **E. The Services Life Data That Consistently Includes Both Companies**

5   **Q.    AS PREVIOUSLY DISCUSSED, FOR ACCOUNT 380, SERVICES, YOU USED**  
6   **DATA THAT CONSISTENTLY INCLUDES DATA FROM BOTH THE FORMER**  
7   **SOURCE GAS AND THE FORMER AQUILA. IN THE DATA YOU USED, AS**  
8   **SHOWN BY THE PRIOR FIGURE 4, WHAT DOES THE “PLACEMENT BAND”**  
9   **OF 1930-2019 MEAN?**

10   **A.**    The “placement year” or “vintage year” is the year of installation of that property. In some  
11           cases, such as Sources Gas in this case, a utility may have records going back several  
12           decades showing when specific properties where installed (the records show the vintage  
13           year). However, that same utility may not have as many decades of detailed records  
14           showing when each specific investment retired by vintage (“experience” data).

15           For both Aquila and Source Gas we have records of when investments were  
16           “placed” (installed) going back many decades. The observed data I primarily relied upon,  
17           as shown on Figure 4, includes a “Placement Band” of the years 1930 through 2019. For  
18           Aquila we have placement data for surviving vintages in placement years starting in 1931.  
19           For Source Gas we have placement data for surviving vintages starting in the placement  
20           year 1930.

21           Therefore, for both Companies, we have vintage or “placement year” data (the year  
22           the service line went into service) pertaining to surviving investments from age zero to  
23           approximately age 70.

1 **Q. FIGURE 4, INCLUDES AN “EXPERIENCE BAND” OF 2013-2019. WHAT**  
2 **OCCURS IN AN EXPERIENCE YEAR?**

3 A. An “experience year” or “activity” year includes recording the retirements that occurred  
4 that year by vintage. In an “experience year,” retirement data is gathered separately for  
5 every age of investment that is still in service. To illustrate the large amount of data that is  
6 obtained from each experience year, below I show a sample of the actual data collected in  
7 just the one experience year of 2019.

8 Table 5: Sample of Data Obtained from Just One Experience Year: 2019

Account 380, Services							
Year Placed ("Vintage")	Beginning of 2019		During 2019	At the End of 2019		Retirement Ratio	Survivor Ratio
	Age (Yrs)	Investment Surviving	Retired	Age (Yrs)	Investment Surviving		
A	B	C	D	E = B+1	F =C-D	G =D/C	H = 100%-G
2018	0.5	\$ 4,405,520	\$ 2,049	1.5	\$ 4,403,471	0.05%	99.95%
---	---	---	---	---	---	---	---
1981	37.5	\$ 500,920	\$ 14,598	38.5	\$ 486,322	2.91%	97.09%
1980	38.5	\$ 555,558	\$ 10,769	39.5	\$ 544,789	1.94%	98.06%
----	---	---	---	---	---	---	---
1966	52.5	\$ 131,796	\$ 7,239	53.5	\$ 124,557	5.49%	94.51%

9 In the one experience year of 2019, data similar to that shown above was collected  
10 for 70 different ages. It was collected for age 0.5 through age 69.5. It was collected for  
11 every age of investment still in service. Data for 70 different Retirement Ratios and  
12 Survivor Ratios was collected, one for each vintage that still had investment in service.

13 **Q. EXPLAIN WHAT DATA IS COLLECTED FOR EACH AGE OF INVESTMENT.**

14 A. To explain this, I will use the investment on the above Table 5 that was 52.5 years old at  
15 the start of the 2019 experience year. At the start of year 2019 there was \$131,796 of

1 investment that was installed in the year 1966 still in service. This investment was 52.5  
2 years old at the start of the year 2019.

3 During the 12 months of the experience year 2019, \$7,239 of that vintage 1966  
4 investment retired. This tells us that in that one experience year, 5.49% of the investment  
5 that had survived to the age of 52.5 did not survive one more year to the age of 53.5.  
6 Therefore, 5.49% is the Retirement Ratio for an investment that was 52.5 years old at the  
7 start of the year, based on one years' experience in the year 2019.

8 A "Survivor Ratio" is easily calculated from the same data. For this 1966 vintage,  
9 the fact that 5.49% of the investment that had survived to age 52.5, did not survive one  
10 more year to age 53.2, means that 94.51% of the investment that had survived to age 52.5  
11 did survive one more year to age 53.5.<sup>81</sup>

12 **Q. ABOVE YOU DEMONSTRATED THAT ONE EXPERIENCE YEAR COLLECTS**  
13 **DATA FOR A RETIREMENT RATIO FOR EVERY AGE OF INVESTMENT. DO**  
14 **YOU BASE YOUR RECOMMENDATION ON ONE YEAR OF EXPERIENCE?**

15 A. No. The same data collection described above for the experience year 2019 occurred in  
16 each of the experience years 2013 through 2019. For example, as shown on Table 5 above,  
17 the experience in the year 2019 shows that 2.91 % of the investment that that had survived  
18 to the age of 37.5 did not survive one more year to the age of 38.5. I did not use that one-  
19 year retirement ratio. The 2.436% Retirement Ratio that I used on the "37.5" line on page  
20 4 of Exhibit WWD-20 is effectively the weighted average of the age "37.5" data from the  
21 seven experiences years 2013-2019.

---

<sup>81</sup> This is  $100\% - 5.49\% = 94.51$  Survivor Ratio

1 **Q. WE HAVE SEVEN YEARS OF EXPERINCE DATA (2013-2019) THAT**  
2 **INCLUDES THE DATA FROM BOTH COMPANIES. IS SEVEN YEARS A**  
3 **SUFFICIENT NUMBER OF EXPERIENCE YEARS?**

4 A. Yes. The respected depreciation authority, *Public Utilities Depreciation Practices*,  
5 published by the of National Association of Regulatory Utility Commissioners (NARUC)  
6 states,

7 Selection of Bands and Band Width

8 The analyst must select a band width (number of activity years to include in  
9 the band) which meets two, often conflicting, constraints: (1) The band must  
10 include enough data to provide some confidence in the reliability of the  
11 resulting curve fit; and (2) the band must be narrow enough that an emerging  
12 trend can be observed. Bands of three to five years are often chosen for  
13 rolling or fixed bands. However, for longer life plant (e.g., conduit), widths  
14 of ten or more years may be necessary.<sup>82</sup>(Emphasis added).

15 The “activity” years mentioned in the quotation above is a different name for what  
16 we have been referring to as the “experience” years. The seven years of experience/activity  
17 data, that includes the data from both companies, clearly meets or exceeds the accepted  
18 “[b]ands of three to five years” that “are often chosen.”

19 **VII. LIFE OF HOUSE REGULATORS, ACCOUNTS 383.01 AND 383.71**

20 **Q. WHAT IS SHOWN ON FIGURE 6 BELOW?**

21 A. Figure 6 shows the actual life data for Account 383.01 House Regulators and Account  
22 383.71, House Regulators-Farm Taps. This includes the life data for all of Black Hills  
23 Nebraska Gas, including both the former Aquila data and the former Source Gas data.

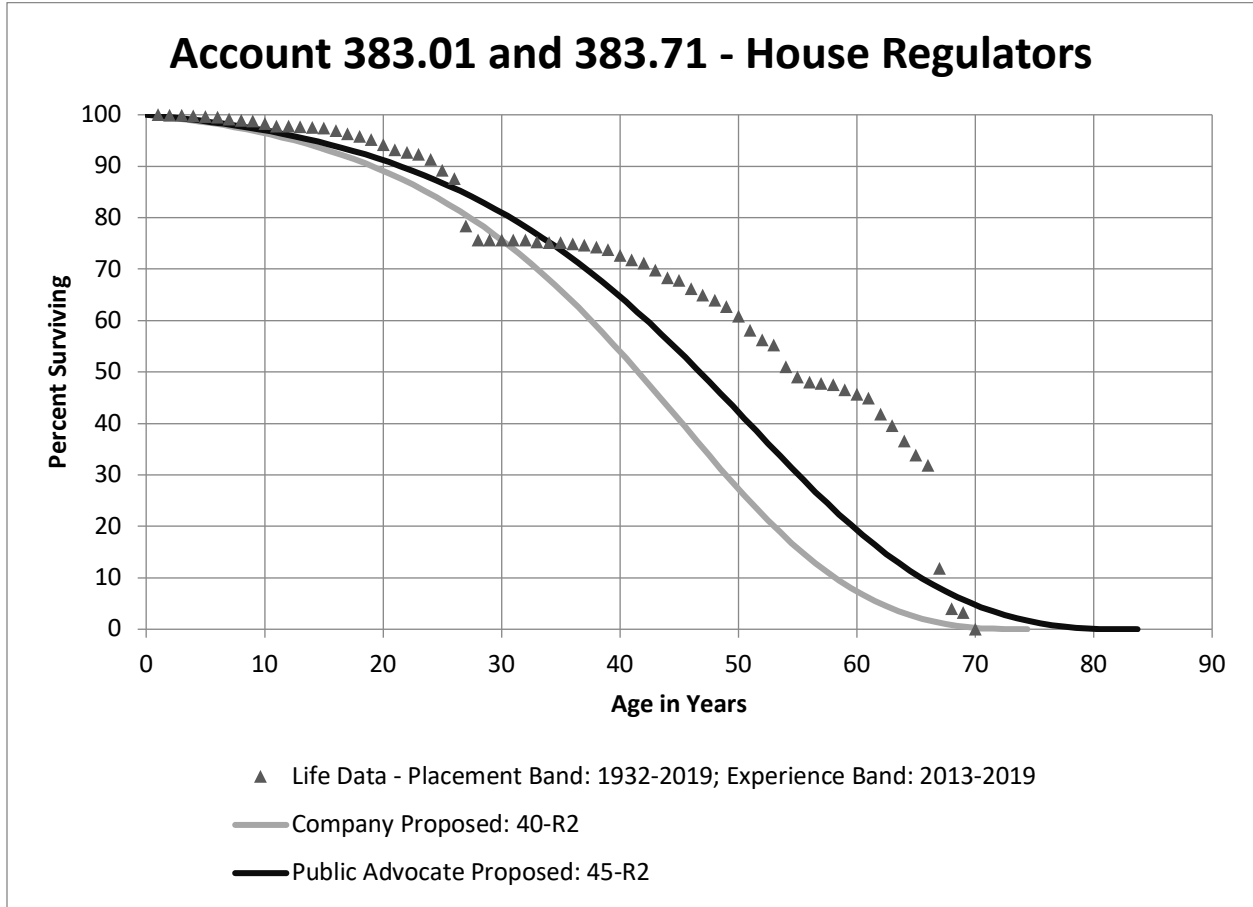
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<sup>82</sup> Page 115, *Public Utilities Depreciation Practices*, published by the of National Association of Regulatory Utility Commissioners (NARUC), August 1996.



1

Figure 6: Accounts 383.01 and 383.71 Life Data.<sup>83</sup>



2

3 This figure also shows the Survivor Curve recommended by the Office of the Public  
4 Advocate (which includes a 45-year Average Service Life) and the Survivor Curve  
5 recommended by Black Hills (which includes a 40-year Average Service Life).

6 It is obvious from a visual inspection of Figure 6 that the Survivor Curve  
7 recommended by the Office of Public Advocate is more consistent with the actual data.

8 In addition, I have also performed the standard mathematical analysis which proves  
9 that the Survivor Curve recommended by the Office of Public Advocate is a better

<sup>83</sup> See Exhibit WWD-26.

1 mathematical fit to the actual data than is the Survivor Curve proposed by Black Hills.  
2 This analysis is shown on page 2 of Exhibit WWD-26.

3 **Q. WHAT LIFE AND CURVE DO YOU RECOMMEND FOR ACCOUNT 383.01**  
4 **HOUSE REGULATORS AND ACCOUNT 383.71, HOUSE REGULATORS-FARM**  
5 **TAPS?**

6 A. After considering the relevant information and applying informed judgement, I recommend  
7 a 45-year Average Service Life with an R2 Iowa Curve.

8 **VIII. CONCLUSION**

9 **Q. WHAT DEPRECIATION RATES DO YOU RECOMMEND FOR BLACK HILLS**  
10 **NEBRASKA?**

11 A. For the reasons discussed in this testimony, I recommend the depreciation rates shown in  
12 the Public Advocate columns of Exhibit WWD-2.

13 There are four accounts in which the Public Advocate recommended depreciation  
14 rate is different from the Company recommendation, for the reasons I have discussed in  
15 this testimony. For these four accounts, the following Tables 6 and 7 show the differences  
16 in the recommended depreciation rates.

1

Table 6: Compare Parameters and Depreciation Rates

Account	Company Proposed				Public Advocate Proposed			
	Proj. Life	Iowa Curve	Future Net Salvage	Accrual Rate	Proj. Life	Iowa Curve	Future Net Salvage	Accrual Rate
376 Mains	70	R2.5	<b>-30%</b>	1.45%	70	R2.5	<b>-25%</b>	1.37%
380 Services	<b>40</b>	<b>S0</b>	<b>-40%</b>	3.54%	<b>44</b>	<b>S1</b>	<b>-20%</b>	2.68%
383.01 House Regulators	<b>40</b>	R2	-15%	3.26%	<b>45</b>	R2	-15%	2.68%
383.71 House Regulators - Farm Taps	<b>40</b>	R2	0%	2.49%	<b>45</b>	R2	0%	2.21%

2

3

Table 7: Compare Annual Depreciation Expense (Accrual)<sup>84</sup>

Account	11/30/19 Plant in Service	Company Proposed		Public Advocate Proposed		Difference in Annual Depreciation Expense
		Accrual Rate	Annual Accrual Amount	Accrual Rate	Annual Accrual Amount	
376 Mains	368,534,043	1.45%	5,358,903	1.37%	5,059,222	\$(299,681)
380 Services	132,537,973	3.54%	4,695,090	2.68%	3,557,624	\$(1,137,466)
383.01 House Regulators	64,404,963	3.26%	2,102,069	2.68%	1,723,155	\$(378,914)
383.71 House Regulators - Farm Taps	626,094	2.49%	15,621	2.21%	13,842	\$(1,779)
<b>Total</b>						<b>\$(1,817,840)</b>

4

<sup>84</sup> Based on investment levels as of 11/30/2019. At a given depreciation rate, the depreciation expense amount will change as the investment amount changes.

- 1 Q. **DOES THIS CONCLUDE YOUR PREFILED DIRECT TESTIMONY?**
- 2 A. Yes.

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### Qualifications

William Dunkel is a consulting engineer specializing in utility regulatory proceedings. He has participated in over 250 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 cost analysis, rate design, jurisdictional separations, depreciation, expert testimony and other related services to state agencies throughout the country in numerous state regulatory proceedings.

Along with Ms. McCullar, 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 25<sup>th</sup> 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 Sand Point Generating  
    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. 18-05-16
- Southern Connecticut Gas Company
- 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. 16-06-04

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  
General Rate Case  
Centrex Cost Proceeding

PSC Docket No. 85-32T  
PSC Docket No. 86-20  
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  
Depreciation issues  
Formal Case No. 1076  
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

- BellSouth, GTE, and Sprint  
Fair and reasonable rates  
Undocketed Special Project

GEORGIA

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

HAWAII

- GTE Hawaiian Telephone Company  
Depreciation/separations issues  
Resale case  
Docket No. 94-0298  
Docket No. 7702

ILLINOIS

- Commonwealth Edison Company  
General Rate Proceeding  
General Rate Proceeding  
Docket No. 80-0546  
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

INDIANA

- 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

- 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. 2013-168  
General rate proceeding Docket No. 2007-125
- 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

#### 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-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  
MPUC No. P-421/GR-80-911  
MPUC No. P-421/GR-82-203  
MPUC No. P-421/GR-83-600  
MPUC No. P-421/CI-84-454  
MPUC No. P-421/CI-85-352  
MPUC No. P-421/M-86-53  
MPUC No. P-999/CI-85-582  
MPUC 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 rate proceeding NG-0079

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 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 201800140  
General Rate Case Cause No. PUD 201700496

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

**Black Hills Nebraska**  
**Summary of Accrual Rates and Annual Accrual Amounts**  
**As of November 30, 2019**

Plant Category	11/30/19 Plant in Service	Company Proposal		Public Adv. Proposal		Difference from Company
		Accrual Rate	Annual Accrual Amount	Accrual Rate	Annual Accrual Amount	
Intangible Plant	\$1,363,943	5.50%	\$75,046	5.50%	\$75,046	
Transmission	\$6,161,197	0.66%	\$40,785	0.66%	\$40,785	
Distribution	\$669,304,085	2.32%	\$15,549,688	2.05%	\$13,731,848	-\$1,817,840
General Plant	\$65,670,206	5.19%	\$3,411,092	5.19%	\$3,411,092	
Unrecovered Reserve			\$212,172		\$212,172	
<b>TOTAL PLANT</b>	<b>\$742,499,431</b>	<b>2.60%</b>	<b>\$19,288,783</b>	<b>2.35%</b>	<b>\$17,470,943</b>	<b>-\$1,817,840</b>

**Black Hills Nebraska**  
**Table 1: Summary of Accrual Rates and Annual Accrual Amounts**  
**As of November 30, 2019**

Account	Description	11/30/19 Plant in Service	Company Proposal		Public Advocate Proposal		Difference from Company
			Accrual Rate	Accrual Amount	Accrual Rate	Accrual Amount	
(A)	(B)	(C)	(F)	(G)	(I)	(J)	(L)
<b><u>Intangible Plant</u></b>							
302.00	Franchises and Consents	121,062	0.58%	704	0.58%	704	0
303.00	Misc Intangible Plant	742,881	6.61%	49,089	6.61%	49,089	0
303.01	Misc Intangible Plant - Easements	500,000	5.05%	25,253	5.05%	25,253	0
<b>Total Intangible Plant</b>		<b>1,363,943</b>	<b>5.50%</b>	<b>75,046</b>	<b>5.50%</b>	<b>75,046</b>	<b>0</b>
<b><u>Transmission Plant</u></b>							
365.03	Land & Land Rights - Rights-of-Way	170,272	0.76%	1,299	0.76%	1,299	0
366.01	Structures and Improvements	8,174	0.49%	40	0.49%	40	0
367.00	Mains	5,358,619	0.49%	26,467	0.49%	26,467	0
369.03	Measuring & Regulating Station Equip	624,132	2.08%	12,979	2.08%	12,979	0
<b>Total Transmission Plant</b>		<b>6,161,197</b>	<b>0.66%</b>	<b>40,785</b>	<b>0.66%</b>	<b>40,785</b>	<b>0</b>
<b><u>Distribution Plant</u></b>							
374.03	Land and Land Rights	5,981,059	0.95%	56,566	0.95%	56,566	0
375.01	Structures and Improvements	4,779,830	0.76%	36,546	0.76%	36,546	0
375.20	Structures and Improvements - Other	12,119	2.14%	259	2.14%	259	0
376.00	Mains	368,534,043	1.45%	5,358,903	1.37%	5,059,222	(299,681)
378.00	Measuring & Regulating Station Equip	20,627,024	2.71%	558,236	2.71%	558,236	0
379.00	Measuring & Regulating Station Equip-City	4,504,804	1.41%	63,676	1.41%	63,676	0
380.00	Services	132,537,973	3.54%	4,695,090	2.68%	3,557,624	(1,137,466)
381.00	Meters						
	Small Volume and Other	21,393,947	3.19%	681,598	3.19%	681,598	0
	ERT, AMR, and AMI	21,057,410	6.41%	1,349,841	6.41%	1,349,841	0
	Total Meters	42,451,357	4.79%	2,031,439	4.79%	2,031,439	0
382.01	Meter Installations	15,027,221	2.67%	400,767	2.67%	400,767	0
383.01	House Regulators	64,404,963	3.26%	2,102,069	2.68%	1,723,155	(378,914)
383.71	House Regulators - Farm Taps	626,094	2.49%	15,621	2.21%	13,842	(1,779)
384.00	House Regulatory Installations	1,517,403	1.21%	18,367	1.21%	18,367	0
385.00	Industrial Measuring & Regulating Station E	8,058,395	2.58%	207,519	2.58%	207,519	0
386.00	Other Property on Customers' Premises	35,279	1.04%	366	1.04%	366	0
387.00	Other Equipment	206,520	2.06%	4,264	2.06%	4,264	0
<b>Total Distribution Plant</b>		<b>669,304,085</b>	<b>2.32%</b>	<b>15,549,688</b>	<b>2.05%</b>	<b>13,731,848</b>	<b>(1,817,840)</b>
<b><u>General Plant</u></b>							
390.01	Structures and Improvements	22,478,214	2.98%	670,911	2.98%	670,911	0
390.51	Leasehold Improvements	96,461	9.28%	8,948	9.28%	8,948	0

**Black Hills Nebraska**  
**Table 1: Summary of Accrual Rates and Annual Accrual Amounts**  
**As of November 30, 2019**

Account	Description	11/30/19 Plant in Service	Company Proposal		Public Advovate Proposal		Difference from Company
			Accrual Rate	Accrual Amount	Accrual Rate	Accrual Amount	
(A)	(B)	(C)	(F)	(G)	(I)	(J)	(L)
391.01	Office Furniture & Equip						
	Fully Accrued	1,134	0.00%	0	0.00%	0	0
	Amortized	415,194	5.00%	20,751	5.00%	20,751	0
	Total Office Furniture & Equip	416,328	4.98%	20,751	4.98%	20,751	0
391.03	Computer Hardware						
	Fully Accrued	6,176	0.00%	0	0.00%	0	0
	Amortized	544,785	20.00%	108,941	20.00%	108,941	0
	Total Computer Hardware	550,961	19.77%	108,941	19.77%	108,941	0
391.04	Software						
	Fully Accrued	168,549	0.00%	0	0.00%	0	0
	Amortized	1,551	19.99%	310	19.99%	310	0
	Total Software	170,100	0.18%	310	0.18%	310	0
391.07	Ipad Hardware	581,995	20.00%	116,399	20.00%	116,399	0
	Transportation Equipment						
392.02	Cars	3,928,687	9.87%	387,805	9.87%	387,805	0
392.03	Light Trucks	17,523,332	7.00%	1,226,077	7.00%	1,226,077	0
392.04	Medium Trucks	127,109	12.56%	15,961	12.56%	15,961	0
392.05	Heavy Trucks	3,070,645	4.76%	146,182	4.76%	146,182	0
392.06	Trailers	816,543	6.59%	53,848	6.59%	53,848	0
	Total Transportation Equipment	25,466,316	7.19%	1,829,873	7.19%	1,829,873	0
393.00	Stores Equipment	28,178	4.00%	1,127	4.00%	1,127	0
394.00	Tools, Shop, & Garage Equip						
	Fully Accrued	85,929	0.00%	0	0.00%	0	0
	Amortized	8,190,435	4.00%	327,313	4.00%	327,313	0
	Total Tools, Shop, & Garage Equip	8,276,365	3.95%	327,313	3.95%	327,313	0
395.00	Laboratory Equip						
	Fully Accrued	6,915	0.00%	0	0.00%	0	0
	Amortized	81,887	5.00%	4,098	5.00%	4,098	0
	Total Laboratory Equip	88,803	4.61%	4,098	4.61%	4,098	0
396.00	Power Operated Equipment	5,766,089	3.83%	220,896	3.83%	220,896	0
397.00	Communication Equip						
	Fully Accrued	909	0.00%	0	0.00%	0	0
	Amortized	845,171	6.67%	56,342	6.67%	56,342	0
	Total Communication Equip	846,080	6.66%	56,342	6.66%	56,342	0
398.00	Miscellaneous Equipment	904,317	5.00%	45,183	5.00%	45,183	0
<b>Total General Plant</b>		<b>65,670,206</b>	<b>5.19%</b>	<b>3,411,092</b>	<b>5.19%</b>	<b>3,411,092</b>	<b>0</b>
<b><u>Unrecovered Reserve to be Amortized</u></b>							
391.01	Office Furniture & Equip			70,784		70,784	0
391.03	Computer Hardware			177,238		177,238	0
391.04	Software			160,964		160,964	0
391.07	Ipad Hardware			1,113		1,113	0
393.00	Stores Equipment			(464)		(464)	0
394.00	Tools, Shop, & Garage Equip			(129,677)		(129,677)	0
395.00	Laboratory Equip			1,323		1,323	0
397.00	Communication Equip			(44,853)		(44,853)	0
398.00	Miscellaneous Equipment			(24,256)		(24,256)	0
<b>Total Unrecovered Reserve to be Amortized</b>		<b>0</b>		<b>212,172</b>		<b>212,172</b>	<b>0</b>
<b>TOTAL DEPRECIABLE PLANT</b>		<b>742,499,431</b>	<b>2.60%</b>	<b>19,288,783</b>	<b>2.35%</b>	<b>17,470,943</b>	<b>(1,817,840)</b>

Black Hills Nebraska  
 Table 2: Calculation of Annual Accrual Rate  
 As of November 30, 2019

Account (A)	Description (B)	11/30/19 Plant in Service (C)	11/30/19 Book Reserve Amount (D)	Future Net Salvage Percent (F)	Future Net Salvage to be Recovered	Total Future Accruals	Remaining Life (G)	Total Annual	
								Accrual Amount (I)	Calculated Accrual Rate (H)
<b>Intangible Plant</b>									
302.00	Franchises and Consents	121,062	117,148	0%	0	3,914	5.6	699	0.58%
303.00	Misc Intangible Plant	742,881	585,015	0%	0	157,866	3.2	49,333	6.64%
303.01	Misc Intangible Plant - Easements	500,000	283,333	0%	0	216,667	8.6	25,194	5.04%
<b>Total Intangible Plant</b>		<b>1,363,943</b>	<b>985,496</b>		<b>0</b>	<b>378,447</b>		<b>75,226</b>	<b>5.52%</b>
<b>Transmission Plant</b>									
365.03	Land & Land Rights - Rights-of-Way	170,272	116,001	0%	0	54,271	41.8	1,298	0.76%
366.01	Structures and Improvements	8,174	6,835	0%	0	1,339	33.5	40	0.49%
367.00	Mains	5,358,619	4,060,928	0%	0	1,297,691	49.0	26,483	0.49%
369.03	Measuring & Regulating Station Equip	624,132	318,002	-5%	31,207	337,336	26.0	12,974	2.08%
<b>Total Transmission Plant</b>		<b>6,161,197</b>	<b>4,501,766</b>		<b>31,207</b>	<b>1,690,637</b>		<b>40,796</b>	<b>0.66%</b>
<b>Distribution Plant</b>									
374.03	Land and Land Rights	5,981,059	2,099,335	0%	0	3,881,724	68.6	56,585	0.95%
375.01	Structures and Improvements	4,779,830	2,941,673	0%	0	1,838,157	50.3	36,544	0.76%
375.20	Structures and Improvements - Other	12,119	1,861	0%	0	10,258	39.6	259	2.14%
376.00	Mains	368,534,043	151,043,192	-25%	92,133,511	309,624,362	61.2	5,059,222	1.37%
378.00	Measuring & Regulating Station Equip	20,627,024	4,306,617	-15%	3,094,054	19,414,461	34.8	557,887	2.70%
379.00	Measuring & Regulating Station Equip-City	4,504,804	2,108,144	-15%	675,721	3,072,381	48.3	63,610	1.41%
380.00	Services	132,537,973	41,999,727	-20%	26,507,595	117,045,841	32.9	3,557,624	2.68%
381.00	Meters								
	Small Volume and Other	21,393,947	8,222,411	0%	0	13,171,536	19.3	682,463	3.19%
	ERT, AMR, and AMI	21,057,410	12,404,550	0%	0	8,652,860	6.4	1,352,009	6.42%
	<b>Total Meters</b>	<b>42,451,357</b>	<b>20,626,961</b>		<b>0</b>	<b>21,824,396</b>		<b>2,034,472</b>	<b>4.79%</b>
382.01	Meter Installations	15,027,221	6,768,889	-2%	300,544	8,558,876	21.4	399,947	2.66%
383.01	House Regulators	64,404,963	13,582,974	-15%	9,660,744	60,482,733	35.1	1,723,155	2.68%
383.71	House Regulators - Farm Taps	626,094	14,267	0%	0	611,827	44.2	13,842	2.21%
384.00	House Regulatory Installations	1,517,403	1,170,752	-5%	75,870	422,521	23.0	18,370	1.21%
385.00	Industrial Measuring & Regulating Station E	8,058,395	956,325	0%	0	7,102,070	34.2	207,663	2.58%
386.00	Other Property on Customers' Premises	35,279	33,764	0%	0	1,515	4.1	369	1.05%
387.00	Other Equipment	206,520	128,073	0%	0	78,447	18.4	4,263	2.06%
<b>Total Distribution Plant</b>		<b>669,304,085</b>	<b>247,782,554</b>		<b>132,448,039</b>	<b>553,969,570</b>		<b>13,733,814</b>	<b>2.05%</b>

Black Hills Nebraska  
 Table 2: Calculation of Annual Accrual Rate  
 As of November 30, 2019

Account	Description	11/30/19 Plant in Service	11/30/19 Book Reserve Amount	Future Net Salvage Percent	Future Net Salvage to be Recovered	Total Future Accruals	Remaining Life	Total Annual	
								Accrual Amount	Calculated Accrual Rate
(A)	(B)	(C)	(D)	(F)			(G)	(I)	(H)
<b>General Plant</b>									
390.01	Structures and Improvements	22,478,214	123,211	-5%	1,123,911	23,478,914	35.0	670,826	2.98%
390.51	Leasehold Improvements	96,461	66,163	0%	0	30,298	3.4	8,911	9.24%
391.01	Office Furniture & Equip								
	Fully Accrued	1,134	1,134	0%	0	0	0.0	0	0.00%
	Amortized	415,194	81,543	0%	0	333,651	16.1	20,724	4.99%
	Total Office Furniture & Equip	416,328	82,677		0	333,651		20,724	4.98%
391.03	Computer Hardware								
	Fully Accrued	6,176	6,176	0%	0	(0)	0.0	0	0.00%
	Amortized	544,785	170,581	0%	0	374,204	3.4	110,060	20.20%
	Total Computer Hardware	550,961	176,757		0	374,204		110,060	19.98%
391.04	Software								
	Fully Accrued	168,549	168,549	0%	0	0	0.0	0	0.00%
	Amortized	1,551	142	0%	0	1,409	4.5	313	20.19%
	Total Software	170,100	168,691		0	1,409		313	0.18%
391.07	Ipad Hardware	581,995	53,544	0%	0	528,451	4.5	117,434	20.18%
	Transportation Equipment								
392.02	Cars	3,928,687	2,608,027	10%	(392,869)	927,791	2.4	386,580	9.84%
392.03	Light Trucks	17,523,332	5,858,296	25%	(4,380,833)	7,284,203	5.9	1,234,611	7.05%
392.04	Medium Trucks	127,109	37,019	25%	(31,777)	58,313	3.7	15,760	12.40%
392.05	Heavy Trucks	3,070,645	1,687,747	5%	(153,532)	1,229,366	8.4	146,353	4.77%
392.06	Trailers	816,543	381,137	0%	0	435,406	8.1	53,754	6.58%
	Total Transportation Equipment	25,466,316	10,572,226		(4,959,011)	9,935,079		1,837,058	7.21%
393.00	Stores Equipment	28,178	5,180	0%	0	22,998	20.4	1,127	4.00%
394.00	Tools, Shop, & Garage Equip								
	Fully Accrued	85,929	85,929	0%	0	0	0.0	0	0.00%
	Amortized	8,190,435	2,395,107	0%	0	5,795,328	17.7	327,420	4.00%
	Total Tools, Shop, & Garage Equip	8,276,365	2,481,036		0	5,795,329		327,420	3.96%
395.00	Laboratory Equip								
	Fully Accrued	6,915	6,915	0%	0	0	0.0	0	0.00%
	Amortized	81,887	49,617	0%	0	32,270	7.9	4,085	4.99%
	Total Laboratory Equip	88,803	56,532		0	32,271		4,085	4.60%
396.00	Power Operated Equipment	5,766,089	2,861,009	10%	(576,609)	2,328,471	10.5	221,759	3.85%
397.00	Communication Equip								
	Fully Accrued	909	909	0%	0	0	0.0	0	0.00%
	Amortized	845,171	438,292	0%	0	406,879	7.2	56,511	6.69%
	Total Communication Equip	846,080	439,201		0	406,879		56,511	6.68%
398.00	Miscellaneous Equipment	904,317	162,103	0%	0	742,214	16.4	45,257	5.00%
<b>Total General Plant</b>		<b>65,670,206</b>	<b>17,248,330</b>		<b>(4,411,709)</b>	<b>44,010,166</b>		<b>3,421,484</b>	<b>5.21%</b>
<b>Unrecovered Reserve to be Amortized</b>									
391.01	Office Furniture & Equip		(353,919)					70,784	
391.03	Computer Hardware		(886,191)					177,238	
391.04	Software		(804,822)					160,964	
391.07	Ipad Hardware		(5,565)					1,113	
393.00	Stores Equipment		2,321					(464)	
394.00	Tools, Shop, & Garage Equip		648,385					(129,677)	
395.00	Laboratory Equip		(6,617)					1,323	
397.00	Communication Equip		224,266					(44,853)	
398.00	Miscellaneous Equipment		121,280					(24,256)	
<b>Total Unrecovered Reserve to be Amortized</b>		<b>0</b>	<b>(1,060,862)</b>					<b>212,172</b>	
<b>TOTAL DEPRECIABLE PLANT</b>		<b>742,499,431</b>	<b>269,457,284</b>		<b>128,067,536</b>	<b>600,048,821</b>		<b>17,483,493</b>	<b>2.35%</b>



Black Hills Nebraska  
**Table 3: Current and Proposed Parameters**  
 As of November 30, 2019

Account	Description	Company Proposed				Public Advocate Proposed			
		Projection Life Years	Survivor Curve	Average Remaining Life Years	Future Net Salvage Percent	Projection Life Years	Survivor Curve	Average Remaining Life Years	Future Net Salvage Percent
(A)	(B)	(I)	(J)	(K)	(L)	(N)	(O)	(P)	(Q)
<b><u>Intangible Plant</u></b>									
302.00	Franchises and Consents	30	SQ	5.6	0%	30	SQ	5.6	0%
303.00	Misc Intangible Plant	15	SQ	3.2	0%	15	SQ	3.2	0%
303.01	Misc Intangible Plant - Easements	20	SQ	8.6	0%	20	SQ	8.6	0%
<b><u>Transmission Plant</u></b>									
365.03	Land & Land Rights - Rights-of-Way	70	R4	41.8	0%	70	R4	41.8	0%
366.01	Structures and Improvements	60	R4	33.5	0%	60	R4	33.5	0%
367.00	Mains	70	R3	49.0	0%	70	R3	49.0	0%
369.03	Measuring & Regulating Station Equip	45	R2	26.0	-5%	45	R2	26.0	-5%
<b><u>Distribution Plant</u></b>									
374.03	Land and Land Rights	75	R4	68.6	0%	75	R4	68.6	0%
375.01	Structures and Improvements	60	R1	50.3	0%	60	R1	50.3	0%
375.20	Structures and Improvements - Other	45	R3	39.6	0%	45	R3	39.6	0%
376.00	Mains	70	R2.5	61.2	-30%	70	R2.5	61.2	-25%
378.00	Measuring & Regulating Station Equip	45	S1	34.8	-15%	45	S1	34.8	-15%
379.00	Measuring & Regulating Station Equip-City	60	R3	48.3	-15%	60	R3	48.3	-15%
380.00	Services	40	S0	30.6	-40%	44	S1	32.9	-20%
381.00	Meters								
	Small Volume and Other	26	R1.5	19.3	0%	26	R1.5	19.3	0%
	ERT, AMR, and AMI	13	S1.5	6.4	0%	13	S1.5	6.4	0%
	Total Meters								
382.01	Meter Installations	36	R2	21.4	-2%	36	R2	21.4	-2%
383.01	House Regulators	40	R2	28.8	-15%	45	R2	35.1	-15%
383.71	House Regulators - Farm Taps	40	R2	39.2	0%	45	R2	44.2	0%
384.00	House Regulatory Installations	47	R4	23.0	-5%	47	R4	23.0	-5%
385.00	Industrial Measuring & Regulating Station E	38	R0.5	34.2	0%	38	R0.5	34.2	0%
386.00	Other Property on Customers' Premises	20	R4	4.1	0%	20	R4	4.1	0%
387.00	Other Equipment	25	R2.5	18.4	0%	25	R2.5	18.4	0%

Black Hills Nebraska  
**Table 3: Current and Proposed Parameters**  
 As of November 30, 2019

Account	Description	Company Proposed				Public Advocate Proposed			
		Projection Life Years	Survivor Curve	Average Remaining Life Years	Future Net Salvage Percent	Projection Life Years	Survivor Curve	Average Remaining Life Years	Future Net Salvage Percent
(A)	(B)	(I)	(J)	(K)	(L)	(N)	(O)	(P)	(Q)
<b>General Plant</b>									
390.01	Structures and Improvements	38	R2	35.0	-5%	38	R2	35.0	-5%
390.51	Leasehold Improvements	15	S1	3.4	0%	15	S1	3.4	0%
391.01	Office Furniture & Equip								
	Fully Accrued			0.0	0%	0	0	0.0	0%
	Amortized	20	SQ	16.1	0%	20	SQ	16.1	0%
	Total Office Furniture & Equip								
391.03	Computer Hardware								
	Fully Accrued			0.0	0%	0	0	0.0	0%
	Amortized	5	SQ	3.4	0%	5	SQ	3.4	0%
	Total Computer Hardware								
391.04	Software								
	Fully Accrued			0.0	0%	0	0	0.0	0%
	Amortized	5	SQ	4.5	0%	5	SQ	4.5	0%
	Total Software								
391.07	Ipad Hardware	5	SQ	4.5	0%	5	SQ	4.5	0%
	Transportation Equipment								
392.02	Cars	9	S3	2.4	10%	9	S3	2.4	10%
392.03	Light Trucks	9	L3	5.9	25%	9	L3	5.9	25%
392.04	Medium Trucks	8	L2	3.7	25%	8	L2	3.7	25%
392.05	Heavy Trucks	11	R3	8.4	5%	11	R3	8.4	5%
392.06	Trailers	12	S1	8.1	0%	12	S1	8.1	0%
	Total Transportation Equipment								
393.00	Stores Equipment	25	SQ	20.4	0%	25	SQ	20.4	0%
394.00	Tools, Shop, & Garage Equip								
	Fully Accrued			0.0	0%	0	0	0.0	0%
	Amortized	25	SQ	17.7	0%	25	SQ	17.7	0%
	Total Tools, Shop, & Garage Equip								
395.00	Laboratory Equip								
	Fully Accrued			0.0	0%	0	0	0.0	0%
	Amortized	20	SQ	7.9	0%	20	SQ	7.9	0%
	Total Laboratory Equip								
396.00	Power Operated Equipment	13	L1.5	10.5	10%	13	L1.5	10.5	10%
397.00	Communication Equip								
	Fully Accrued			0.0	0%	0	0	0.0	0%
	Amortized	15	SQ	7.2	0%	15	SQ	7.2	0%
	Total Communication Equip								
398.00	Miscellaneous Equipment	20	SQ	16.4	0%	20	SQ	16.4	0%

**BLACK HILLS NEBRASKA GAS, LLC  
NEBRASKA GAS RATE REVIEW  
APPLICATION NO. NG-109  
RESPONSE TO PUBLIC ADVOCATE  
DATA REQUEST NO. PA-226**

**DATE OF REQUEST:** 07/27/20  
**DATE RESPONSE DUE:** 08/06/20  
**REQUESTOR:** Public Advocate  
**ANSWERED BY:** Michael Clevinger  
**WITNESS:** Michael Clevinger  
**DATE RESPONDED:** 08/06/20  
**SUBJECT:** Depreciation

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**REQUEST: PA-226.** PA-197 discussed a “Reserve Adjustment” that Black Hills had made. In response to that request, Black Hills provided “Attachment No. PA5-197 Reserve Adjustment”, a copy of which is attached for convenient reference.

PA-199 referred to a \$697,531.28 amount that was included in the Cost of Removal for 2018 used in the Company’s depreciation study, Exhibit No. MCC-4. In response to part (d) of PA-199, the Company responded: “*d) None of the \$697,531.28 cost of removal was related to reserve adjustments.*”

Attachment No. PA-5-197, Reserve Adjustment shows the reserve adjustment total as \$2,683,783.22. The amount of \$697,531.28 is a number specifically shown as being part of that reserve adjustment total on “Attachment No. PA-5-197, Reserve Adjustment.”

- a. Does the Company admit or deny that the \$697,531.28 Cost of Removal was related to Reserve Adjustments?
- b. If the Company’s answer to (a) above is a denial, then explain how the Company can deny that the \$697,531.28 amount is part of the Reserve Adjustment when the referenced Company-provided document specifically shows that it is part of the Reserve Adjustment.

**RESPONSE:**

- a. The response to PA-199 part d) was clarifying the \$697,531 amount was not cost of removal. The \$2,683,783.22 amount was a reserve realignment to make sure the general ledger and property accounting schedules were properly segregated between the 108000 and the 108002. The total 108 represents the accumulated depreciation utilized in the depreciation study so the realignment

nets to zero. Therefore, the \$697,531 is included in the realignment, however, it is offset by (\$697,531) within the total reserve for the account.

- b. See response to part a) and Attachment PA 9-224 Reserve alignment.xlsx provided in response to PA-224.

**ATTACHMENTS:** None.

Nebraska Gas  
 August 2018 Reserve Adjustment

	108000	108002
GL Balance	(121,575,306.15)	(6,706,868.47)
PowerPlan Balance	<u>(118,891,522.93)</u>	<u>(9,390,651.69)</u>
	(2,683,783.22)	2,683,783.22

Historical Adjustment was needed to update PowerPlan balances to reflect reserve adjustments within the General Ledger  
 Due to the fact that COR is the offset account to this adjustment. The percentage was calculated on the total COR per depreciation group for the prior fiscal year.

Reserve Adjustment 2,683,783.22

start_month	end_month	company	set_of_bo	begin_bal	provision	retirements	cost_of_removal	salv_credit	transfers	gain_loss	end_bal	depr_group	Percentage	Total Adjustment
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	6,719,990.53	581,826.12	(106,587.05)	(45,952.17)	-	-	-	7,149,277.43	BHNEG - 237602 - Gas - Dist - RA1	18.43%	494,489.11
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	10,563,370.09	871,667.58	(4,460.99)	(6,986.67)	-	-	-	11,423,590.01	BHNEG - 237602 - Gas - Dist - RA2	2.80%	75,183.22
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	13,568,254.89	1,243,238.19	(79,991.23)	(12,802.82)	-	-	-	14,718,699.03	BHNEG - 237602 - Gas - Dist - RA3	5.13%	137,770.54
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	4,961,222.04	141,546.37	(344,622.30)	(3.57)	-	-	-	4,758,142.54	BHNEG - 237603 - Gas - Dist - RA1	0.00%	38.42
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	13,733,292.24	254,927.57	(14,272.26)	(13,485.10)	-	-	-	13,960,462.45	BHNEG - 237603 - Gas - Dist - RA2	5.41%	145,112.52
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	14,187,229.70	213,961.11	(47,360.56)	(10,554.55)	-	26,640.76	-	14,369,916.46	BHNEG - 237603 - Gas - Dist - RA3	4.23%	113,577.01
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	486,374.81	221,169.44	(3,734.41)	(235.12)	-	-	-	703,574.72	BHNEG - 237605 - Gas - Dist - RA2	0.09%	2,530.12
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	1,473,085.67	95,262.11	(14,585.84)	(1,032.89)	-	253.64	-	1,552,982.69	BHNEG - 237800 - Gas - Dist - RA3	0.41%	11,114.88
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	6,311,533.24	719,174.27	(15,880.71)	(5,157.18)	-	-	-	7,009,669.62	BHNEG - 238002 - Gas - Dist - RA1	2.07%	55,496.17
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	9,712,714.14	1,140,397.92	(108,459.80)	(537.53)	-	-	-	10,744,114.73	BHNEG - 238002 - Gas - Dist - RA2	0.22%	5,784.33
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	6,853,809.35	1,000,633.42	(312,024.64)	(64,820.59)	-	-	-	7,477,597.54	BHNEG - 238002 - Gas - Dist - RA3	25.99%	697,531.28
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	529,041.37	35,679.14	(9,778.92)	(15,590.59)	-	(44.75)	-	539,306.25	BHNEG - 238003 - Gas - Dist - RA1	6.25%	167,769.59
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	(928,546.89)	5,189.51	(75,545.17)	(615.28)	-	-	-	(999,517.83)	BHNEG - 238003 - Gas - Dist - RA2	0.25%	6,621.00
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	(1,336,029.43)	26,043.42	(74,510.96)	(19,164.40)	-	44.75	-	(1,403,616.62)	BHNEG - 238003 - Gas - Dist - RA3	7.68%	206,227.19
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	1,227,305.01	113,249.60	(3,745.14)	(25,066.00)	-	-	-	1,311,743.47	BHNEG - 238301 - Gas - Dist - RA1	10.05%	269,734.03
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	1,711,116.44	247,469.47	(9,927.79)	(41.81)	-	-	-	1,948,616.31	BHNEG - 238301 - Gas - Dist - RA2	0.02%	449.92
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	1,304,971.45	289,270.37	(78,007.54)	(27,357.85)	-	-	-	1,488,876.43	BHNEG - 238301 - Gas - Dist - RA3	10.97%	294,396.52
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	6,106.09	-	3.68	3.96	-	-	-	6,113.73	BHNEG - 239800 - Gas - Gen - RA2	0.00%	(42.61)
							(249,400.16)						100.00%	2,683,783.22

"ATTACHMENT PA 5-197  
 RESERVE ADJUSTMENT"

**BLACK HILLS NEBRASKA GAS, LLC  
NEBRASKA GAS RATE REVIEW  
APPLICATION NO. NG-109  
RESPONSE TO PUBLIC ADVOCATE  
DATA REQUEST NO. PA-227**

**DATE OF REQUEST:** 07/27/20  
**DATE RESPONSE DUE:** 08/06/20  
**REQUESTOR:** Public Advocate  
**ANSWERED BY:** John Spanos  
**WITNESS:** Michael Clevinger  
**DATE RESPONDED:** 08/06/20  
**SUBJECT:** Depreciation

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**REQUEST: PA-227.**

a. Admit or deny that the amount of \$697,531.28 was included in the \$1,261,669 Cost of Removal for the year 2018 shown on page 148 of the Company's depreciation study, Exhibit No. MCC-4.

b. Black Hills responded to PA-76(a) as follows:

*"a) The attachment "Attachment No. PA 1-76A (BHNEB Net Salvage File).xlsx" sets forth the net salvage data reflected in the Black Hills Nebraska depreciation study."*

An excerpt from "Attachment No. PA 1-76A (BHNEB Net Salvage File).xlsx is attached to this request as "Attachment to PA Request No. 227".--This excerpt shows all the Removal Cost amounts for Account 376.00 [Distribution Mains] for the year 2018 from the Company-provided "Attachment No. PA 1-76A (BHNEB Net Salvage File).xlsx". We have added the total of the Removal Cost column.

Do you agree that the total of the amounts shown on "Attachment to PA Request No. 227" is \$1,261,669? (If you do not agree, provide the mathematically correct total of the amounts shown in the Removal Cost column on "Attachment to PA Request No. 227".

c. Admit or deny that, as shown on the seventh line of "Attachment to PA Request No. 227", the amount of \$697,531.28 is included in the \$1,261,669.

d. Admit or deny that \$1,261,669 is the Cost of Removal amount for the year 2018 shown on page 148 of the Company Black Hills Nebraska depreciation study, Exhibit No. MCC-4. (If the response is "deny," provide the corrected statement and the support for the corrected statement.)

**RESPONSE:**

After review of the data from Attachment No. PA 1-76A (BHNEB Net Salvage File).xlsx the Company interprets this question is regarding Account 380 instead of 376. With that understanding the Company responds below.

- e) The \$697,531 was included in the \$1,261,669 mathematics for 2018 shown on page 148 of the Company's depreciation study
- f) The Company agrees that the total for Account 380 is \$1,261,669 instead of 376.
- g) Admit
- h) Admit. However, this does not change the proposed estimate on net salvage for the account as informed judgment and statistical analysis was utilized in determining the most appropriate net salvage percentage. The trend in recent years and expectations of the company and industry levels support the estimate proposed for the account of negative 40 percent.

**ATTACHMENTS:** None.

AccountNumber	TransactionCode	TransactionYear	RetirementAmount	RemovalCost
38000	0	2018		20,879.44
38000	0	2018		76,551.98
38000	0	2018		7,727.81
38000	0	2018		11,503.38
38000	0	2018		(60,423.07)
38000	0	2018		(3,310.45)
38000	0	2018		9.05
38000	0	2018		167,769.59
38000	0	2018		42.75
38000	0	2018		1,825.86
38000	0	2018		0.08
38000	0	2018		1.19
38000	0	2018		(4,834.58)
38000	0	2018		5,784.33
38000	0	2018		6,621.00
38000	0	2018		0.85
38000	0	2018		0.50
38000	0	2018		(1,469.35)
38000	0	2018		118.05
38000	0	2018		(5,967.58)
38000	0	2018		182.13
38000	0	2018		697,531.28
38000	0	2018		1,039.16
38000	0	2018		55,496.17
38000	0	2018		327.90
38000	0	2018		(2,077.38)
38000	0	2018		16,669.81
38000	0	2018		(85,221.24)
38000	0	2018		206,227.19
38000	0	2018		467.38
38000	0	2018		241.08
38000	0	2018		(1,033.19)
38000	0	2018		142,146.95
38000	0	2018		1,106.64
38000	0	2018		417.20
38000	0	2018		2.83
38000	0	2018		22.51
38000	0	2018		5,291.98

Total \$ 1,261,669



**Company 2010 Reserve Adjustment by Account**

Account	Description	Amount
376	Distribution Mains	\$968,701
378	Measuring and Regulating Eq.	\$11,115
380	Services	\$1,139,430
383	House Regulators	\$564,580
398	Misc. Eq.	(\$43)
	Total	\$2,683,783

Summary by Account of amounts on Attachment No. PA 5-197 Reserve Adjustment  
(Summed on next page).

Reserve Adjustment Amounts by Account as provided by Black Hills in response to PA 197

Source: "Attachment No. PA 5-197 Reserve Adjustment"

PA-197 is attached to the Dunkel direct as Exhibit WWD-10

RESERVE ADJUSTMENT AMOUNTS IN PA-197 BY ACCOUNT

From	Account (2nd number on ie 237602 is in Acct 376)	Reserve Adjustment in Account 376 , Mains	Reserve Adjustment in Account 378 M & R Strn. Eq.	Reserve Adjustment in Account 380 Services	Reserve Adjustment in Account 383 House Reg.	Reserve Adjustment in Account 398, Misc. Eq.	WAS THIS AMOUNT INCLUDED IN THE 2018 COST OF REMOVAL?	
							376, Mains	380, Services
							See PA-225 Exhibit WWD-16	See PA-227 Exhibit WWD-4
depr_group	Total Adjustment							
BHNEG - 237602 - (	494,489.11	376					Yes	494,489.11
BHNEG - 237602 - (	75,183.22	376					Yes	75,183.22
BHNEG - 237602 - (	137,770.54	376					Yes	137,770.54
BHNEG - 237603 - (	38.42	376					Yes	38.42
BHNEG - 237603 - (	145,112.52	376					Yes	145,112.52
BHNEG - 237603 - (	113,577.01	376					Yes	113,577.01
BHNEG - 237605 - (	2,530.12	376					Yes	2,530.12
BHNEG - 237800 - (	11,114.88	378	11,114.88					
BHNEG - 238002 - (	55,496.17	380		55,496.17			Yes	55,496.17
BHNEG - 238002 - (	5,784.33	380		5,784.33			Yes	5,784.33
BHNEG - 238002 - (	697,531.28	380		697,531.28			Yes	697,531.28
BHNEG - 238003 - (	167,769.59	380		167,769.59			Yes	167,769.59
BHNEG - 238003 - (	6,621.00	380		6,621.00			Yes	6,621.00
BHNEG - 238003 - (	206,227.19	380		206,227.19			Yes	206,227.19
BHNEG - 238301 - (	269,734.03	383			269,734.03			
BHNEG - 238301 - (	449.92	383			449.92			
BHNEG - 238301 - (	294,396.52	383			294,396.52			
BHNEG - 239800 - (	(42.61)	398				(42.61)		
	2,683,783.22							
		\$ 968,701	\$ 11,115	\$ 1,139,430	\$ 564,580	\$ (43)	\$ 968,701	\$ 1,139,430



## 2019 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION  
ACCRUALS RELATED TO GAS PLANT  
AS OF NOVEMBER 30, 2019

*Prepared by:*



*Excellence Delivered **As Promised***

BLACK HILLS NEBRASKA

ACCOUNT 380.00 SERVICES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
2010	1,888,026	84,057	4	1	0	84,055-	4-
2011	406,405	5,002	1		0	5,002-	1-
2012	1,069,324	127,568	12		0	127,568-	12-
2013	343,700	170	0		0	170-	0
2014	775,644	22,292	3		0	22,292-	3-
2015	764,541	104,516	14		0	104,516-	14-
2016	1,030,845	246,065	24		0	246,065-	24-
2017	1,170,574	371,710	32		0	371,710-	32-
2018	753,645	1,261,669	167		0	1,261,669-	167-
2019	670,772	96,454	14		0	96,454-	14-
TOTAL	8,873,477	2,319,504	26	1	0	2,319,503-	26-

THREE-YEAR MOVING AVERAGES

10-12	1,121,252	72,209	6		0	72,208-	6-
11-13	606,477	44,247	7		0	44,247-	7-
12-14	729,556	50,010	7		0	50,010-	7-
13-15	627,962	42,326	7		0	42,326-	7-
14-16	857,010	124,291	15		0	124,291-	15-
15-17	988,653	240,764	24		0	240,764-	24-
16-18	985,021	626,482	64		0	626,482-	64-
17-19	864,997	576,611	67		0	576,611-	67-

FIVE-YEAR AVERAGE

15-19	878,075	416,083	47		0	416,083-	47-
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BLACK HILLS NEBRASKA

ACCOUNT 380.00 SERVICES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
2010	1,888,026	84,057	4%	0	0%	-84,057	-4%
2011	406,405	5,002	1%	0	0%	-5,002	-1%
2012	1,069,324	127,568	12%	0	0%	-127,568	-12%
2013	343,700	170	0%	0	0%	-170	0%
2014	775,644	22,292	3%	0	0%	-22,292	-3%
2015	764,541	104,516	14%	0	0%	-104,516	-14%
2016	1,030,845	246,065	24%	0	0%	-246,065	-24%
2017	1,170,574	371,710	32%	0	0%	-371,710	-32%
2018	753,645	122,239	16%	0	0%	-122,239	-16%
2019	670,772	96,454	14%	0	0%	-96,454	-14%
TOTAL	8,873,476	1,180,073	13%	0	0%	-1,180,073	-13%

THREE-YEAR MOVING AVERAGES

10-12	\$ 1,121,252	\$ 72,209	6%	\$ -	0%	\$ (72,209)	-6%
11-13	\$ 606,476	\$ 44,247	7%	\$ -	0%	\$ (44,247)	-7%
12-14	\$ 729,556	\$ 50,010	7%	\$ -	0%	\$ (50,010)	-7%
13-15	\$ 627,962	\$ 42,326	7%	\$ -	0%	\$ (42,326)	-7%
14-16	\$ 857,010	\$ 124,291	15%	\$ -	0%	\$ (124,291)	-15%
15-17	\$ 988,653	\$ 240,764	24%	\$ -	0%	\$ (240,764)	-24%
16-18	\$ 985,021	\$ 246,671	25%	\$ -	0%	\$ (246,671)	-25%
17-19	\$ 864,997	\$ 196,801	23%	\$ -	0%	\$ (196,801)	-23%

FIVE-YEAR AVERAGE

15-19	\$ 878,075	\$ 188,197	21%	\$ -	0%	\$ (188,197)	-21%
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Data from page 148 of Exhibit No. MCC-4 [BH NE Depreciation Study]

2018 COR: \$1,261,669 Company used - \$1,139,430 that was Not COR = \$122,239

BLACK HILLS NEBRASKA

ACCOUNT 376.00 MAINS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
2010	2,519,602	69,912	3%	48	0%	-69,864	-3%
2011	357,205	309,248	87%	0	0%	-309,248	-87%
2012	660,075	67,133	10%	5	0%	-67,128	-10%
2013	637,051	852	0%	0	0%	-852	0%
2014	904,226	31,656	4%	0	0%	-31,656	-4%
2015	947,249	53,040	6%	0	0%	-53,040	-6%
2016	1,623,440	411,321	25%	123	0%	-411,198	-25%
2017	2,127,789	438,910	21%	0	0%	-438,910	-21%
2018	245,551	108,093	44%	0	0%	-108,093	-44%
2019	478,512	481,011	101%	0	0%	-481,011	-101%
TOTAL	10,500,700	1,971,176	19%	176	0%	-1,971,000	-19%

THREE-YEAR MOVING AVERAGES

10-12	\$ 1,178,961	\$ 148,764	13%	\$ 18	0%	\$ (148,747)	-13%
11-13	\$ 551,444	\$ 125,744	23%	\$ 2	0%	\$ (125,743)	-23%
12-14	\$ 733,784	\$ 33,214	5%	\$ 2	0%	\$ (33,212)	-5%
13-15	\$ 829,509	\$ 28,516	3%	\$ -	0%	\$ (28,516)	-3%
14-16	\$ 1,158,305	\$ 165,339	14%	\$ 41	0%	\$ (165,298)	-14%
15-17	\$ 1,566,159	\$ 301,090	19%	\$ 41	0%	\$ (301,049)	-19%
16-18	\$ 1,332,260	\$ 319,441	24%	\$ 41	0%	\$ (319,400)	-24%
17-19	\$ 950,617	\$ 342,671	36%	\$ -	0%	\$ (342,671)	-36%

FIVE-YEAR AVERAGE

15-19	\$ 1,084,508	\$ 298,475	28%	\$ 25	0%	\$ (298,450)	-28%
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Data from page 145 of Exhibit No. MCC-4 [BH NE Depreciation Study] except:  
 2018 COR: \$1,076,794 Company used - \$ 968,701 that was Not COR = \$108,093

**BLACK HILLS NEBRASKA GAS, LLC  
NEBRASKA GAS RATE REVIEW  
APPLICATION NO. NG-109  
RESPONSE TO PUBLIC ADVOCATE  
DATA REQUEST NO. PA-77**

**DATE OF REQUEST:** 06/02/20  
**DATE RESPONSE DUE:** 06/23/20  
**REQUESTOR:** Public Advocate  
**ANSWERED BY:** Michael C. Clevinger  
**WITNESS:** Michael C. Clevinger  
**DATE RESPONDED:** 06/23/20  
**SUBJECT:** Company's Depreciation Study

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**REQUEST:** PA-77. **Company's Depreciation Study:** Regarding the Retirements, Cost of Removal amounts, and Gross Salvage amounts for several years used in the net salvage analysis in the Company's Depreciation Study:

- a) For each year for which data is shown on these net salvage analysis pages, please provide the total retirements as booked, separately show the amount of each adjustment made by year, and provide the reason for each adjustment.
- b) For each year for which data is shown on these net salvage analysis pages, please provide the Cost of Removal as booked, separately show the amount of each adjustment made by year, and provide the reason for each adjustment.
- c) For each year for which data is shown on these net salvage analysis pages, please provide the Gross Salvage as booked, separately show the amount of each adjustment made by year, and provide the reason for each adjustment.
- d) Please provide the data requested in parts *a*, *b*, and *c* in an electronic format in which the numbers are readable as numbers by a PC, preferably in Excel spreadsheet format. If that is not possible, provide the data in text comma-delimited or text space-delimited format.
- e) Please also provide the information requests in parts *a-d* of this request for the depreciation studies for any other depreciation rates for which changes are proposed, including, but not necessarily limited to, Black Hills Utility Holding (or its successor) and/or the Black Hills Service Company (or its successor) if changes to those depreciation rates are proposed.

**RESPONSE:**

- a) Please refer to the "Retirements" tab of the attachment "Attachment No. PA 1-77A" for the retirements that were not included in the net salvage analysis for the Black Hills Nebraska deprecation study.

- b) Please refer to the “Cost of Removal” tab of the attachment “Attachment No. PA 1-77A” for the cost of removal amounts that were not included in the net salvage analysis for the Black Hills Nebraska deprecation study.
- c) Please refer to the “Gross Salvage” tab of the attachment “Attachment No. PA 1-77A” for the gross salvage amounts that were not included in the net salvage analysis for the Black Hills Nebraska deprecation study.
- d) The data provided in parts (a) through (c) was provided in the available electronic format.
- e) The retirements, Cost of Removal and Gross Salvage represented in the Black Hills Service Company depreciation study are consistent with what was booked by the company during the period. No adjustments were made. Please note the 2018 retirements, Cost of Removal and Net Salvage in Account 390.01 (Structures and Improvements – Owned) were related to a sale of the Plant Street location and therefore, not considered a normal entry for the development of the net salvage estimate for the account.

**ATTACHMENTS:**

Attachment No. PA 1-77A



AccountNumber	TransactionYear	Excluded Retirements	Reason for Exclusion From Net Salvage Analysis
37501	2017	(61,108.43)	Related to sale of Sidney office building
39001	2018	(68,169.54)	Coded as outlier retirement due to SourceGas acquisition of leased assets

AccountNumber	TransactionYear	Excluded COR	Reason for Exclusion From Net Salvage Analysis
38301	2018	(3,158.61)	Cost of Removal amounts booked that were only reserve adjustments
38301	2018	294,396.52	Cost of Removal amounts booked that were only reserve adjustments
38301	2018	(127.32)	Cost of Removal amounts booked that were only reserve adjustments
38301	2018	269,734.03	Cost of Removal amounts booked that were only reserve adjustments
38301	2018	20,168.94	Cost of Removal amounts booked that were only reserve adjustments
38301	2018	(18,637.35)	Cost of Removal amounts booked that were only reserve adjustments
38301	2018	(16.26)	Cost of Removal amounts booked that were only reserve adjustments
38301	2018	(7,775.26)	Cost of Removal amounts booked that were only reserve adjustments
38301	2018	5,589.64	Cost of Removal amounts booked that were only reserve adjustments
38301	2018	449.92	Cost of Removal amounts booked that were only reserve adjustments
38301	2018	(20.21)	Cost of Removal amounts booked that were only reserve adjustments
38301	2018	16.83	Cost of Removal amounts booked that were only reserve adjustments
38301	2018	112.86	Cost of Removal amounts booked that were only reserve adjustments
38301	2018	1.12	Cost of Removal amounts booked that were only reserve adjustments

AccountNumber	TransactionYear	Excluded GS	Reason for Exclusion From Net Salvage Analysis
37501	2017	(93,407.87)	Sale of buildings in Sidney, NE
37501	2017	(8,540.02)	Sale of buildings in Sidney, NE
37600	2011	(295,937.24)	Sale of Elkhorn system

**BLACK HILLS NEBRASKA GAS, LLC  
NEBRASKA GAS RATE REVIEW  
APPLICATION NO. NG-109  
RESPONSE TO PUBLIC ADVOCATE  
DATA REQUEST NO. PA-197**

**DATE OF REQUEST:** 07/07/20  
**DATE RESPONSE DUE:** 07/17/20  
**REQUESTOR:** Public Advocate  
**ANSWERED BY:** Michael C. Clevinger  
**WITNESS:** Michael C. Clevinger  
**DATE RESPONDED:** 07/17/20  
**SUBJECT:** Depreciation

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**REQUEST:** PA-197. Part (b) of PA-77 asked:

For each year for which data is shown on these net salvage analysis pages, please provide the Cost of Removal as booked, separately show the amount of each adjustment made by year, and provide the reason for each adjustment.

The Company response to (b) was

*Please refer to the "Cost of Removal" tab of the attachment "Attachment No. PA 1-77A" for the cost of removal amounts that were not included in the net salvage analysis for the Black Hills Nebraska depreciation (sic) study.*

That "Cost of Removal" tab of "Attachment No. PA 1-77A" shows that in the year 2018 in Account 383.01 [House Regulators] a total of \$560,735 Cost of Removal was an "Exclusion From Net Salvage Analysis" because "Cost of Removal amounts booked that were only reserve adjustments".

- a. Provide a copy of the documents that were contemporaneous to these "reserve adjustments" explaining or discussing the reasons for these "reserve adjustments". Include all parts of these documents, including any discussions pertaining to all accounts, not just limited to Account 383.01 - House Regulators.
- b. Provide a copy of the documents that were contemporaneous to these "reserve adjustments" showing the total dollar amount of these "reserve adjustments" and also showing these amounts by account. This should include the dollar amount for all accounts, not just limited to Account 383.01 - House Regulators.
- c. Explain the reasons for these "reserve adjustments". This should include all accounts that were adjusted, not just limited to Account 383.01 - House Regulators.

- d. Provide the dollar amount of these “reserve adjustments” by account. This should include all accounts that were adjusted, not just limited to Account 383.01 - House Regulators.

**RESPONSE:**

- a) The \$560,735 amount that was recorded as Cost of Removal in 2018 for Account 383.01, House Regulators was not cost of removal of assets. This amount was an entry that was to correct the level of the accumulated depreciation amount for Account 383, not a cost of removal entry. Therefore, it was removed from the analysis of net salvage.
- b) The attached schedule, Attachment No. PA-197 Reserve Adjustments.xlsx sets forth the entries in accumulated depreciation for all accounts.
- c) Please see the response to part a).
- d) Please see the attachment to part b) of this response.

**ATTACHMENTS:**

Attachment No. PA-197 Reserve Adjustments

Nebraska Gas  
 August 2018 Reserve Adjustment

	108000	108002
GL Balance	(121,575,306.15)	(6,706,868.47)
PowerPlan Balance	<u>(118,891,522.93)</u>	<u>(9,390,651.69)</u>
	(2,683,783.22)	2,683,783.22

Historical Adjustment was needed to update PowerPlan balances to reflect reserve adjustments within the General Ledger  
 Due to the fact that COR is the offset account to this adjustment. The percentage was calculated on the total COR per depreciation group for the prior fiscal year.

Reserve Adjustment 2,683,783.22

start_month	end_month	company	set_of_boc	begin_bal	provision	retirements	cost_of_removal	salv_credit	transfers	gain_loss	end_bal	depr_group	Percentage	Total Adjustment
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	6,719,990.53	581,826.12	(106,587.05)	(45,952.17)	-	-	-	7,149,277.43	BHNEG - 237602 - Gas - Dist - RA1	18.43%	494,489.11
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	10,563,370.09	871,667.58	(4,460.99)	(6,986.67)	-	-	-	11,423,590.01	BHNEG - 237602 - Gas - Dist - RA2	2.80%	75,183.22
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	13,568,254.89	1,243,238.19	(79,991.23)	(12,802.82)	-	-	-	14,718,699.03	BHNEG - 237602 - Gas - Dist - RA3	5.13%	137,770.54
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	4,961,222.04	141,546.37	(344,622.30)	(3.57)	-	-	-	4,758,142.54	BHNEG - 237603 - Gas - Dist - RA1	0.00%	38.42
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	13,733,292.24	254,927.57	(14,272.26)	(13,485.10)	-	-	-	13,960,462.45	BHNEG - 237603 - Gas - Dist - RA2	5.41%	145,112.52
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	14,187,229.70	213,961.11	(47,360.56)	(10,554.55)	-	26,640.76	-	14,369,916.46	BHNEG - 237603 - Gas - Dist - RA3	4.23%	113,577.01
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	486,374.81	221,169.44	(3,734.41)	(235.12)	-	-	-	703,574.72	BHNEG - 237605 - Gas - Dist - RA2	0.09%	2,530.12
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	1,473,085.67	95,262.11	(14,585.84)	(1,032.89)	-	253.64	-	1,552,982.69	BHNEG - 237800 - Gas - Dist - RA3	0.41%	11,114.88
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	6,311,533.24	719,174.27	(15,880.71)	(5,157.18)	-	-	-	7,009,669.62	BHNEG - 238002 - Gas - Dist - RA1	2.07%	55,496.17
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	9,712,714.14	1,140,397.92	(108,459.80)	(537.53)	-	-	-	10,744,114.73	BHNEG - 238002 - Gas - Dist - RA2	0.22%	5,784.33
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	6,853,809.35	1,000,633.42	(312,024.64)	(64,820.59)	-	-	-	7,477,597.54	BHNEG - 238002 - Gas - Dist - RA3	25.99%	697,531.28
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	529,041.37	35,679.14	(9,778.92)	(15,590.59)	-	(44.75)	-	539,306.25	BHNEG - 238003 - Gas - Dist - RA1	6.25%	167,769.59
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	(928,546.89)	5,189.51	(75,545.17)	(615.28)	-	-	-	(999,517.83)	BHNEG - 238003 - Gas - Dist - RA2	0.25%	6,621.00
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	(1,336,029.43)	26,043.42	(74,510.96)	(19,164.40)	-	44.75	-	(1,403,616.62)	BHNEG - 238003 - Gas - Dist - RA3	7.68%	206,227.19
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	1,227,305.01	113,249.60	(3,745.14)	(25,066.00)	-	-	-	1,311,743.47	BHNEG - 238301 - Gas - Dist - RA1	10.05%	269,734.03
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	1,711,116.44	247,469.47	(9,927.79)	(41.81)	-	-	-	1,948,616.31	BHNEG - 238301 - Gas - Dist - RA2	0.02%	449.92
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	1,304,971.45	289,270.37	(78,007.54)	(27,357.85)	-	-	-	1,488,876.43	BHNEG - 238301 - Gas - Dist - RA3	10.97%	294,396.52
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	6,106.09	-	3.68	3.96	-	-	-	6,113.73	BHNEG - 239800 - Gas - Gen - RA2	0.00%	(42.61)
							(249,400.16)						100.00%	2,683,783.22

**BLACK HILLS NEBRASKA GAS, LLC  
NEBRASKA GAS RATE REVIEW  
APPLICATION NO. NG-109  
RESPONSE TO PUBLIC ADVOCATE  
DATA REQUEST NO. PA-157**

**DATE OF REQUEST:** 06/25/20  
**DATE RESPONSE DUE:** 07/06/20  
**REQUESTOR:** Public Advocate  
**ANSWERED BY:** John Spanos  
**WITNESS:** Michael C. Clevinger  
**DATE RESPONDED:** 07/06/20  
**SUBJECT:** Depreciation

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**REQUEST:** PA-157. Depreciation: Page 36 of Exhibit No. MCC-4 [the Black Hills Nebraska Depreciation study] includes the statement: “Account 380.00, Services has aged plant accounting data compiled for the years 1998 through 2019. The survivor curve estimate of 40-S0 is consistent with the statistical indications for the period 1998 through 2019. The Iowa 40-S0 is a good fit of the stub curve for Services through age 67 and is consistent with the outlook for this account. The 40-year service life is at the lower end of the typical service life range of 40 to 55 years for services, however, is consistent with the Company’s practices relating to assets in this account. Based on these considerations, the 40-S0 survivor curve is the most reasonable estimate for this account.”

- a. Provide the documents that support the statement that the Iowa 40-S0 “is consistent with the outlook for this account.”
- b. Provide the documents that support the statement that the Iowa 40-S0 “is consistent with the Company’s practices relating to assets in this account.”

**RESPONSE:**

PA-157 a. – Through discussions with Company personnel related to gas services and an understanding on the expected forces of retirements, an average life of 40 years and maximum life of 80 years is reasonable. Also, the type dispersion pattern that anticipates a symmetrical dispersion pattern of all ages is also expected due to the many forces of retirement.

PA – 157 b. – The Company’s practices are to replace gas services at the time the associated main is replaced, due to age, failure, change in type, etc. These causes of retirement have been in place in the past and will continue into the future. The combination of the continuation of these practices and the historical indications of these practices in the past supports the statement that the 40-S0 survivor curve is the most appropriate for gas services.

**ATTACHMENTS:** None



**BLACK HILLS NEBRASKA GAS, LLC  
NEBRASKA GAS RATE REVIEW  
APPLICATION NO. NG-109  
RESPONSE TO PUBLIC ADVOCATE  
DATA REQUEST NO. PA-147**

**DATE OF REQUEST:** 06/25/20  
**DATE RESPONSE DUE:** 07/06/20  
**REQUESTOR:** Public Advocate  
**ANSWERED BY:** John Spanos  
**WITNESS:** Michael C. Clevinger  
**DATE RESPONDED:** 07/06/20  
**SUBJECT:** Depreciation

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**REQUEST: PA-147. Depreciation:**

- a. Page 51 of Exhibit No. MCC-4 [the Black Hills Nebraska Depreciation study] shows that for Account 380-Services the Company proposed depreciation rate would produce an Annual Accrual Amount of \$4,695,090. Provide the amount of this Annual Accrual Amount that is for the net salvage, and separately the amount of this Annual Accrual Amount that is for other than net salvage.
- b. Provide the same information requested in part (a) separately for the Annual Accrual Amount of each account on pages 51-53 of Exhibit No. MCC-4.
- c. Provide the workpapers (preferable in Excel) that support the responses to parts (a) and (b).

**RESPONSE:**

PA-147 a. – The portion of the annual depreciation accrual amount for Account 380, Services, that relates to the net salvage is \$1,341,454 and the remaining amount of 3,353,636 relates to capital recovery or also known as the life component.

PA-147 b. – Attachment No. PA-147- Depreciation Expense By Component sets forth the annual depreciation accrual amount by account separately for capital recovery and net salvage as of November 30, 2019.

PA-147 c. – The attachment referenced in part b) is the workpaper to support the amount along with the detailed depreciation calculations set forth in Exhibit No. MCC-4[Black Hills Nebraska Depreciation Study].

**ATTACHMENTS:**

Attachment No. PA-147- Depreciation Expense By Component.

**BLACK HILLS NEBRASKA**

**SUMMARY OF TOTAL ANNUAL EXPENSE AND ANNUAL EXPENSE  
 BY COMPONENT RELATED TO GAS PLANT AS OF NOVEMBER 30, 2019**

ACCOUNT	ORIGINAL COST AS OF NOVEMBER 30, 2019	TOTAL ANNUAL EXPENSE	CAPITAL RECOVERY EXPENSE	NET SALVAGE EXPENSE	
(1)	(2)	(3)	(4)	(5)	
<b>DEPRECIABLE PLANT</b>					
<b>INTANGIBLE PLANT</b>					
302.00	FRANCHISES AND CONSENTS	121,062.49	704	704	0
303.00	MISCELLANEOUS INTANGIBLE PLANT	742,880.94	49,089	49,089	0
303.01	MISCELLANEOUS INTANGIBLE PLANT - EASEMENTS	500,000.00	25,253	25,253	0
	<b>TOTAL INTANGIBLE PLANT</b>	<b>1,363,943.43</b>	<b>75,046</b>	<b>75,046</b>	<b>0</b>
<b>TRANSMISSION PLANT</b>					
365.03	LAND AND LAND RIGHTS - RIGHTS OF WAY	170,272.49	1,299	1,299	0
366.01	STRUCTURES AND IMPROVEMENTS	8,173.65	40	40	0
367.00	MAINS	5,358,618.90	26,467	26,467	0
369.03	MEASURING AND REGULATING STATION EQUIPMENT	624,131.57	12,979	12,361	618
	<b>TOTAL TRANSMISSION PLANT</b>	<b>6,161,196.61</b>	<b>40,785</b>	<b>40,167</b>	<b>618</b>
<b>DISTRIBUTION PLANT</b>					
374.03	LAND AND LAND RIGHTS	5,981,058.73	56,566	56,566	0
375.01	STRUCTURES AND IMPROVEMENTS	4,779,829.56	36,546	36,546	0
375.20	STRUCTURES AND IMPROVEMENTS - OTHER	12,119.44	259	259	0
376.00	MAINS	368,534,043.19	5,358,903	4,122,233	1,236,670
378.00	MEASURING AND REGULATING STATION EQUIPMENT	20,627,024.28	558,236	485,423	72,813
379.00	MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE	4,504,804.09	63,676	55,370	8,306
380.00	SERVICES	132,537,973.28	4,695,090	3,353,636	1,341,454

**BLACK HILLS NEBRASKA**

**SUMMARY OF TOTAL ANNUAL EXPENSE AND ANNUAL EXPENSE  
 BY COMPONENT RELATED TO GAS PLANT AS OF NOVEMBER 30, 2019**

ACCOUNT (1)	ORIGINAL COST AS OF NOVEMBER 30, 2019 (2)	TOTAL ANNUAL EXPENSE (3)	CAPITAL RECOVERY EXPENSE (4)	NET SALVAGE EXPENSE (5)
381.00 METERS				
SMALL VOLUME AND OTHER	21,393,947.32	681,598	681,598	0
ERT, AMR AND AMI	21,057,410.09	1,349,841	1,349,841	0
<b>TOTAL METERS</b>	<b>42,451,357.41</b>	<b>2,031,439</b>	<b>2,031,439</b>	<b>0</b>
382.01 METER INSTALLATIONS	15,027,221.02	400,767	392,909	7,858
383.01 HOUSE REGULATORS	64,404,962.63	2,102,069	1,827,886	274,183
383.71 HOUSE REGULATORS - FARM TAPS	626,094.46	15,621	15,621	0
384.01 HOUSE REGULATOR INSTALLATIONS	1,517,403.30	18,367	17,492	875
385.00 INDUSTRIAL MEASURING AND REGULATING EQUIPMENT	8,058,395.01	207,519	207,519	0
386.00 OTHER PROPERTY ON CUSTOMERS' PREMISES	35,278.87	366	366	0
387.00 OTHER EQUIPMENT	206,519.79	4,264	4,264	0
<b>TOTAL DISTRIBUTION PLANT</b>	<b>669,304,085.06</b>	<b>15,549,688</b>	<b>12,607,529</b>	<b>2,942,159</b>
<b>GENERAL PLANT</b>				
390.01 STRUCTURES AND IMPROVEMENTS	22,478,214.22	670,911	638,963	31,948
390.51 LEASEHOLD IMPROVEMENTS	96,461.46	8,948	8,948	0
391.01 OFFICE FURNITURE AND EQUIPMENT				
OFFICE FURNITURE AND EQUIPMENT				
FULLY ACCRUED	1,134.23	0	0	0
AMORTIZED	415,193.62	20,751	20,751	0
<b>TOTAL OFFICE FURNITURE AND EQUIPMENT</b>	<b>416,327.85</b>	<b>20,751</b>	<b>20,751</b>	<b>0</b>

**BLACK HILLS NEBRASKA**

**SUMMARY OF TOTAL ANNUAL EXPENSE AND ANNUAL EXPENSE  
 BY COMPONENT RELATED TO GAS PLANT AS OF NOVEMBER 30, 2019**

ACCOUNT (1)	ORIGINAL COST AS OF NOVEMBER 30, 2019 (2)	TOTAL ANNUAL EXPENSE (3)	CAPITAL RECOVERY EXPENSE (4)	NET SALVAGE EXPENSE (5)
391.03	COMPUTER HARDWARE			
	FULLY ACCRUED	6,175.74	0	0
	AMORTIZED	544,785.01	108,941	108,941
	TOTAL COMPUTER HARDWARE	550,960.75	108,941	108,941
391.04	SOFTWARE			
	FULLY ACCRUED	168,549.44	0	0
	AMORTIZED	1,550.56	310	310
	TOTAL SOFTWARE	170,100.00	310	310
391.07	IPAD HARDWARE	581,994.77	116,399	116,399
	TOTAL OFFICE FURNITURE AND EQUIPMENT	1,719,383.37	246,401	246,401
	TRANSPORTATION EQUIPMENT			
392.02	CARS	3,928,687.04	387,805	430,894
392.03	LIGHT TRUCKS	17,523,332.34	1,226,077	1,634,769
392.04	MEDIUM TRUCKS	127,109.01	15,961	21,281
392.05	HEAVY TRUCKS	3,070,645.01	146,182	153,876
392.06	TRAILERS	816,542.88	53,848	53,848
	TOTAL TRANSPORTATION EQUIPMENT	25,466,316.28	1,829,873	2,294,668
393.00	STORES EQUIPMENT	28,177.52	1,127	1,127
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT			
	FULLY ACCRUED	85,929.22	0	0
	AMORTIZED	8,190,435.44	327,313	327,313
	TOTAL TOOLS, SHOP AND GARAGE EQUIPMENT	8,276,364.66	327,313	327,313

**BLACK HILLS NEBRASKA**

**SUMMARY OF TOTAL ANNUAL EXPENSE AND ANNUAL EXPENSE  
 BY COMPONENT RELATED TO GAS PLANT AS OF NOVEMBER 30, 2019**

ACCOUNT	ORIGINAL COST AS OF NOVEMBER 30, 2019	TOTAL ANNUAL EXPENSE	CAPITAL RECOVERY EXPENSE	NET SALVAGE EXPENSE
(1)	(2)	(3)	(4)	(5)
395.00 LABORATORY EQUIPMENT				
FULLY ACCRUED	6,915.47	0	0	0
AMORTIZED	81,887.05	4,098	4,098	0
TOTAL LABORATORY EQUIPMENT	88,802.52	4,098	4,098	0
396.00 POWER OPERATED EQUIPMENT	5,766,088.78	220,896	245,440	(24,544)
397.00 COMMUNICATION EQUIPMENT				
FULLY ACCRUED	909.41	0	0	0
AMORTIZED	845,170.99	56,342	56,342	0
TOTAL COMMUNICATION EQUIPMENT	846,080.40	56,342	56,342	0
398.00 MISCELLANEOUS EQUIPMENT	904,316.55	45,183	45,183	0
<b>TOTAL GENERAL PLANT</b>	<b>65,670,205.76</b>	<b>3,411,092</b>	<b>3,868,483</b>	<b>(457,391)</b>
<b>UNRECOVERED RESERVE TO BE AMORTIZED</b>				
391.01 OFFICE FURNITURE AND EQUIPMENT		70,784	70,784	
391.03 OFFICE FURNITURE AND EQUIPMENT - COMPUTER HARDWARE		177,238	177,238	
391.04 OFFICE FURNITURE AND EQUIPMENT - SOFTWARE		160,964	160,964	
391.07 OFFICE FURNITURE AND EQUIPMENT - IPAD HARDWARE		1,113	1,113	
393.00 STORES EQUIPMENT		(464)	(464)	

**BLACK HILLS NEBRASKA**

**SUMMARY OF TOTAL ANNUAL EXPENSE AND ANNUAL EXPENSE  
 BY COMPONENT RELATED TO GAS PLANT AS OF NOVEMBER 30, 2019**

<u>ACCOUNT</u>	<u>ORIGINAL COST AS OF NOVEMBER 30, 2019</u>	<u>TOTAL ANNUAL EXPENSE</u>	<u>CAPITAL RECOVERY EXPENSE</u>	<u>NET SALVAGE EXPENSE</u>
(1)	(2)	(3)	(4)	(5)
394.00 TOOLS, SHOP AND GARAGE EQUIPMENT		(129,677)	(129,677)	
395.00 LABORATORY EQUIPMENT		1,323	1,323	
397.00 COMMUNICATION EQUIPMENT		(44,853)	(44,853)	
398.00 MISCELLANEOUS EQUIPMENT		(24,256)	(24,256)	
<b>TOTAL UNRECOVERED RESERVE TO BE AMORTIZED</b>		<u>212,172</u>	<u>212,172</u>	
<b>TOTAL DEPRECIABLE GAS PLANT</b>	<u>742,499,430.86</u>	<u>19,288,783</u>	<u>16,803,397</u>	<u>2,485,386</u>
<b>NONDEPRECIABLE PLANT AND ACCOUNTS NOT STUDIED</b>				
301.00 ORGANIZATION	256.00			
374.01 LAND	1,540,540.48			
374.02 LAND AND LAND RIGHTS	176,100.00			
389.01 LAND	5,210,058.38			
389.02 LAND AND LAND RIGHTS	1,134,618.31			
<b>TOTAL NONDEPRECIABLE PLANT AND ACCOUNTS NOT STUDIED</b>	<u>8,061,573.17</u>			
<b>TOTAL GAS PLANT</b>	<u>750,561,004.03</u>	<u>19,288,783</u>	<u>16,803,397</u>	<u>2,485,386</u>

**BLACK HILLS NEBRASKA GAS, LLC  
NEBRASKA GAS RATE REVIEW  
APPLICATION NO. NG-109  
RESPONSE TO PUBLIC ADVOCATE  
DATA REQUEST NO. PA-274**

**DATE OF REQUEST:** 08/11/20  
**DATE RESPONSE DUE:** 08/21/20  
**REQUESTOR:** Public Advocate  
**ANSWERED BY:** Michael Clevinger  
**WITNESS:** Michael Clevinger  
**DATE RESPONDED:** 08/21/20  
**SUBJECT:** Depreciation

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**REQUEST: PA-274.** Depreciation: Page (iii) of the Application No. NG-109 in this proceeding states:

Black Hills Nebraska Gas, LLC is the combination of Black Hills/Nebraska Gas Utility Company, LLC (“BH Gas Utility” formerly Aquila) and Black Hills Gas Distribution, LLC (“BH Gas Distribution” formerly Source Gas) Page 145 of Exhibit MCC-4 [BHNE Depreciation study] (“page 145”) provides a Summary of Book Salvage for Account 376, Mains. This page 145 shows certain data for each of the years 2010 through 2019.

- a. List each of the years 2010-2019 for which the data shown on page 145 includes the full year of data for both “BH Gas Utility” and BH Gas Distribution”.
- b. List each of the years 2010-2019 for which the data shown on page 145 includes the full year of data for only one of “BH Gas Utility” or BH Gas Distribution”.
- c. For each year listed in response to part (b), state the name of the Company that’s data was included in that year (BH Gas Utility or BH Gas Distribution).
- d. If any year of the years 2010-2019 is not included in the response to either part (a) or part (b), for each such year explain what data was included in that year. Specially include a statement of what data from BH Gas Utility was included and separately a statement of what data from BH Gas Distribution was included.
- e. If the responses to any of part (a) through (d) would be different for page 148 of Exhibit MCC-4 [Account 380 Services] then provide the responses for parts part (a) through (d) for page 148 of Exhibit MCC-4 [Account 380 Services].

**RESPONSE:**

- a. The years that include full years of data for both “BH Gas Utility” and BH Gas Distribution” are 2013, 2014, 2015, 2016, 2017, 2018, and 2019.
- b. The years that include only one of the companies are 2010, 2011, and 2012.
- c. Years 2010, 2011, and 2012 reflect the full year information for BH Gas Utility only.
- d. All years are represented in a and b.
- e. The responses to a – d would not be different for the 380 – Services account.

**ATTACHMENTS:**

None.



**BLACK HILLS NEBRASKA GAS, LLC  
NEBRASKA GAS RATE REVIEW  
APPLICATION NO. NG-109  
RESPONSE TO PUBLIC ADVOCATE  
DATA REQUEST NO. PA-224**

**DATE OF REQUEST:** 07/27/20  
**DATE RESPONSE DUE:** 08/06/20  
**REQUESTOR:** Public Advocate  
**ANSWERED BY:** John Spanos  
**WITNESS:** Michael Clevinger  
**DATE RESPONDED:** 08/06/20  
**SUBJECT:** Depreciation

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**REQUEST: PA-224.** PA-197 discussed a “Reserve Adjustment” that Black Hills had made. In response to that request, Black Hills provided “Attachment No. PA5-197 Reserve Adjustment”, a copy of which is attached for convenient reference.

PA-198 referred to a \$494,489.11 amount that was included in the Cost of Removal for 2018 used in the Company’s depreciation study, Exhibit No. MCC-4. In response to part (d) of PA-198, the Company responded: *“d) None of the \$494,489 cost of removal was related to reserve adjustments.”*

Attachment No. PA-5-197, Reserve Adjustment shows the reserve adjustment total as \$2,683,783.22. The amount of \$494,489.11 is a number specifically shown as being part of that reserve adjustment total on “Attachment No. PA-5-197, Reserve Adjustment.”

- a. Does the Company admit or deny that the \$494,489 Cost of Removal was related to Reserve Adjustments?
- b. If the Company’s answer to (a) above is a denial, then explain how the Company can deny that the \$494,489.11 amount is part of the Reserve Adjustment when the referenced Company-provided document specifically shows that it is part of the Reserve Adjustment.

**RESPONSE:**

- a. The response to PA-198 part d) was clarifying the \$494,489 amount was not cost of removal. The \$2,683,783.22 amount was a reserve realignment to make sure the general ledger and property accounting schedules were properly segregated between the 108000 and the 108002. The total 108 represents the accumulated depreciation utilized in the depreciation study so the realignment

nets to zero. Therefore, the \$494,489 is included in the realignment, however, it is offset by (\$494,489) within the total reserve for the account.

- b. See response to part a) and Attachment No. PA 9-224 Reserve Alignment.xlsx.

**ATTACHMENTS:**

Attachment No. PA 9-224 Reserve Alignment.xlsx

Nebraska Gas  
 August 2018 Reserve Reclass

	108000	108002
GL Balance	(121,575,306.15)	(6,706,868.47)
PowerPlan Balance	<u>(118,891,522.93)</u>	<u>(9,390,651.69)</u>
	(2,683,783.22)	2,683,783.22

Historical Adjustment was needed to update PowerPlan balances to reflect reserve adjustments within the General Ledger  
 Due to the fact that COR is the offset account to this adjustment. The percentage was calculated on the total COR per depreciation group for the prior fiscal year.

Reserve Reclass                    2,683,783.22

	108000	108002	Total
GL Balance	(121,575,306.15)	(6,706,868.47)	(128,282,174.62)
PowerPlan Balance	<u>(118,891,522.93)</u>	<u>(9,390,651.69)</u>	<u>(128,282,174.62)</u>
Difference	(2,683,783.22)	2,683,783.22	-
Reserve Reclass	(2,683,783.22)	2,683,783.22	-

August 2018 Reserve Realignment			
	108000	108002	Total
GL Balance	(121,575,306.15)	(6,706,868.47)	(128,282,174.62)
PowerPlan Balance	<u>(118,891,522.93)</u>	<u>(9,390,651.69)</u>	<u>(128,282,174.62)</u>
Difference between PowerPlan and GL	2,683,783.22	2,683,783.22	-
Reserve Realignment within PowerPlan	<u>2,683,783.22</u>	<u>(2,683,783.22)</u>	-
Net Difference	(0.00)	-	-

Nebraska Gas

August 2018 Reserve Adjustment

	108000	108002
GL Balance	(121,575,306.15)	(6,706,868.47)
PowerPlan Balance	<u>(118,891,522.93)</u>	<u>(9,390,651.69)</u>
	2,683,783.22	2,683,783.22

Historical Adjustment was needed to update PowerPlan balances to reflect reserve adjustments within the General Ledger  
 Due to the fact that COR is the offset account to this adjustment. The percentage was calculated on the total COR per depreciation group for the prior fiscal year.

Reserve Adjustment

2,683,783.22

start_month	end_month	company	set_of_books	begin_bal	provision	retirements	cost_of_removal	salv_credit	transfers	gain_loss	end_bal	depr_group	Percentage	Total Adjustment
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	6,719,990.53	581,826.12	(106,587.05)	(45,952.17)	-	-	-	7,149,277.43	BHNEG - 237602 - Gas - Dist - RA1	18.43%	494,489.11
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	10,563,370.09	871,667.58	(4,460.99)	(6,986.67)	-	-	-	11,423,590.01	BHNEG - 237602 - Gas - Dist - RA2	2.80%	75,183.22
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	13,568,254.89	1,243,238.19	(79,991.23)	(12,802.82)	-	-	-	14,718,699.03	BHNEG - 237602 - Gas - Dist - RA3	5.13%	137,770.54
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	4,961,222.04	141,546.37	(344,622.30)	(3.57)	-	-	-	4,758,142.54	BHNEG - 237603 - Gas - Dist - RA1	0.00%	38.42
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	13,733,292.24	254,927.57	(14,272.26)	(13,485.10)	-	-	-	13,960,462.45	BHNEG - 237603 - Gas - Dist - RA2	5.41%	145,112.52
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	14,187,229.70	213,961.11	(47,360.56)	(10,554.55)	-	26,640.76	-	14,369,916.46	BHNEG - 237603 - Gas - Dist - RA3	4.23%	113,577.01
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	486,374.81	221,169.44	(3,734.41)	(235.12)	-	-	-	703,574.72	BHNEG - 237605 - Gas - Dist - RA2	0.09%	2,530.12
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	1,473,085.67	95,262.11	(14,585.84)	(1,032.89)	-	253.64	-	1,552,982.69	BHNEG - 237800 - Gas - Dist - RA3	0.41%	11,114.88
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	6,311,533.24	719,174.27	(15,880.71)	(5,157.18)	-	-	-	7,009,669.62	BHNEG - 238002 - Gas - Dist - RA1	2.07%	55,496.17
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	9,712,714.14	1,140,397.92	(108,459.80)	(537.53)	-	-	-	10,744,114.73	BHNEG - 238002 - Gas - Dist - RA2	0.22%	5,784.33
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	6,853,809.35	1,000,633.42	(312,024.64)	(64,820.59)	-	-	-	7,477,597.54	BHNEG - 238002 - Gas - Dist - RA3	25.99%	697,531.28
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	529,041.37	35,679.14	(9,778.92)	(15,590.59)	-	(44.75)	-	539,306.25	BHNEG - 238003 - Gas - Dist - RA1	6.25%	167,769.59
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	(928,546.89)	5,189.51	(75,545.17)	(615.28)	-	-	-	(999,517.83)	BHNEG - 238003 - Gas - Dist - RA2	0.25%	6,621.00
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	(1,336,029.43)	26,043.42	(74,510.96)	(19,164.40)	-	44.75	-	(1,403,616.62)	BHNEG - 238003 - Gas - Dist - RA3	7.68%	206,227.19
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	1,227,305.01	113,249.60	(3,745.14)	(25,066.00)	-	-	-	1,311,743.47	BHNEG - 238301 - Gas - Dist - RA1	10.05%	269,734.03
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	1,711,116.44	247,469.47	(9,927.79)	(41.81)	-	-	-	1,948,616.31	BHNEG - 238301 - Gas - Dist - RA2	0.02%	449.92
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	1,304,971.45	289,270.37	(78,007.54)	(27,357.85)	-	-	-	1,488,876.43	BHNEG - 238301 - Gas - Dist - RA3	10.97%	294,396.52
01/2017	12/2017	BH Nebraska Gas Utility Co LLC	SEC	6,106.09	-	3.68	3.96	-	-	-	6,113.73	BHNEG - 239800 - Gas - Gen - RA2	0.00%	(42.61)
							(249,400.16)						100.00%	2,683,783.22

**BLACK HILLS NEBRASKA GAS, LLC  
NEBRASKA GAS RATE REVIEW  
APPLICATION NO. NG-109  
RESPONSE TO PUBLIC ADVOCATE  
DATA REQUEST NO. PA-149**

**DATE OF REQUEST:** 06/25/20  
**DATE RESPONSE DUE:** 07/06/20  
**REQUESTOR:** Public Advocate  
**ANSWERED BY:** Ian Maharajh  
**WITNESS:** Michael C. Clevinger  
**DATE RESPONDED:** 07/06/20  
**SUBJECT:** Depreciation

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**REQUEST: PA-149.** Depreciation: Please provide the following information with regard to construction projects performed by outside contractors that include both the retirement of existing mains and services and the installation of new mains and services.

- a. When Black Hills Nebraska hires a contractor for a construction project which includes retiring existing mains and/or services and which also includes installing new mains and/or services, admit or deny that, in the majority of such projects, the contractor does not provide a bill which separately shows (1) the labor cost for retiring existing mains and/or services and (2) the labor cost for installing new mains and/or services.
- b. Explain how Black Hills Nebraska determines what portion of the bill it will record as being (1) the cost for retiring existing facilities (such as retiring existing mains and/or services) separately from (2) the portion of the bill it will record as the cost for installing new facilities (such as installing new mains and/or services), when the bill from the contractor does not show the cost for installing new facilities separately from the cost for retiring existing facilities (for a construction project which includes both retiring existing mains and/or services and installing new mains and/or services).

**RESPONSE:**

PA-149 a. – Black Hills Nebraska would admit that the contractor does not usually split out removal costs on their invoices in most of the projects. Since there is such little effort to abandon a pipeline in place, the Company would not see a separate line item on the contractor invoices. Due to the high percentage of pipe that is abandoned in place, if the scope of work requires the abandoned pipe to be removed, the contractor would then provide that information either on the invoice or through their scope of work.

PA149 b. – There can be two different ways that cost of removal is calculated.

First option - the project manager can estimate it at the beginning of the project based on knowledge of prior projects and the contractor's work. Then, as charges come in each month, a portion of those charges is systematically moved to Retirement Work in Progress (RWIP) account based on the estimated cost of removal. That total RWIP balance is then applied during the closure of the work order.

Second option – when the project is complete & ready for closure, if the cost of removal was not estimated at the beginning of the project, property accounting will reach out to the project manager for an overall estimate of the cost of removal which could be a percentage of labor or a flat amount.

**ATTACHMENTS:** None

**BLACK HILLS NEBRASKA GAS, LLC  
NEBRASKA GAS RATE REVIEW  
APPLICATION NO. NG-109  
RESPONSE TO PUBLIC ADVOCATE  
DATA REQUEST NO. PA-225**

**DATE OF REQUEST:** 07/27/20  
**DATE RESPONSE DUE:** 08/06/20  
**REQUESTOR:** Public Advocate  
**ANSWERED BY:** Michael Clevinger  
**WITNESS:** Michael Clevinger  
**DATE RESPONDED:** 08/06/20  
**SUBJECT:** Depreciation

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**REQUEST: PA-225.**

a. Admit or deny that the amount of \$494,489.11 was included in the \$1,076,794 Cost of Removal for the year 2018 shown on page 145 of the Company's depreciation study, Exhibit No. MCC-4.

b. Black Hills responded to PA-76(a) as follows:

*"a) The attachment "Attachment No. PA 1-76A (BHNEB Net Salvage File).xlsx" sets forth the net salvage data reflected in the Black Hills Nebraska depreciation study."*

An excerpt from "Attachment No. PA 1-76A (BHNEB Net Salvage File).xlsx is attached to their request as "Attachment to PA Request No. 225".--This excerpt shows all the Removal Cost amounts for Account 376.00 [Distribution Mains] for the year 2018 from the Company-provided "Attachment No. PA 1-76A (BHNEB Net Salvage File).xlsx". We have added the total of the Removal Cost column.

Do you agree that the total of the amounts shown on "Attachment to PA Request No. 225" is \$1,076,794? (If you do not agree, provide the mathematically correct total of the amounts shown in the Removal Cost column on "Attachment to PA Request No. 225".

c. Admit or deny that, as shown on the seventh line of "Attachment to PA Request No. 225", the amount of \$494,489.11 is included in the \$1,076,794.

d. Admit or deny that \$1,076,794 is the Cost of Removal amount for the year 2018 shown on page 145 of the Company Black Hills Nebraska depreciation study, Exhibit No. MCC-4. (If the response is "deny," provide the corrected statement and the support for the corrected statement.)

**RESPONSE:**

- a) The \$494,489 was included in the \$1,076,794 amount for 2018 shown on page 145 of the Company's depreciation
- b) Agree.
- c) Admit.
- d) Admit. However, this does not change the proposed estimate on net salvage for the account as informed judgment and statistical analysis was utilized in determining the most appropriate net salvage percentage. The trend in recent years still approaches negative 40 percent and the estimate proposed for the account is negative 30 percent.

**ATTACHMENTS:** None.



AccountNumber	TransactionCode	TransactionYear	RetirementAmount	RemovalCost
37600	0	2018		2.98
37600	0	2018		113,577.01
37600	0	2018		5.64
37600	0	2018		(27,464.36)
37600	0	2018		92.49
37600	0	2018		(236.87)
37600	0	2018		494,489.11
37600	0	2018		4,107.45
37600	0	2018		622.51
37600	0	2018		145,112.52
37600	0	2018		573.21
37600	0	2018		(3,493.80)
37600	0	2018		(7,174.57)
37600	0	2018		(8,734.57)
37600	0	2018		(1,951.41)
37600	0	2018		1.05
37600	0	2018		1.05
37600	0	2018		264.06
37600	0	2018		6,919.77
37600	0	2018		14.21
37600	0	2018		609.64
37600	0	2018		0.04
37600	0	2018		(30,242.23)
37600	0	2018		2,530.12
37600	0	2018		9,857.16
37600	0	2018		1,371.87
37600	0	2018		137,770.54
37600	0	2018		14.93
37600	0	2018		75,183.22
37600	0	2018		0.29
37600	0	2018		38.42
37600	0	2018		11.50
37600	0	2018		4,499.80
37600	0	2018		104,076.84
37600	0	2018		5.65
37600	0	2018		33,469.93
37600	0	2018		15,474.19
37600	0	2018		391.99
37600	0	2018		(482.17)
37600	0	2018		5,484.36

Total \$ 1,076,794



## 2019 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION  
ACCRUALS RELATED TO GAS PLANT  
AS OF NOVEMBER 30, 2019

*Prepared by:*



*Excellence Delivered **As Promised***

BLACK HILLS NEBRASKA

ACCOUNT 376.00 MAINS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
2010	2,519,602	69,912	3	48	0	69,864-	3-
2011	357,205	309,248	87		0	309,248-	87-
2012	660,075	67,133	10	5	0	67,128-	10-
2013	637,051	852	0		0	852-	0
2014	904,226	31,656	4		0	31,656-	4-
2015	947,249	53,040	6		0	53,040-	6-
2016	1,623,440	411,321	25	123	0	411,197-	25-
2017	2,127,789	438,910	21		0	438,910-	21-
2018	245,551	1,076,794	439		0	1,076,794-	439-
2019	478,512	481,011	101		0	481,011-	101-
TOTAL	10,500,701	2,939,877	28	176	0	2,939,700-	28-

THREE-YEAR MOVING AVERAGES

10-12	1,178,961	148,764	13	18	0	148,747-	13-
11-13	551,444	125,744	23	2	0	125,743-	23-
12-14	733,784	33,214	5	2	0	33,212-	5-
13-15	829,509	28,516	3		0	28,516-	3-
14-16	1,158,305	165,339	14	41	0	165,298-	14-
15-17	1,566,159	301,090	19	41	0	301,049-	19-
16-18	1,332,260	642,341	48	41	0	642,300-	48-
17-19	950,618	665,572	70		0	665,572-	70-

FIVE-YEAR AVERAGE

15-19	1,084,508	492,215	45	25	0	492,190-	45-
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**BLACK HILLS NEBRASKA GAS, LLC  
NEBRASKA GAS RATE REVIEW  
APPLICATION NO. NG-109  
RESPONSE TO PUBLIC ADVOCATE  
DATA REQUEST NO. PA-146**

**DATE OF REQUEST:** 06/25/20  
**DATE RESPONSE DUE:** 07/06/20  
**REQUESTOR:** Public Advocate  
**ANSWERED BY:** Ian Maharajh  
**WITNESS:** Michael C. Clevinger  
**DATE RESPONDED:** 07/06/20  
**SUBJECT:** Depreciation

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**REQUEST:** PA-146. Depreciation: Please provide the following information with reference to construction projects that include the retirement of existing mains and services:

- a. Of the distribution mains (Account 376) that Black Hills Nebraska retired in the years 2017 and 2018 what percentage, by length, were retired in place? If the Company does not have exact numbers, was the percentage more or less than 90%?
- b. Of the Services (Account 380) that Black Hills Nebraska retired in the years 2017 and 2018 what percentage, by length, were retired in place? If the Company does not have exact numbers, was the percentage more or less than 90%?
- c. If the response to part (a) is less than 90%, then provide the percent, measured by length, of the distribution Mains (Account 376) that retired in the years 2017 and 2018 that were retired in place and provide the documents and calculations which support the percent provided.
- d. If the response to part (b) less than 90% then provide the percent, measured by length, of the Services (Account 380) that Black Hills Nebraska retired in the years 2017 and 2018 that were retired in place and provide the documents and calculations which support the percent provided.

**RESPONSE:**

PA-146 a. – The construction planning manager estimated that pipe abandoned in place is approximately 95%. As most pipe would need to be excavated to be removed, the pipe is usually capped and left in place. Exceptions to this would be the top of ground pipe replacement pipe projects since the pipe is sitting on top of the ground it requires no excavation or highway relocation projects where our gas pipelines are in direct conflict with a road construction projects and must be removed for safety reasons.

PA-146 b. – The construction planning manager estimated that pipe abandoned in place is approximately 95%. As most pipe would need to be excavated to be removed, the pipe is usually capped and left in place. Exceptions to this would be service pipelines that are exposed or where our gas pipelines are in direct conflict with a road construction project and need to be removed for safety reasons.

PA-146 c. – Response to a. is greater than 90%

PA-146 d. – Response to b. is greater than 90%

**ATTACHMENTS:** None

**BLACK HILLS NEBRASKA GAS, LLC  
NEBRASKA GAS RATE REVIEW  
APPLICATION NO. NG-109  
RESPONSE TO PUBLIC ADVOCATE  
DATA REQUEST NO. PA-228**

**DATE OF REQUEST:** 07/27/20  
**DATE RESPONSE DUE:** 08/06/20  
**REQUESTOR:** Public Advocate  
**ANSWERED BY:** John Spanos  
**WITNESS:** Michael Clevinger  
**DATE RESPONDED:** 08/06/20  
**SUBJECT:** Depreciation

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**PA-228.** PA-197 discussed a “Reserve Adjustment” Black Hills had made. In response to that request Black Hills provided “Attachment No. PA 5-197 Reserve Adjustment”, a copy of which is attached for convenient reference. That Company-provided document shows for Account 108 a “Reserve Adjustment” of \$2,683,783.22 and also states, “. . .COR is the offset account to this adjustment.”

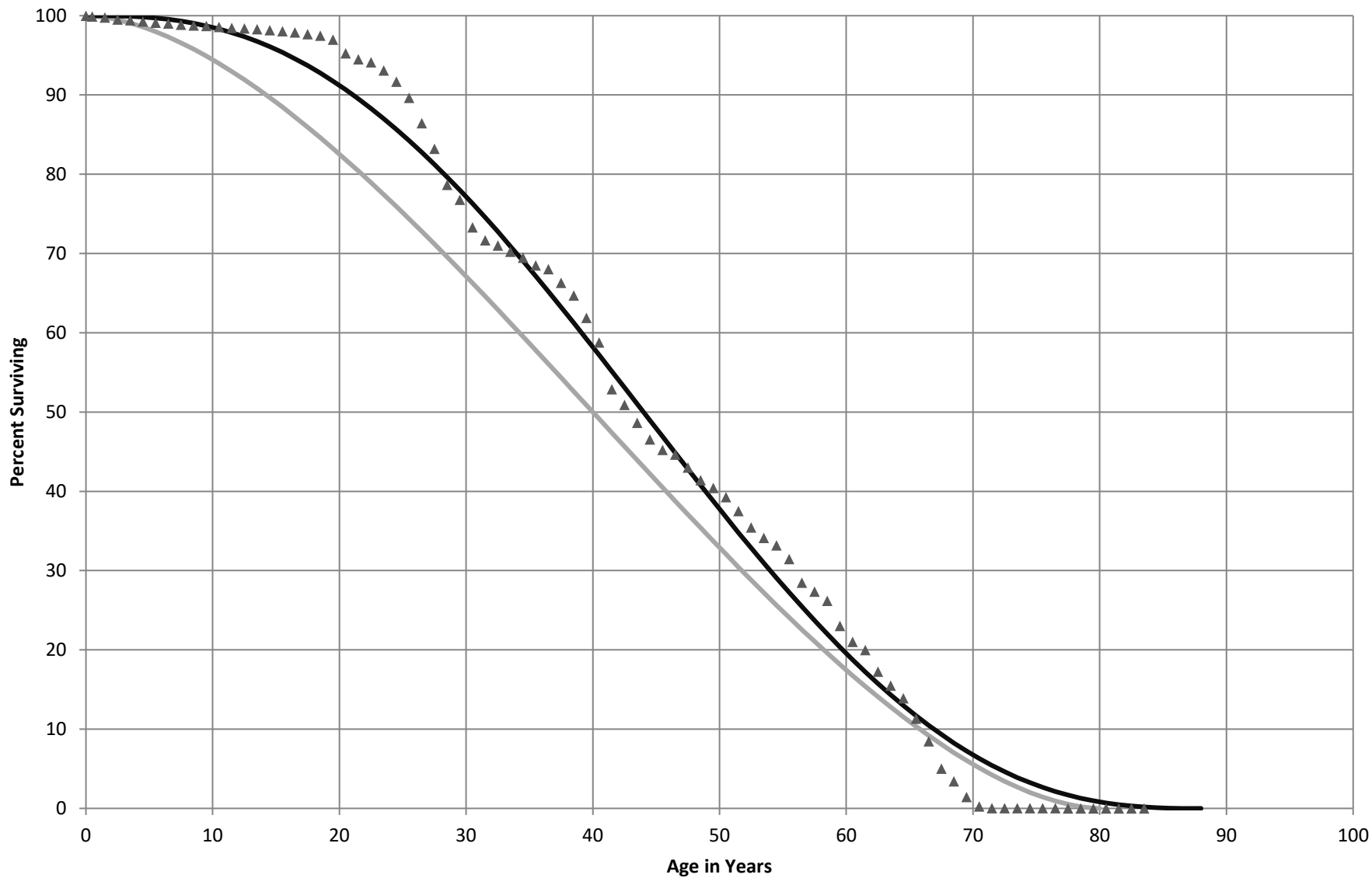
- a. Since the Company was making “Reserve Adjustments” that totaled \$2,683,783.22 in Account 108, explain what is meant by the statement that “. . .COR is the offset account to this adjustment.”
- b. Explain the relationship between the Company making a “Reserve Adjustment” to the amounts in Account 108 (depreciation reserve) and the amounts recorded as Cost of Removal.

**RESPONSE:**

- a) Please see Attachment No. PA 9-224 Reserve Alignment.xlsx. As discussed in that response, this is not a reserve adjustment but a reserve realignment. The \$2,683,783.22 amount was being realigned from 108000 to 108002 to ensure the general ledger and property accounting schedules were aligned, however, the net change is zero.
- b) For depreciation studies and regulatory ratemaking there is no impact on making this reserve realignment as set forth in the attachment to PA-224. Depreciation studies are determined based on the total Account 108, Accumulated Depreciation, therefore, the impact is zero.

**ATTACHMENTS:** None.

### Account 380 - Services



▲ Life Data - Placement Band: 1930-2019; Experience Band: 2013-2019      — Company Proposed: 40-S0      — WDA Proposed: 44-S1

### COMPARISON OF PROPOSED CURVE TO DATA

Account 380 - Services

Placement Band: 1930-2019

Experience Band: 2013-2019

T-Cut: 77.5

	<u>Life</u>	<u>Iowa Curve</u>	<u>Sum of Squared Differences</u>
Company Proposed	40	S0	4,778
WDA Proposed	44	S1	720

Note:

Lower Sum of Square Differences indicates a better fit to the Observed Data



Life Data  
 Account 380 - Services  
 Placement Band: 1930-2019  
 Experience Band: 2013-2019

Age	BOY Survivors	Total Retirements	Retirement Ratio	Survivor Ratio	Portion Surviving At Start of Age Interval
0	52,735,278	(49,954)	0.00095	0.99905	100.00
0.5	41,570,406	(53,321)	0.00128	0.99872	99.91
1.5	40,773,390	(102,470)	0.00251	0.99749	99.78
2.5	37,975,349	(33,075)	0.00087	0.99913	99.53
3.5	31,278,969	(50,237)	0.00161	0.99839	99.44
4.5	28,426,668	(45,562)	0.00160	0.99840	99.28
5.5	25,379,086	(28,269)	0.00111	0.99889	99.12
6.5	25,783,179	(39,550)	0.00153	0.99847	99.01
7.5	24,893,592	(21,892)	0.00088	0.99912	98.86
8.5	24,357,535	(13,359)	0.00055	0.99945	98.77
9.5	23,698,762	(31,383)	0.00132	0.99868	98.72
10.5	24,029,506	(32,180)	0.00134	0.99866	98.59
11.5	23,966,767	(13,897)	0.00058	0.99942	98.45
12.5	23,945,787	(24,669)	0.00103	0.99897	98.40
13.5	21,338,942	(25,318)	0.00119	0.99881	98.30
14.5	21,266,150	(31,584)	0.00149	0.99851	98.18
15.5	21,871,133	(29,287)	0.00134	0.99866	98.03
16.5	22,646,419	(52,617)	0.00232	0.99768	97.90
17.5	22,033,046	(46,000)	0.00209	0.99791	97.68
18.5	21,769,646	(112,816)	0.00518	0.99482	97.47
19.5	20,866,670	(365,655)	0.01752	0.98248	96.97
20.5	20,333,863	(162,863)	0.00801	0.99199	95.27
21.5	19,437,542	(79,415)	0.00409	0.99591	94.50
22.5	17,273,433	(186,952)	0.01082	0.98918	94.12
23.5	15,100,029	(231,857)	0.01535	0.98465	93.10
24.5	14,953,188	(331,828)	0.02219	0.97781	91.67
25.5	12,734,195	(454,310)	0.03568	0.96432	89.64
26.5	10,273,078	(384,564)	0.03743	0.96257	86.44
27.5	8,153,383	(445,344)	0.05462	0.94538	83.20
28.5	6,234,661	(149,555)	0.02399	0.97601	78.66
29.5	5,178,147	(234,532)	0.04529	0.95471	76.77
30.5	4,704,690	(104,243)	0.02216	0.97784	73.29
31.5	3,731,395	(34,652)	0.00929	0.99071	71.67
32.5	3,883,021	(42,621)	0.01098	0.98902	71.00
33.5	3,928,911	(41,368)	0.01053	0.98947	70.22
34.5	3,667,245	(52,580)	0.01434	0.98566	69.48
35.5	3,365,421	(22,277)	0.00662	0.99338	68.49
36.5	3,153,478	(79,776)	0.02530	0.97470	68.04

Life Data  
 Account 380 - Services  
 Placement Band: 1930-2019  
 Experience Band: 2013-2019

Age	BOY Survivors	Total Retirements	Retirement Ratio	Survivor Ratio	Portion Surviving At Start of Age Interval
37.5	2,999,058	(73,054)	0.02436	0.97564	66.31
38.5	2,760,823	(120,154)	0.04352	0.95648	64.70
39.5	2,297,937	(115,582)	0.05030	0.94970	61.88
40.5	1,916,347	(191,833)	0.10010	0.89990	58.77
41.5	1,673,495	(62,824)	0.03754	0.96246	52.89
42.5	1,597,474	(71,031)	0.04446	0.95554	50.90
43.5	1,488,138	(64,595)	0.04341	0.95659	48.64
44.5	1,263,459	(35,139)	0.02781	0.97219	46.53
45.5	1,161,277	(15,205)	0.01309	0.98691	45.23
46.5	1,178,715	(43,728)	0.03710	0.96290	44.64
47.5	1,093,376	(40,138)	0.03671	0.96329	42.98
48.5	899,982	(21,583)	0.02398	0.97602	41.41
49.5	811,241	(22,890)	0.02822	0.97178	40.41
50.5	683,502	(30,632)	0.04482	0.95518	39.27
51.5	619,179	(34,116)	0.05510	0.94490	37.51
52.5	585,890	(21,672)	0.03699	0.96301	35.45
53.5	506,877	(14,001)	0.02762	0.97238	34.14
54.5	468,786	(24,758)	0.05281	0.94719	33.19
55.5	401,564	(37,698)	0.09388	0.90612	31.44
56.5	316,424	(12,784)	0.04040	0.95960	28.49
57.5	319,080	(13,303)	0.04169	0.95831	27.34
58.5	332,308	(40,391)	0.12155	0.87845	26.20
59.5	265,863	(23,176)	0.08717	0.91283	23.01
60.5	227,444	(11,018)	0.04844	0.95156	21.01
61.5	222,509	(30,412)	0.13668	0.86332	19.99
62.5	189,218	(19,375)	0.10240	0.89760	17.26
63.5	148,215	(15,166)	0.10233	0.89767	15.49
64.5	114,253	(21,332)	0.18671	0.81329	13.91
65.5	76,297	(19,103)	0.25038	0.74962	11.31
66.5	32,344	(13,199)	0.40808	0.59192	8.48
67.5	13,818	(4,455)	0.32245	0.67755	5.02
68.5	4,847	(2,782)	0.57400	0.42600	3.40
69.5	2,154	(1,783)	0.82763	0.17237	1.45
70.5	473	(432)	0.91295	0.08705	0.25
71.5	592	(102)	0.17305	0.82695	0.02
72.5	503	(31)	0.06250	0.93750	0.02
73.5	547	(13)	0.02389	0.97611	0.02
74.5	549	0	0.00000	1.00000	0.02

Life Data  
 Account 380 - Services  
 Placement Band: 1930-2019  
 Experience Band: 2013-2019

Age	BOY Survivors	Total Retirements	Retirement Ratio	Survivor Ratio	Portion Surviving At Start of Age Interval
75.5	549	(0)	0.00046	0.99954	0.02
76.5	549	(486)	0.88666	0.11334	0.02
77.5	62	(62)	1.00000	0.00000	0.00
78.5	0	0	0.00000	1.00000	0.00
79.5	93	0	0.00000	1.00000	0.00
80.5	93	(13)	0.13468	0.86532	0.00
81.5	80	(80)	1.00000	0.00000	0.00
82.5	76	(76)	1.00000	0.00000	0.00
83.5	0	0	0.00000	1.00000	0.00

RESULTS

Account 380 - Services  
 Placement Band: 1930-2019  
 Experience Band: 2013-2019  
 T-Cut: 77.5

Life	lowa Curve	Sum of Squared Differences	Residual Measure	Max Curve Age
44	S1	720	3.02	88
45	S1.5	749	3.08	90
44	R2	1,117	3.76	82
45	L2.5	1,333	4.11	117
44	R1.5	1,374	4.17	85
45	S2	1,472	4.32	89
44	S0.5	1,535	4.41	88
45	L2	1,580	4.47	126
45	L3	2,018	5.05	107
45	R2.5	2,058	5.10	80
43	R1	2,566	5.70	86
45	L1.5	2,662	5.80	134
45	S2.5	2,920	6.08	87
43	S0	3,062	6.23	86
45	R3	3,950	7.07	76
45	L1	4,589	7.62	142
46	S3	4,948	7.91	88
42	R0.5	5,523	8.36	84
46	L4	6,772	9.26	99
45	L0.5	7,034	9.44	163
46	R4	9,504	10.97	70
41	O1	9,892	11.19	82
45	L0	10,139	11.33	184
46	S4	11,941	12.29	80
46	O2	12,462	12.56	142
45	L5	14,116	13.37	86
45	R5	18,002	15.10	62
45	S5	20,059	15.93	70
58	O3	21,770	16.60	224
74	O4	27,030	18.50	326
45	S6	27,751	18.74	62

**BLACK HILLS NEBRASKA GAS, LLC  
NEBRASKA GAS RATE REVIEW  
APPLICATION NO. NG-109  
RESPONSE TO PUBLIC ADVOCATE  
DATA REQUEST NO. PA-255**

**DATE OF REQUEST:** 08/07/20  
**DATE RESPONSE DUE:** 08/17/20  
**REQUESTOR:** Public Advocate  
**ANSWERED BY:** Michael Clevinger  
**WITNESS:** Michael Clevinger  
**DATE RESPONDED:** 08/17/20  
**SUBJECT:** Depreciation

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**REQUEST: PA-255.** The life data file the Company provided, “Attachment No. PA 1-73A (BHNEB Service Life File)” shows a total of \$178 million investment transferred (code 3) during the year 2012. (Please note this does not include additions, this is transfers).

- a. Was any part of the \$178 million transferred (code 3) in 2012 related, or in any way associated with, the merger between BH Gas Distribution (formerly Source Gas) and BH Gas Utility (formerly Aquila) (or the acquisition of Source Gas)?
- b. How much of the \$178 million transferred (code 3) in 2012 was related, or in any way associated with, the merger between BH Gas Distribution (formerly Source Gas) and BH Gas Utility (formerly Aquila) (or the acquisition of Source Gas)?
- c. What is the largest (in dollars) source of the transfers in 2012? Provide the total dollar amount transferred in from this source in 2012.
- d. Explain what occurred that resulted in the year 2012 transfers from the source identified in response to part (c).
- e. Page 3 of the Commission Order NG-0084.15 states that “On August 10, 2015” certain listed parties “filed a Joint Application seeking the necessary authorizations and approvals for BHUH to acquire SourceGas Holdings, LLC.”

Page 15 of that Order states “IT IS THEREFORE ORDERED by the Nebraska Public Service Commission that Application No. NG-0084 be, and is hereby, approved.”

Page 16 of that order states the date entered and made effective is “this 26th day of January. 2016.”

If the response to part (a) is yes, explain why the merger (or acquisition of Source Gas) that was approve in January of 2016 resulted in some transfer amounts being recorded in the year 2012.

- f. Was the transfer in the year 2012 to incorporate into the depreciation study data some of the Source Gas data prior to 2016?
- g. If the transfer in the year 2012 was to incorporate into the depreciation study data some of the Source Gas data prior to 2016, explain specifically why the Source Gas data was transferred in during the year 2012 (as opposed to in the year 2011 or in the year 2013 for example).

**RESPONSE:**

- a. None of the balance is related to the merger between BH Gas Distribution and BH Gas Utility.
- b. See the response to part (a) above.
- c. The amounts are not actual transfers but the establishment of opening balances at December 2012 for BH Gas Distribution (formerly SourceGas) prior to acquisition due to the 2012 implementation of PowerPlan by SourceGas.
- d. BH Gas Distribution (formerly SourceGas) prior to acquisition implemented PowerPlan from its previous fixed asset management system. Plant detail data was not uploaded into PowerPlan prior to 2012, but instead, opening balances were input into PowerPlan.
- e. The response to part (a) is no.
- f. BH Gas Distribution (formerly SourceGas), prior to acquisition, implemented PowerPlan from its previous fixed asset management system in December 2012. Opening balances were established at December 2012 with additions, retirements, and other activities being documented through 2013 and 2014 during the implementation of PowerPlan.
- g. Please refer to the response to subparts c, d and f.

**ATTACHMENTS:** None.

**BLACK HILLS NEBRASKA GAS, LLC  
NEBRASKA GAS RATE REVIEW  
APPLICATION NO. NG-109  
RESPONSE TO PUBLIC ADVOCATE  
DATA REQUEST NO. PA-248**

**DATE OF REQUEST:** 07/27/20  
**DATE RESPONSE DUE:** 08/06/20  
**REQUESTOR:** Public Advocate  
**ANSWERED BY:** John Spanos/Ian Maharajh  
**WITNESS:** Michael Clevinger  
**DATE RESPONDED:** 08/06/20  
**SUBJECT:** Depreciation

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**REQUEST: PA-248.** The life data file the Company provided, “Attachment No. PA 5-193 BHN 2019 Service Life File with Code 2s” shows large amounts transferred (code 3) in the year 2012 (for example \$1,303,736.37 transferred in year 2012 in Account 380 (Services) with a vintage of 1988).

- a. Are the amounts that are shown as transferring in the year 2012 the amounts from (1) BH Gas Distribution (formerly Source Gas) or (2) are the year 2012 transfer amounts from BH Gas Utility (formerly Aquila)?
- b. Is it correct that in the activity years prior to 2012, the retirements that occurred in the company named in the response to part (a) are generally not included in the regular retirements (code 0) shown on life data file the Company provided, (“Attachment No. PA 5-193 BHN Service Life File with Code 2s”). If this is not a correct statement provide the corrected statement and the support for the corrected statement.
- c. Explain why the regular retirements for the company named in response to part (a) were not included in the regular retirement data for the years prior to 2012 in the life data file the Company provided, (“Attachment No. PA 5-193 BHN Service Life File with Code 2s”).

**RESPONSE:**

- a. When combining two data sets that have two different transactional periods it is important to code entries in order to properly identify life characteristics. The BH Gas Distribution transactional data was available from 2013-2019 and the 2012 data represented the starting balance or transfer into the combined system.
- b. It is correct that for Source Gas the transactional data which includes regular retirements are not included in the data base. The transactions in 2012 represent the surviving vintages as of 2012.

- c. The data for 2012 and prior for Source Gas was not available by transactional entry and vintage.

**ATTACHMENTS:** None.



**BLACK HILLS NEBRASKA GAS, LLC  
NEBRASKA GAS RATE REVIEW  
APPLICATION NO. NG-109  
RESPONSE TO PUBLIC ADVOCATE  
DATA REQUEST NO. PA-249**

**DATE OF REQUEST:** 07/27/20  
**DATE RESPONSE DUE:** 08/06/20  
**REQUESTOR:** Public Advocate  
**ANSWERED BY:** Michael Clevinger/Ian Maharajh  
**WITNESS:** Michael Clevinger/Ian Maharajh  
**DATE RESPONDED:** 08/06/20  
**SUBJECT:** Depreciation

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**REQUEST: PA-249.** Refer to the data for Account 380, Services, in the life data file the Company provided, "Attachment No. PA 5-193 BHN 2019 Service Life File with Code 2s".

- a. Admit or deny that for this account the total of the regular retirement (code 0) in the activity year 2008 is -\$966,616 (plus or minus 5%). If the Company denies this, provide the correct number and the support for the correct number.
- b. Admit or deny that for this account in the activity year 2008 the total of the regular retirement (code 0) in the year 1987 vintage is -\$572,710 (plus or minus 5%). If the Company denies this, provide the correct number and the support for the correct number.
- c. Does the Company claim that of all retirements in this account that occurred during the year 2008, 59% were retirements of Services that had physically gone into service in the year 1987? ( $-\$572,710 / -\$966,616 = 59\%$ ).
- d. Explain what occurred that resulted in the data in the referenced file showing that of all normal retirements in this account that occurred during the year 2008, 59% appear to be retirements of Services that were year 1987 vintage.

**RESPONSE:**

- a. Per review of the file, the exact total for 2008 transactional year regular retirements is not \$966,616 but the amount is within the 5% threshold.
- b. The amount is correct.
- c. It is correct that a large portion of the recorded retirements to this account in 2008 were placed in service in 1987. The accounting practices for the individual system in 2008 had some service(blankets) recorded in the mains account if the service was installed at the same time the main was installed.

- d. See response to part c. above. Some older services were booked in the mains account due to accounting practices of the predecessor companies.

**ATTACHMENTS:** None.

**BLACK HILLS NEBRASKA GAS, LLC  
NEBRASKA GAS RATE REVIEW  
APPLICATION NO. NG-109  
RESPONSE TO PUBLIC ADVOCATE  
DATA REQUEST NO. PA-250**

**DATE OF REQUEST:** 07/27/20  
**DATE RESPONSE DUE:** 08/06/20  
**REQUESTOR:** Public Advocate  
**ANSWERED BY:** John Spanos/Ian Maharajh  
**WITNESS:** Michael Clevinger  
**DATE RESPONDED:** 08/06/20  
**SUBJECT:** Depreciation

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**REQUEST: PA-250.** The Company response to PA 158 (c) was “PA-158 c. – There are a few instances that First In First Out (FIFO) for a service line was utilized. This may occur for some of the blanket work orders so the first installation year of a specific type may be utilized.”

- a. Does the -\$572,710 of regular retirements in Account 380, Services in the activity year 2008 for the vintage year 1987, as discussed in the immediately prior request, include some numbers that were determined using First In First Out (FIFO)?
- b. Is it reasonable to expect that for more than 2/3 of this -\$572,710 amount, the vintage year, and/or the retirement year, was determined using First In First Out (FIFO)? If the response is “no” then explain why not.
- c. For how many dollars out of this -\$572,710 of regular retirements was the vintage year, and/ or the retirement year, determined using First In First Out (FIFO)?
- d. Out of all the vintages that were in service, explain how and why in the year 2008 the Company specifically concentrated on locating and physically retiring the Service lines that had been physically installed in the year 1987 (if that is what the Company did).
- e. Provide the response for parts (a), (b), (c) and (d) for the -\$571,274 of regular retirements in Account 380, Services in the activity year 2007 for the vintage year 1987.
- f. Provide the response for parts (a), (b), (c) and (d) for the -\$213,388 of regular retirements in Account 380, Services in the activity year 2006 for the vintage year 1986.
- g. Provide the response for parts (a), (b), (c) and (d) for the -\$233,770 of regular retirements in Account 380, Services in the activity year 2007 for the vintage year 1986.

**RESPONSE:**

- a. Yes, some of the numbers represented by the \$572, 710 of regular retirements in Account 380, Services, for transactional year 2008 vintage 1987 were determined using First-In-First Out (FIFO). All these retirements relate to the original Aquila Gas assets.
- b. Determination of vintages and the methodology utilized can only be handled by the available data and practices established at the time. However, the focus of the depreciation analyst is to understand the accounting practices so the life characteristics of the account can properly consider the past. In this instance, the use of FIFO for these services and the actual retirement ages were deemphasized as part of informed judgment that was included in the study results. Some of the 1987 vintages were older than 1987 and some were younger. Thus, it is possible that 2/3 of the 1987 vintage retirements were blankets and the FIFO methodology was utilized.
- c. It is hard to determine the cause of every retirement as that was not maintained but the expectation is that a high percentage were blankets which leads to a high percentage were FIFO.
- d. The type of retired services in 2008 were identified as 1987 as the first vintage for Aquila data. Therefore, when using FIFO the vintage 1987 would have been selected in 2008.
- e. The same response for year 2007 as 1987 was the first vintage for blanket projects in services for Aquila
- f. The same response for year 2006 vintage 1986 for the type of services for these blanket projects in services for Aquila
- g. The same response for year 2007 vintage 1986 for the type of services for these blanket projects in services for Aquila. The high retirements at age 19.5 and 20.5 of the life table were taken into consideration for all retirements presented in part d through g when the life characteristics were determined in the depreciation study.

**ATTACHMENTS:** None.

**BLACK HILLS NEBRASKA GAS, LLC  
NEBRASKA GAS RATE REVIEW  
APPLICATION NO. NG-109  
RESPONSE TO PUBLIC ADVOCATE  
DATA REQUEST NO. PA-193**

**DATE OF REQUEST:** 07/07/20  
**DATE RESPONSE DUE:** 07/17/20  
**REQUESTOR:** Public Advocate  
**ANSWERED BY:** Michael C. Clevinger  
**WITNESS:** Michael C. Clevinger  
**DATE RESPONDED:** 07/17/20  
**SUBJECT:** Depreciation

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**REQUEST:** PA-193. The Company response to PA 75 (b) is:

*The attachment "Attachment No. PA 1-75A" provides a summary of all retirements that were not included in the life analysis for the Black Hills Nebraska depreciation study.*

Lines 3 through 33 of that "Attachment No. PA 1-75A" show that certain retirements were excluded from the life analysis of Account 37600 [Distribution Mains] because those retirements resulted from "Sale of the Elkhorn system".

- a. Explain what the "Sale of the Elkhorn system" is. Identify the buyer and provide the physical location of the "Elkhorn system".
- b. Explain why the retirements resulting from the "Sale of the Elkhorn system" were properly "retirements that were not included in the life analysis for the Black Hills Nebraska depreciation study" for Account 37600 [Distribution Mains].
- c. Separately for each account on the following list, state either (1) some facilities of this type were included in the "Sale of the Elkhorn system" or (2) no facilities of this type were included in the "Sale of the Elkhorn system":
  - i. Services (Account 380),
  - ii. Meters (Account 381) (other than ERT, AMR and/or AMI),
  - iii. ERT, AMR and/or AMI (subaccount of Account 381),
  - iv. Meter Installations (Account 382),
  - v. House Regulators (Account 383).
- d. For each account for which the response to part (c) was "no facilities of this type were included in the 'Sale of the Elkhorn system'" explain why no facilities of this type were included in the Sale of the Elkhorn system.

- e. For each account for which the response to part (c) was “no facilities of this type were included in the ‘Sale of the Elkhorn system’” explain how service to customers was provided the day after the sale if no such facilities were transferred to the new owner (for example, if it is stated that no Services were included in the sale, explain how gas was carried from the Mains to the customer premises the day after the sale without Service lines).
- f. Attachment No. PA 1-75A show that certain retirements were excluded from the life analysis of Account 37600 [Distribution Mains] because those retirements resulted from “Sale of the Elkhorn system”. However, it does not show that the retirements resulted from “Sale of the Elkhorn system” were excluded from the life analysis in any account other than Distribution Mains. For each of the accounts listed in part (c) provide the retirement amounts that were booked by Black Hills as the result of the “Sale of the Elkhorn system”. Provide this information in the same detail and format used in Attachment No. PA 1-73A (BHNEB Service Life File).
- g. Provide a revised version of Attachment No. PA 1-73A (BHNEB Service Life File) with the retirement amounts that were booked by Black Hills as the result of the “Sale of the Elkhorn system” coded as “Sale” (Transaction Code 2) in all accounts (or at a minimum coded as “Sale” (Transaction Code 2) in the accounts listed in part (c)).

**RESPONSE:**

- a. The Elkhorn System was sold to the Metropolitan Utilities District of Omaha, a political subdivision of the state of Nebraska (“MUD”). The physical location of the assets sold as provided in Exhibit A of the purchase agreement is as follows:

The gas system serving the following which was located within the City of Elkhorn, Nebraska that was annexed by the City of Omaha, Nebraska and certain adjacent areas.

ELKHORN/ELKHORN SKYLINE SUBDIVISIONS					
Subdivision	Cross Street	Cross Street	Township	Range	Section
Antler Country	Western	Maple	15N	10E	1
Arbor Ridge	Hwy 31	210 <sup>th</sup>	15N	10E	1
Bellewood	Roberts Rd	N Main	15N	10E	13
Chapel Hill	Skyline Dr	Harney	15N	10E	23
Elkhorn Highland Ridge	Corby	191 <sup>st</sup>	15N	11E	8

Elkhorn Ridge	Elkhorn Ridge Dr	Honeysuckle	15N	11E	18
Elkhorn Village	Skylark	Flavin Cir	15N	10E	12
Fair Meadows	M.U.D.				
Greenbriar	Greenbriar Dr	Skyline Dr	15N	10E	13
Piney Creek	Piney Creek Dr	Maple St	15N	11E	7
Quail Ridge	Riverside Dr	Skyline Dr	15N	10E	26
Ramblewood	W Maple Rd	Old Coach Rd	15N	10E	1
Ranchview Estates	Ranchview Dr	Pine Cir	15N	10E	25
Sanctuary	Atwood	229 <sup>th</sup>	15N	10E	34
Skyline Ranch	Timberlane Dr	Pacific St	15N	10E	24
Summer Glen	Veterans Dr	208 <sup>th</sup>	15N	10E	13
Terra Linda	Silverado Dr	West Wind Dr	15N	10E	35
Trail Ridge Ranches	Trail Ridge Blvd	Cimmaron Rd	15N	10E	35

2. The following customers located within Omaha, Nebraska:

CUSTOMER	ADDRESS
CONVENIENCE PLUS_	5205 S 72ND ST
DON & RONS BODY SHOP_	5329 S 70TH ST
AIR POWER OF NEBRASKA INC_	5401 S 72ND ST
BUILDERS SUPPLY	5601 S 72ND ST
BUILDERS SUPPLY -- BLDG	5601 S 72ND ST
BUILDERS SUPPLY -- MAINT BLDG	5601 S 72ND ST
BUILDERS SUPPLY -- PANEL	5601 S 72ND ST
BUILDERS SUPPLY -- SAW SHOP	5601 S 72ND ST
BUILDERS SUPPLY -- TRESS SHOP	5601 S 72ND ST
BUILDERS SUPPLY -- YARD OFFICE	5601 S 72ND ST
BUILDERS SUPPLY CO INC__	5701 S 72ND ST
AMERICAN CONCRETE	6859 Q ST
CITY OF OMAHA_	6880 Q ST
CITY OF OMAHA_	6880 Q ST
AMERICAN CONCRETE	6950 Q ST
WINCHESTER BAR	7002 Q ST

KARTS INC DBA FUN PLEX	7003 Q ST
KARTS INC DBA FUN PLEX -- A	7003 Q ST
KARTS INC DBA FUN PLEX -- B	7003 Q ST
KARTS INC DBA FUN PLEX -- BILLARDS	7003 Q ST
KARTS INC DBA FUN PLEX -- C	7003 Q ST
WERNER ENTERPRISE	7010 Q ST
WERNER ENTERPRISE	7010 1/2 Q ST
AIR POWER OF NEBRASKA INC_	7117 Q ST
BOYER INDUSTRIES	7125 Q ST
BANK OF THE WEST	13737 Q ST

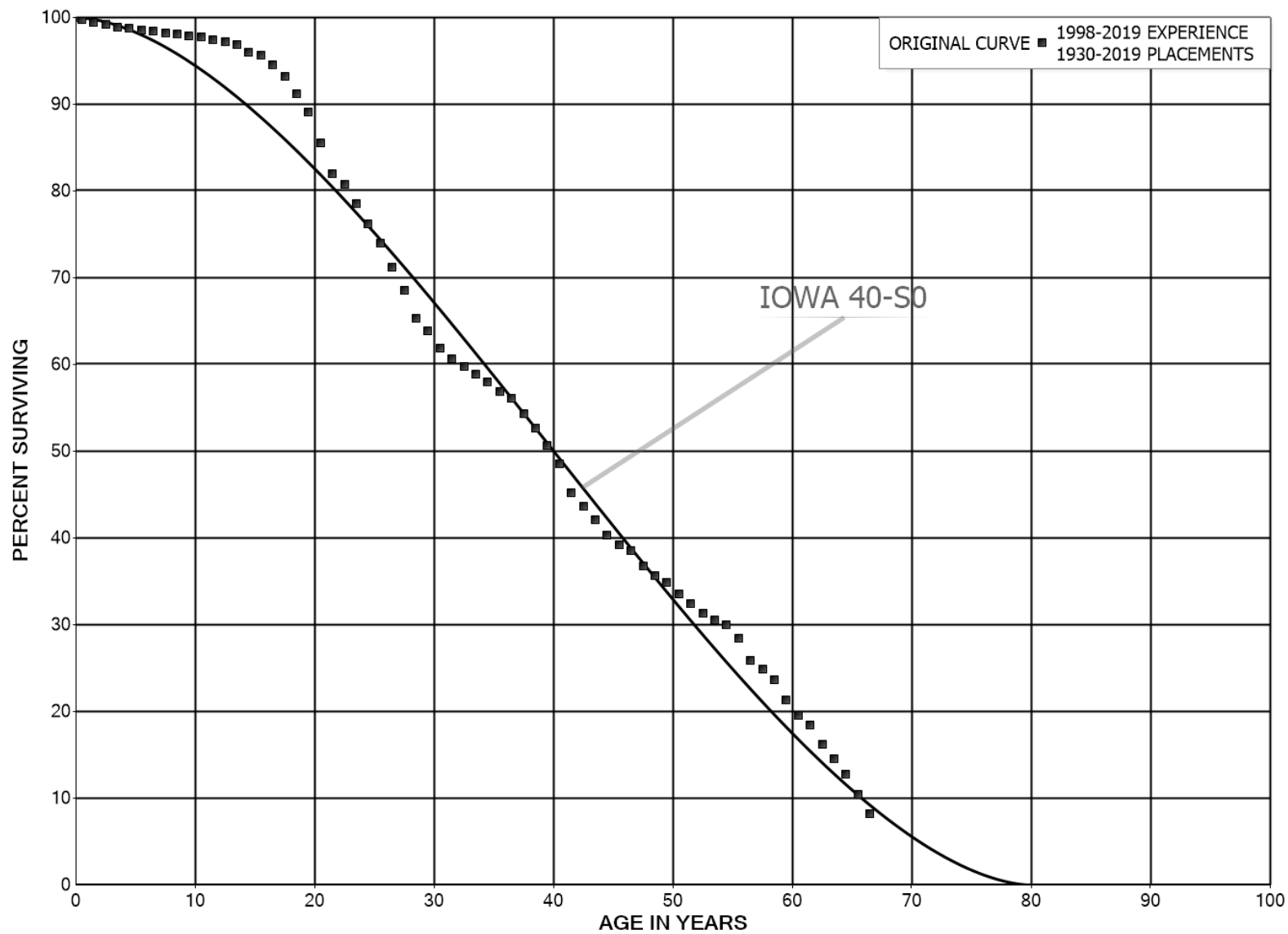
- b) The determination of life characteristics/life estimation should reflect regular or normal retirements that could affect the life expectancy of the existing as well as future life characteristics of the assets within the account. A sale of mains is not considered a normal or reoccurring transaction for all mains in service. Therefore, these assets are coded differently in the life analysis and not considered a typical retirement. Sales need to be reviewed during the analysis stage by asset class to determine if they should be considered regular or recurring transactions.
- c) The attached file, Attachment No. PA 5-193 BHN 2010 Elkhorn Retirements.xlsx, sets forth entries that were identified as Elkhorn retirements for accounts 380, 382 and 383. There were no entries for Account 381. Please note that entries are not specifically identified as a cause for retirement so distinguishing between any retirements from sales is not coded differently.
- d) There were no meters included in the sales of assets to Elkhorn. All of the other assets were included in the sale of Elkhorn and included in the life analysis for determining life characteristics for each of the other accounts.
- e) The file attached to part c) sets forth retirements that were related to Elkhorn assets, however, it is not possible to determine if any of the entries were actual retirements vs sales. Since sales are a more regular occurrence for Accounts 380, 382 and 383 than mains, these entries were part of the statistical analysis set forth in the depreciation study. However, if all the entries in Accounts 380, 382 and 383 related to the sale of Elkhorn regardless of a retirement or sale were excluded from the statistical life analysis, the results would not be much different. Attachment No. PA 5-193 BHN life analysis sets for the original curve and survivor curve presentation with the same survivor curve as in the depreciation study.
- f) See BH Nebraska Gas responses to part c, d. and e above.
- g) The attached file, Attachment No. PA 5-193 BHN life analysis.docx sets forth the statistical life analysis of Accounts 380, 382 and 383 with the Elkhorn retirements all coded as sales (Code 2). The attached file, Attachment No. PA 5-193 BHN Service Life with Code 2s.xlsx, sets forth the transactional data that includes the Elkhorn transactions as sales.



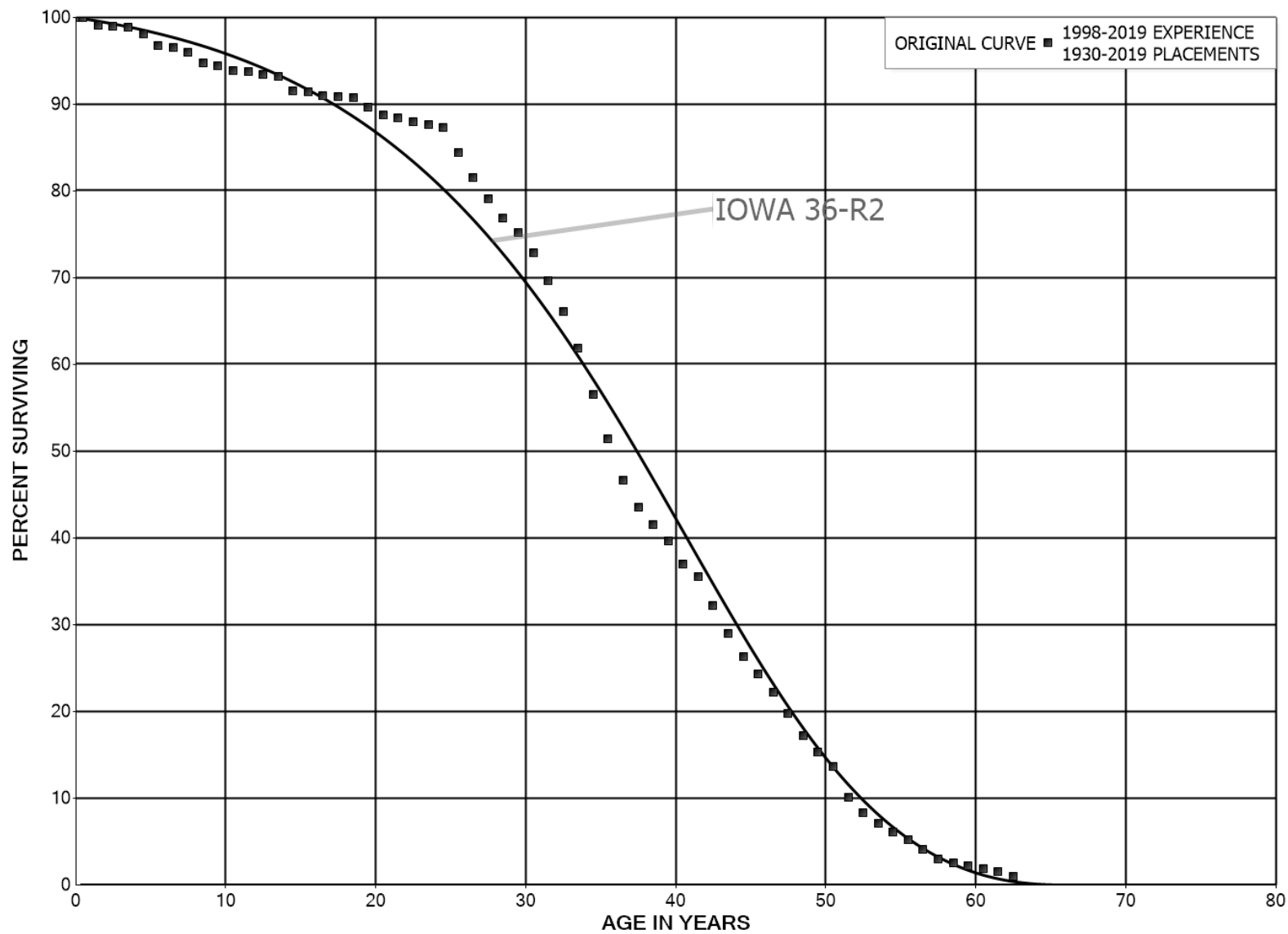
**ATTACHMENTS:**

- Attachment No. PA 5-193 BHN 2010 Elkhorn Retirements
- Attachment No. PA 5-193 BHN life analysis
- Attachment No. PA 5-193 BHN Service Life with Code 2s

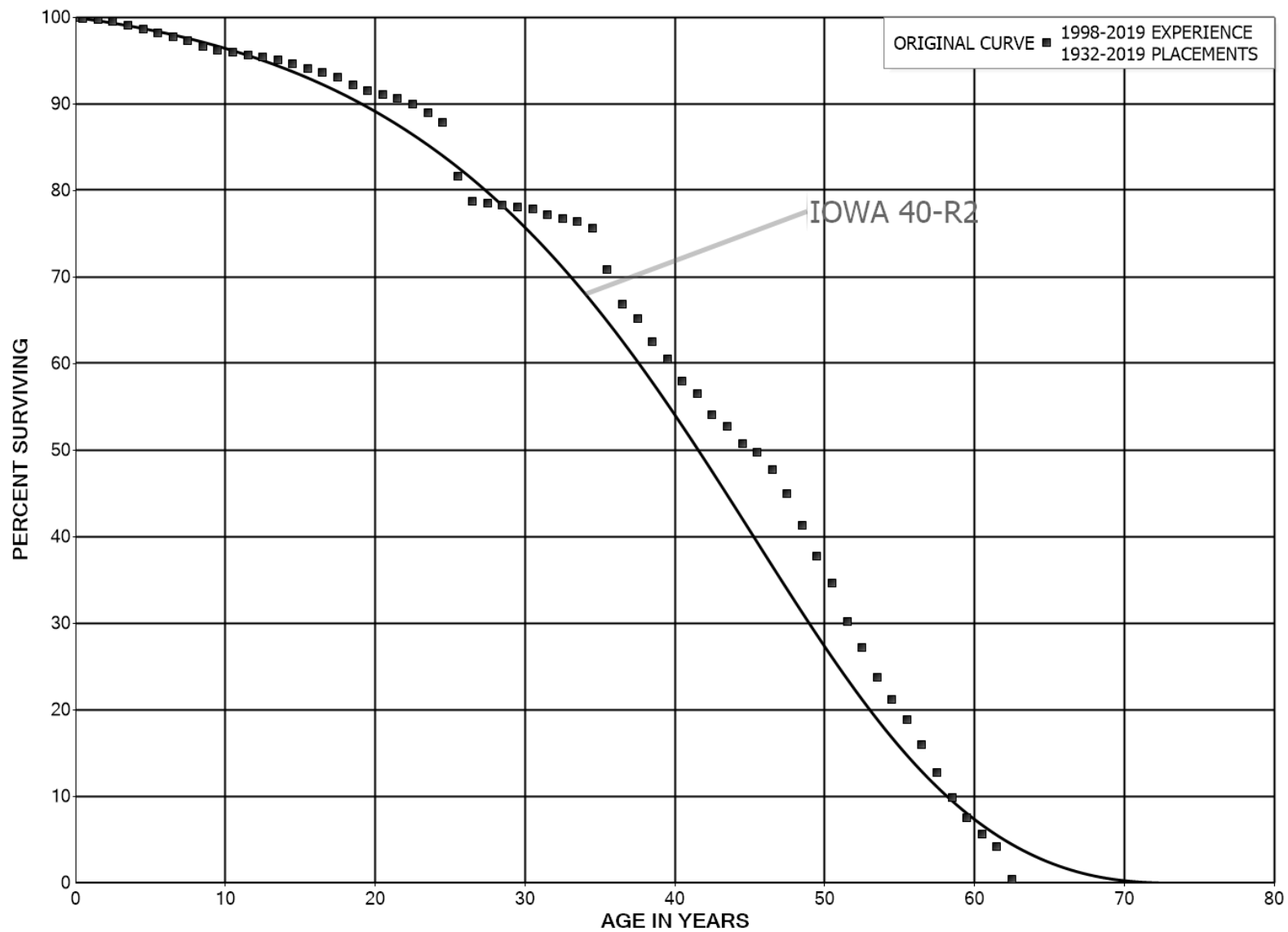
BLACK HILLS NEBRASKA  
ACCOUNT 380.00 SERVICES  
ORIGINAL AND SMOOTH SURVIVOR CURVES



BLACK HILLS NEBRASKA  
ACCOUNT 382.01 METER INSTALLATIONS  
ORIGINAL AND SMOOTH SURVIVOR CURVES



BLACK HILLS NEBRASKA  
ACCOUNTS 383.01 AND 383.71 HOUSE REGULATORS  
ORIGINAL AND SMOOTH SURVIVOR CURVES



AccountNumber	TransactionCode	TransactionYear	InstallationYear	Amount
38000	0	2010	1972	(1,666.86)
38000	0	2010	1973	(66.50)
38000	0	2010	1973	(859.81)
38000	0	2010	1973	(8,308.17)
38000	0	2010	1973	(120.34)
38000	0	2010	1974	(5,932.14)
38000	0	2010	1974	(3,434.37)
38000	0	2010	1975	(2,088.93)
38000	0	2010	1975	(788.18)
38000	0	2010	1976	(4,943.17)
38000	0	2010	1976	(3,701.24)
38000	0	2010	1977	(3,250.23)
38000	0	2010	1977	(1,531.56)
38000	0	2010	1978	(4,502.71)
38000	0	2010	1978	(1,703.24)
38000	0	2010	1979	(3,358.97)
38000	0	2010	1979	(3,542.07)
38000	0	2010	1980	(1,426.26)
38000	0	2010	1980	(7,280.92)
38000	0	2010	1981	(3,683.27)
38000	0	2010	1981	(5,762.26)
38000	0	2010	1982	(847.20)
38000	0	2010	1982	(2,739.51)
38000	0	2010	1983	(8,926.92)
38000	0	2010	1983	(1,217.36)
38000	0	2010	1984	(2,937.87)
38000	0	2010	1984	(10,283.30)
38000	0	2010	1985	(6,067.65)
38000	0	2010	1985	(3,413.91)
38000	0	2010	1986	(3,392.17)
38000	0	2010	1986	(18,029.11)
38000	0	2010	1987	(4,645.92)
38000	0	2010	1987	(10,537.78)
38000	0	2010	1988	(37,154.47)
38000	0	2010	1988	(1,526.74)
38000	0	2010	1989	(2,520.93)
38000	0	2010	1989	(4,950.38)
38000	0	2010	1990	1,631.77
38000	0	2010	1990	(18,107.44)
38000	0	2010	1991	(18,205.48)
38000	0	2010	1991	(19,649.44)
38000	0	2010	1992	(32,325.74)
38000	0	2010	1992	(32,402.19)
38000	0	2010	1993	(20,828.83)
38000	0	2010	1993	(16,113.66)
38000	0	2010	1994	(24,549.14)

AccountNumber	TransactionCode	TransactionYear	InstallationYear	Amount
38000	0	2010	1994	(36,382.27)
38000	0	2010	1995	(5,064.25)
38000	0	2010	1996	(51,691.65)
38000	0	2010	1996	(29,116.46)
38000	0	2010	1997	(27,430.38)
38000	0	2010	1997	(39,717.21)
38000	0	2010	1998	(39,363.96)
38000	0	2010	1998	(24,070.82)
38000	0	2010	1999	(21,815.14)
38000	0	2010	1999	(16,072.02)
38000	0	2010	2000	(32,006.18)
38000	0	2010	2000	(25,557.43)
38000	0	2010	2001	(19,847.76)
38000	0	2010	2001	(16,251.03)
38000	0	2010	2002	(21,198.95)
38000	0	2010	2002	(16,789.97)
38000	0	2010	2003	(32,449.55)
38000	0	2010	2003	(14,447.92)
38000	0	2010	2004	(34,628.97)
38000	0	2010	2004	(22,771.09)
38000	0	2010	2005	(32,469.62)
38000	0	2010	2005	(17,365.43)
38000	0	2010	2006	(17,376.57)
38000	0	2010	2006	(42,109.08)
38000	0	2010	2007	(18,790.81)
38000	0	2010	2007	(52,395.19)
38000	0	2010	2008	(109,043.74)
38000	0	2010	2008	(10,636.27)
38000	0	2010	2009	(111,841.77)
38000	0	2010	2009	(5,118.80)
38000	0	2010	2010	(13,880.37)
38000	0	2010	1933	(5.30)
38000	0	2010	1934	(1.44)
38000	0	2010	1935	(1.13)
38000	0	2010	1936	(3.64)
38000	0	2010	1939	(5.31)
38000	0	2010	1940	(24.20)
38000	0	2010	1941	(87.07)
38000	0	2010	1942	(129.09)
38000	0	2010	1943	(15.79)
38000	0	2010	1944	(26.60)
38000	0	2010	1945	(50.59)
38000	0	2010	1947	(311.94)
38000	0	2010	1948	(260.76)
38000	0	2010	1949	(0.45)
38000	0	2010	1950	(346.94)

AccountNumber	TransactionCode	TransactionYear	InstallationYear	Amount
38000	0	2010	1951	(392.95)
38000	0	2010	1952	(88.35)
38000	0	2010	1953	(188.70)
38000	0	2010	1954	(968.47)
38000	0	2010	1955	(433.53)
38000	0	2010	1956	(366.95)
38000	0	2010	1957	(359.01)
38000	0	2010	1958	(301.23)
38000	0	2010	1959	(80.94)
38000	0	2010	1959	(837.02)
38000	0	2010	1960	(1,392.04)
38000	0	2010	1961	(183.22)
38000	0	2010	1961	(187.74)
38000	0	2010	1962	(727.85)
38000	0	2010	1962	(1,168.31)
38000	0	2010	1963	(114.39)
38000	0	2010	1963	(580.46)
38000	0	2010	1964	(3,154.76)
38000	0	2010	1964	(1,283.98)
38000	0	2010	1965	(1,468.63)
38000	0	2010	1965	(3,588.71)
38000	0	2010	1966	(1,470.20)
38000	0	2010	1966	(2,948.04)
38000	0	2010	1967	(1,045.18)
38000	0	2010	1967	(2,965.67)
38000	0	2010	1968	(2,432.02)
38000	0	2010	1968	(2,405.02)
38000	0	2010	1969	(2,903.83)
38000	0	2010	1969	(1,665.48)
38000	0	2010	1970	(1,647.42)
38000	0	2010	1970	(1,235.95)
38000	0	2010	1971	(6,646.38)
38000	0	2010	1971	(3,197.72)
38000	0	2010	1972	(971.97)
38000	0	2010	1972	(502.95)
38000	0	2010	1973	(2,324.60)
38000	0	2010	1973	(3,468.95)
38000	0	2010	1974	(6,215.85)
38000	0	2010	1974	(2,539.94)
38000	0	2010	1975	(8,512.44)
38000	0	2010	1975	(1,523.68)
38000	0	2010	1976	(32,392.89)
38000	0	2010	1976	(80.91)
38000	0	2010	1977	(5,350.82)
38000	0	2010	1977	(4,996.49)
38000	0	2010	1978	(2,489.38)

AccountNumber	TransactionCode	TransactionYear	InstallationYear	Amount
38000	0	2010	1979	(3,477.55)
38000	0	2010	1980	(1,046.36)
38000	0	2010	1981	(1,588.69)
38000	0	2010	1984	(1,044.94)
38000	0	2010	1987	(406.02)
38000	0	2010	1989	(385.72)
38000	0	2010	1992	(2,772.68)
38000	0	2010	1992	(3,443.47)
38000	0	2010	1993	(366.00)
38000	0	2010	2000	(4,404.07)
38000	0	2010	2001	(7.70)
38000	0	2010	2002	(1,937.23)
38000	0	2010	2006	(2,336.75)
38201	0	2010	1937	(7.42)
38201	0	2010	1938	(8.81)
38201	0	2010	1939	(14.90)
38201	0	2010	1940	(13.36)
38201	0	2010	1941	(30.03)
38201	0	2010	1942	(10.05)
38201	0	2010	1943	(7.69)
38201	0	2010	1944	(12.52)
38201	0	2010	1945	(16.16)
38201	0	2010	1947	(31.41)
38201	0	2010	1948	(22.14)
38201	0	2010	1950	(53.00)
38201	0	2010	1951	(41.71)
38201	0	2010	1952	(11.76)
38201	0	2010	1953	(17.31)
38201	0	2010	1954	(98.77)
38201	0	2010	1955	(37.17)
38201	0	2010	1956	(78.83)
38201	0	2010	1957	(102.17)
38201	0	2010	1958	(46.75)
38201	0	2010	1959	(46.18)
38201	0	2010	1960	(57.60)
38201	0	2010	1961	(173.04)
38201	0	2010	1961	(30.30)
38201	0	2010	1962	(23.77)
38201	0	2010	1962	(34.95)
38201	0	2010	1963	(24.83)
38201	0	2010	1963	(2.65)
38201	0	2010	1964	(49.42)
38201	0	2010	1964	(155.06)
38201	0	2010	1965	(60.74)
38201	0	2010	1965	(148.19)
38201	0	2010	1966	(225.34)



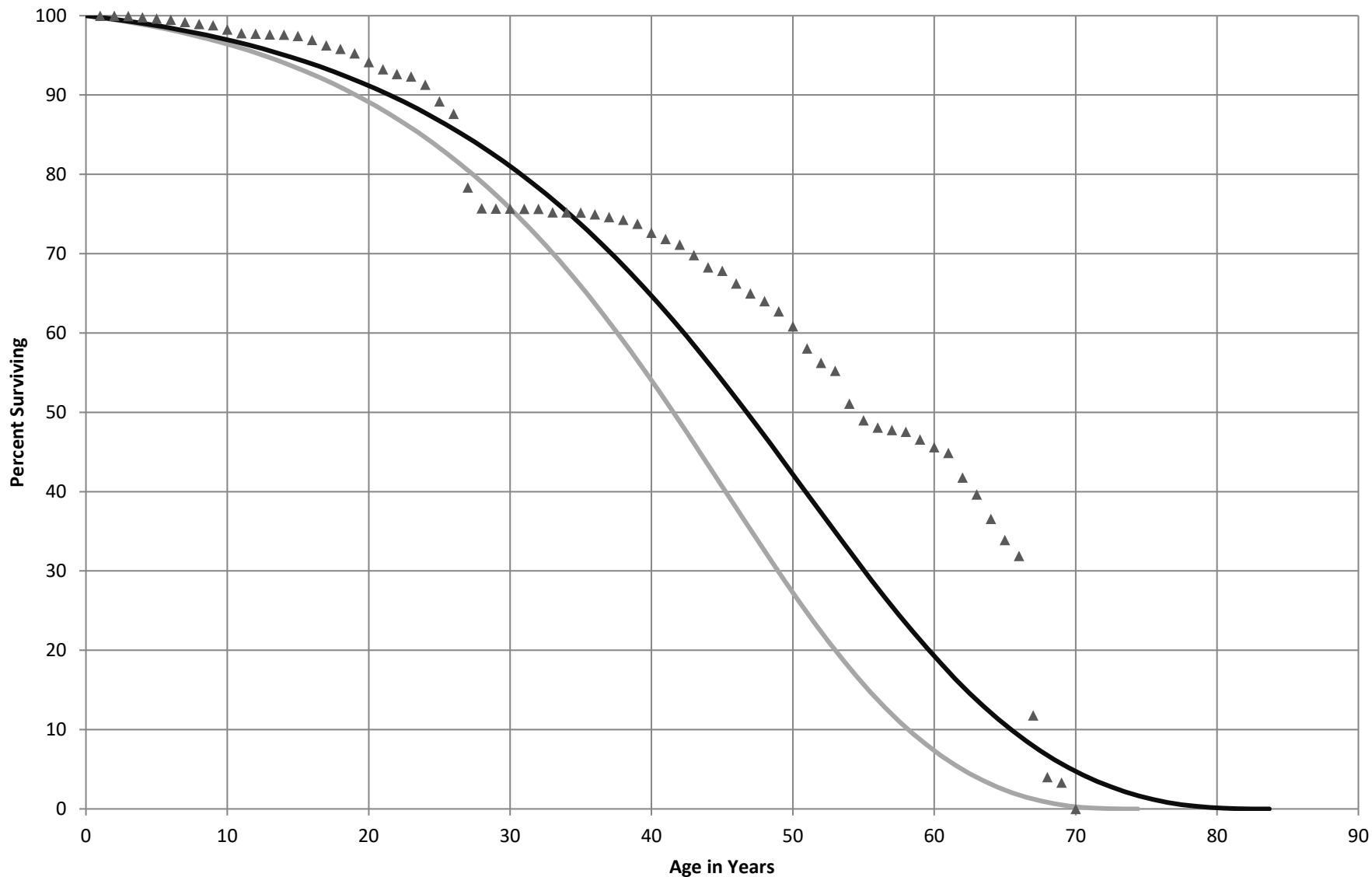
AccountNumber	TransactionCode	TransactionYear	InstallationYear	Amount
38201	0	2010	1966	(27.15)
38201	0	2010	1967	(347.84)
38201	0	2010	1967	(16.85)
38201	0	2010	1968	(85.63)
38201	0	2010	1968	(22.41)
38201	0	2010	1969	(30.06)
38201	0	2010	1970	(38.33)
38201	0	2010	1970	(42.85)
38201	0	2010	1971	(116.83)
38201	0	2010	1971	(157.38)
38201	0	2010	1972	(243.14)
38201	0	2010	1972	(172.41)
38201	0	2010	1973	(178.13)
38201	0	2010	1973	(285.72)
38201	0	2010	1974	(140.02)
38201	0	2010	1974	(386.94)
38201	0	2010	1975	(112.92)
38201	0	2010	1975	(326.13)
38201	0	2010	1976	(74.08)
38201	0	2010	1976	(1,821.25)
38201	0	2010	1977	(195.55)
38201	0	2010	1977	(82.64)
38201	0	2010	1978	(100.21)
38201	0	2010	1978	(272.68)
38201	0	2010	1979	(369.59)
38201	0	2010	1979	(1,217.74)
38201	0	2010	1980	(986.82)
38201	0	2010	1980	(144.12)
38201	0	2010	1981	(253.07)
38201	0	2010	1981	(343.68)
38201	0	2010	1982	(56.16)
38201	0	2010	1982	(286.15)
38201	0	2010	1983	(300.36)
38201	0	2010	1983	(43.87)
38201	0	2010	1984	(250.68)
38201	0	2010	1984	(413.96)
38201	0	2010	1985	(323.84)
38201	0	2010	1985	(248.66)
38201	0	2010	1986	(971.64)
38201	0	2010	1986	(1,109.19)
38201	0	2010	1987	(375.05)
38201	0	2010	1987	(1,059.01)
38201	0	2010	1988	(7,716.52)
38201	0	2010	1988	(454.51)
38201	0	2010	1989	(277.97)
38201	0	2010	1989	(498.49)

AccountNumber	TransactionCode	TransactionYear	InstallationYear	Amount
38201	0	2010	1990	(959.69)
38201	0	2010	1990	(1,488.14)
38201	0	2010	1991	(939.00)
38201	0	2010	1991	(754.00)
38201	0	2010	1992	(1,584.41)
38201	0	2010	1992	(1,197.17)
38201	0	2010	1993	(1,047.00)
38201	0	2010	1993	(522.00)
38201	0	2010	1994	(3,494.00)
38201	0	2010	1994	(2,291.00)
38201	0	2010	1995	(742.00)
38201	0	2010	1995	(30.00)
38201	0	2010	1996	(1,534.00)
38201	0	2010	1996	(1,645.00)
38201	0	2010	1997	(1,403.00)
38201	0	2010	1997	(916.00)
38301	0	2010	1957	(57.77)
38301	0	2010	1958	(120.52)
38301	0	2010	1959	(100.97)
38301	0	2010	1960	(193.99)
38301	0	2010	1961	(396.86)
38301	0	2010	1962	(145.54)
38301	0	2010	1963	(30.65)
38301	0	2010	1964	(356.51)
38301	0	2010	1965	(291.07)
38301	0	2010	1966	(135.57)
38301	0	2010	1967	(92.70)
38301	0	2010	1968	(45.77)
38301	0	2010	1969	(395.48)
38301	0	2010	1971	(284.83)
38301	0	2010	1972	(599.14)
38301	0	2010	1972	(258.79)
38301	0	2010	1973	(341.17)
38301	0	2010	1973	(998.07)
38301	0	2010	1974	(228.60)
38301	0	2010	1974	(2,132.39)
38301	0	2010	1975	(259.54)
38301	0	2010	1975	(1,253.54)
38301	0	2010	1976	(204.00)
38301	0	2010	1976	(4,520.25)
38301	0	2010	1977	(1,098.38)
38301	0	2010	1977	(153.33)
38301	0	2010	1978	(279.52)
38301	0	2010	1978	(1,753.93)
38301	0	2010	1979	(769.48)
38301	0	2010	1979	(1,074.63)

AccountNumber	TransactionCode	TransactionYear	InstallationYear	Amount
38301	0	2010	1980	(394.44)
38301	0	2010	1980	(376.46)
38301	0	2010	1981	(569.92)
38301	0	2010	1981	(480.49)
38301	0	2010	1982	(344.69)
38301	0	2010	1982	(234.22)
38301	0	2010	1983	(835.86)
38301	0	2010	1983	(316.64)
38301	0	2010	1984	(313.56)
38301	0	2010	1984	(1,328.44)
38301	0	2010	1985	(801.73)
38301	0	2010	1985	(324.32)
38301	0	2010	1986	(4,024.52)
38301	0	2010	1986	(671.58)
38301	0	2010	1987	(2,946.28)
38301	0	2010	1987	(536.17)
38301	0	2010	1988	(322.43)
38301	0	2010	1988	(5,986.67)
38301	0	2010	1989	(226.54)
38301	0	2010	1989	(1,037.69)
38301	0	2010	1990	(2,326.20)
38301	0	2010	1990	(2,840.89)
38301	0	2010	1991	(2,625.00)
38301	0	2010	1991	(2,690.00)
38301	0	2010	1992	(3,245.10)
38301	0	2010	1992	(3,338.89)
38301	0	2010	1993	(2,414.00)
38301	0	2010	1993	(2,143.00)
38301	0	2010	1994	(3,975.00)
38301	0	2010	1994	(2,677.39)
38301	0	2010	1995	(121.57)
38301	0	2010	1995	(1,908.00)
38301	0	2010	1996	(3,463.00)
38301	0	2010	1996	(5,650.00)
38301	0	2010	1997	(5,852.00)
38301	0	2010	1997	(3,402.00)
38301	0	2010	1998	(5,130.20)
38301	0	2010	1998	(3,744.49)
38301	0	2010	1999	(3,219.33)
38301	0	2010	1999	(3,738.65)
38301	0	2010	2000	(5,954.11)
38301	0	2010	2000	(5,831.47)
38301	0	2010	2001	(4,331.92)
38301	0	2010	2001	(3,434.62)
38301	0	2010	2002	(4,339.11)
38301	0	2010	2002	(6,374.98)

AccountNumber	TransactionCode	TransactionYear	InstallationYear	Amount
38301	0	2010	2003	(2,367.04)
38301	0	2010	2003	(7,245.35)
38301	0	2010	2004	(10,159.19)
38301	0	2010	2004	(6,282.86)
38301	0	2010	2005	(9,805.61)
38301	0	2010	2005	(4,637.63)
38301	0	2010	2006	(2,417.40)
38301	0	2010	2006	(14,060.31)
38301	0	2010	2007	(5,512.65)
38301	0	2010	2007	(12,728.84)
38301	0	2010	2008	(19,603.64)
38301	0	2010	2008	(5,924.76)
38301	0	2010	2009	(27,736.18)
38301	0	2010	2009	(1,295.57)
38301	0	2010	2010	(3,216.58)

### Account 383.01 and 383.71 - House Regulators



▲ Life Data - Placement Band: 1932-2019; Experience Band: 2013-2019      — Company Proposed: 40-R2      — WDA Proposed: 45-R2

### COMPARISON OF PROPOSED CURVE TO DATA

Account 383.01 and 383.71 - House Regulators

Placement Band: 1932-2019

Experience Band: 2013-2019

T-Cut: 68.5

	<u>Life</u>	<u>lowa Curve</u>	<u>Sum of Squared Differences</u>
Company Proposed	40	R2	23,817
WDA Proposed	45	R2	8,106

Note:

Lower Sum of Square Differences indicates a better fit to the Observed Data

Life Data  
 Account 383.01 and 383.71 - House Regulators  
 Placement Band: 1932-2019  
 Experience Band: 2013-2019

Age	BOY Survivors	Total Retirements	Retirement Ratio	Survivor Ratio	Portion Surviving At Start of Age Interval
0	29,464,020	(6,914)	0.00023	0.99977	100.00
0.5	23,401,225	(1,377)	0.00006	0.99994	99.98
1.5	16,764,875	(27,778)	0.00166	0.99834	99.97
2.5	14,193,472	(22,333)	0.00157	0.99843	99.81
3.5	11,184,324	(17,443)	0.00156	0.99844	99.65
4.5	10,152,235	(29,269)	0.00288	0.99712	99.49
5.5	8,728,239	(22,325)	0.00256	0.99744	99.21
6.5	7,621,688	(10,828)	0.00142	0.99858	98.95
7.5	7,370,548	(40,092)	0.00544	0.99456	98.81
8.5	7,268,438	(36,041)	0.00496	0.99504	98.27
9.5	7,314,610	(3,168)	0.00043	0.99957	97.79
10.5	7,325,587	(8,724)	0.00119	0.99881	97.74
11.5	6,944,236	(1,302)	0.00019	0.99981	97.63
12.5	6,866,204	(10,685)	0.00156	0.99844	97.61
13.5	6,592,731	(34,246)	0.00519	0.99481	97.46
14.5	6,011,308	(42,234)	0.00703	0.99297	96.95
15.5	5,786,397	(26,512)	0.00458	0.99542	96.27
16.5	4,970,514	(30,365)	0.00611	0.99389	95.83
17.5	4,165,745	(47,727)	0.01146	0.98854	95.24
18.5	3,431,378	(32,886)	0.00958	0.99042	94.15
19.5	2,707,747	(17,531)	0.00647	0.99353	93.25
20.5	2,239,307	(7,869)	0.00351	0.99649	92.65
21.5	1,585,567	(17,471)	0.01102	0.98898	92.32
22.5	867,598	(19,870)	0.02290	0.97710	91.30
23.5	742,609	(13,049)	0.01757	0.98243	89.21
24.5	678,125	(72,047)	0.10624	0.89376	87.64
25.5	611,215	(20,487)	0.03352	0.96648	78.33
26.5	3,832,282	(1,233)	0.00032	0.99968	75.71
27.5	3,776,051	(747)	0.00020	0.99980	75.68
28.5	3,702,930	(718)	0.00019	0.99981	75.67
29.5	3,649,735	(439)	0.00012	0.99988	75.65
30.5	3,613,706	(20,061)	0.00555	0.99445	75.64
31.5	3,603,688	(1,373)	0.00038	0.99962	75.22
32.5	3,615,557	(907)	0.00025	0.99975	75.20
33.5	360,205	(1,037)	0.00288	0.99712	75.18
34.5	346,435	(1,659)	0.00479	0.99521	74.96
35.5	330,658	(1,431)	0.00433	0.99567	74.60
36.5	317,231	(2,241)	0.00706	0.99294	74.28

Life Data  
 Account 383.01 and 383.71 - House Regulators  
 Placement Band: 1932-2019  
 Experience Band: 2013-2019

Age	BOY Survivors	Total Retirements	Retirement Ratio	Survivor Ratio	Portion Surviving At Start of Age Interval
37.5	325,119	(4,929)	0.01516	0.98484	73.75
38.5	282,581	(3,038)	0.01075	0.98925	72.64
39.5	247,543	(2,437)	0.00984	0.99016	71.85
40.5	224,562	(4,163)	0.01854	0.98146	71.15
41.5	197,131	(4,376)	0.02220	0.97780	69.83
42.5	185,915	(1,200)	0.00646	0.99354	68.28
43.5	186,287	(4,358)	0.02339	0.97661	67.84
44.5	162,410	(3,078)	0.01895	0.98105	66.25
45.5	156,694	(2,383)	0.01521	0.98479	65.00
46.5	139,235	(2,789)	0.02003	0.97997	64.01
47.5	117,205	(3,541)	0.03022	0.96978	62.72
48.5	87,991	(4,016)	0.04565	0.95435	60.83
49.5	65,336	(2,041)	0.03123	0.96877	58.05
50.5	43,359	(771)	0.01777	0.98223	56.24
51.5	29,408	(2,215)	0.07533	0.92467	55.24
52.5	7,395	(302)	0.04078	0.95922	51.08
53.5	3,899	(72)	0.01859	0.98141	49.00
54.5	3,050	(21)	0.00689	0.99311	48.09
55.5	2,749	(13)	0.00455	0.99545	47.75
56.5	3,644	(73)	0.02016	0.97984	47.54
57.5	4,399	(91)	0.02070	0.97930	46.58
58.5	3,862	(62)	0.01612	0.98388	45.61
59.5	2,988	(207)	0.06932	0.93068	44.88
60.5	1,897	(97)	0.05120	0.94880	41.77
61.5	1,819	(141)	0.07747	0.92253	39.63
62.5	1,997	(145)	0.07265	0.92735	36.56
63.5	1,305	(77)	0.05917	0.94083	33.90
64.5	467	(294)	0.63009	0.36991	31.90
65.5	314	(207)	0.65897	0.34103	11.80
66.5	107	(19)	0.17889	0.82111	4.02
67.5	75	(75)	1.00000	0.00000	3.30
68.5	(0)	0	0.00000	1.00000	0.00

Source: Attachment No. PA 5-193 BHN 2019 Service Life File with Code 2s.xlsx



OLT CODE 2 Exp 2013-2019

Account 383.01 and 383.71 - House Regulators

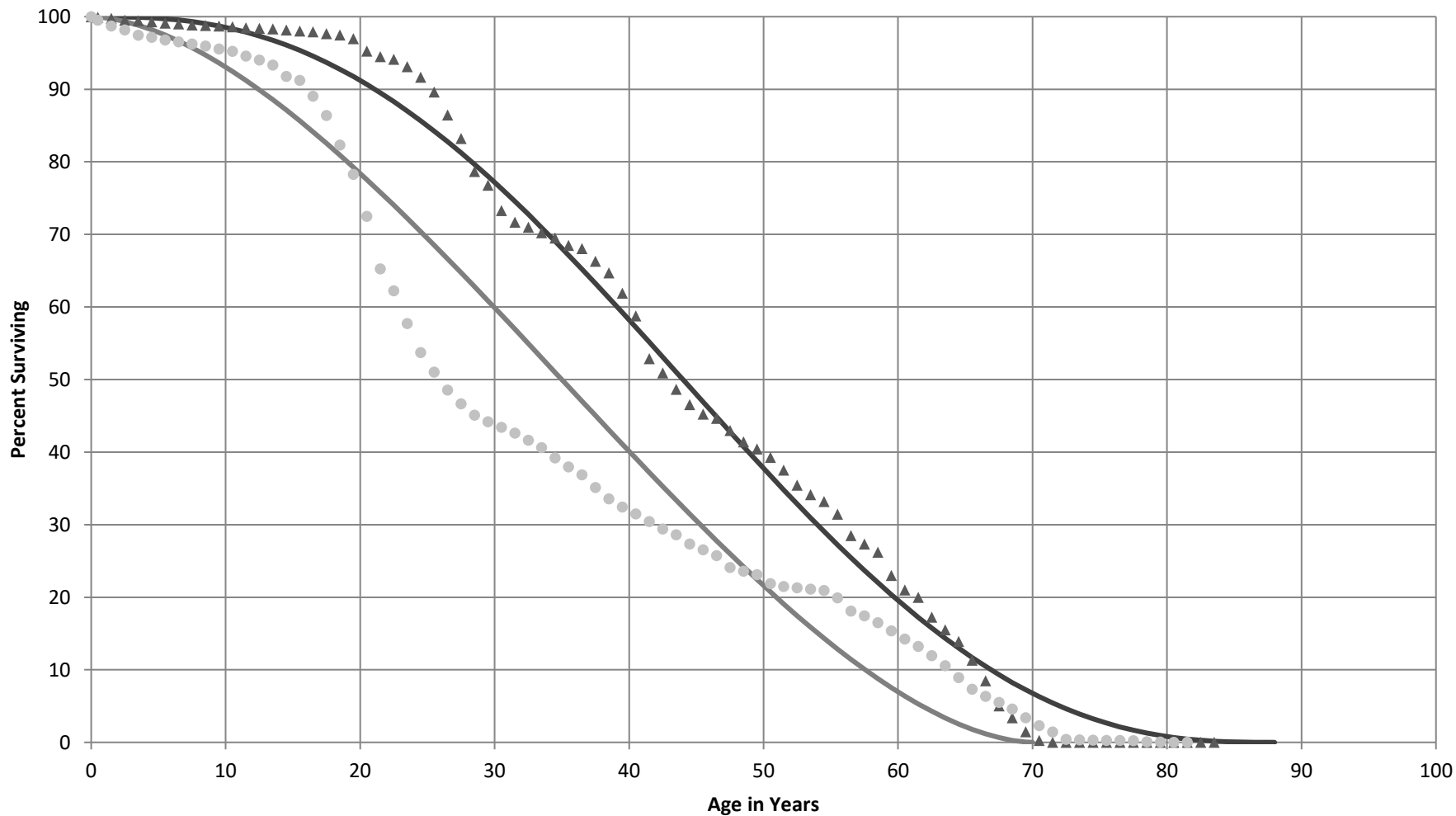
Placement Band: 1932-2019

Experience Band: 2013-2019

T-Cut: 68.5

Life	Iowa Curve	Sum of Squared Differences	Residual Measure	Max Curve Age
50	R1.5	2,477	5.95	97
51	R2	2,548	6.03	95
52	S1	3,008	6.56	104
52	S0.5	3,017	6.56	104
50	R1	3,206	6.77	101
51	R2.5	3,488	7.06	90
52	S1.5	3,503	7.07	103
52	S0	3,629	7.20	104
54	L1.5	3,717	7.29	161
55	L1	4,081	7.64	173
54	L2	4,106	7.66	152
52	S2	4,594	8.10	103
54	L2.5	4,801	8.28	140
56	L0.5	4,918	8.38	203
51	R0.5	4,962	8.42	103
52	R3	5,182	8.60	88
52	S2.5	6,028	9.28	101
58	L0	6,215	9.42	237
54	L3	6,348	9.52	129
53	O1	7,516	10.36	106
60	O2	7,631	10.44	185
53	S3	7,958	10.66	102
82	O3	10,081	12.00	317
53	R4	10,189	12.06	81
53	L4	10,674	12.35	114
108	O4	11,261	12.68	475
54	S4	14,013	14.15	94
54	L5	17,025	15.60	104
55	R5	18,879	16.42	75
55	S5	21,620	17.57	85
55	S6	30,287	20.80	76

### Account 380 - Services



- WDA Proposed: 44-S1
- Fit to Experience Band 1998-2012: 35-S0
- ▲ Both Companies Life Data - Placement Band: 1930-2019; Experience Band: 2013-2019
- Aquila Only Prior to 2013 Company Filed Life Data - Placement Band: 1930-2012; Experience Band: 1998-2012

Life Data  
 Account 380 - Services  
 Placement Band: 1930-2019  
 Experience Band: 2013-2019

Age	BOY Survivors	Total Retirements	Retirement Ratio	Survivor Ratio	Portion Surviving At Start of Age Interval
0	52,735,278	(49,954)	0.00095	0.99905	100.00
0.5	41,570,406	(53,321)	0.00128	0.99872	99.91
1.5	40,773,390	(102,470)	0.00251	0.99749	99.78
2.5	37,975,349	(33,075)	0.00087	0.99913	99.53
3.5	31,278,969	(50,237)	0.00161	0.99839	99.44
4.5	28,426,668	(45,562)	0.00160	0.99840	99.28
5.5	25,379,086	(28,269)	0.00111	0.99889	99.12
6.5	25,783,179	(39,550)	0.00153	0.99847	99.01
7.5	24,893,592	(21,892)	0.00088	0.99912	98.86
8.5	24,357,535	(13,359)	0.00055	0.99945	98.77
9.5	23,698,762	(31,383)	0.00132	0.99868	98.72
10.5	24,029,506	(32,180)	0.00134	0.99866	98.59
11.5	23,966,767	(13,897)	0.00058	0.99942	98.45
12.5	23,945,787	(24,669)	0.00103	0.99897	98.40
13.5	21,338,942	(25,318)	0.00119	0.99881	98.30
14.5	21,266,150	(31,584)	0.00149	0.99851	98.18
15.5	21,871,133	(29,287)	0.00134	0.99866	98.03
16.5	22,646,419	(52,617)	0.00232	0.99768	97.90
17.5	22,033,046	(46,000)	0.00209	0.99791	97.68
18.5	21,769,646	(112,816)	0.00518	0.99482	97.47
19.5	20,866,670	(365,655)	0.01752	0.98248	96.97
20.5	20,333,863	(162,863)	0.00801	0.99199	95.27
21.5	19,437,542	(79,415)	0.00409	0.99591	94.50
22.5	17,273,433	(186,952)	0.01082	0.98918	94.12
23.5	15,100,029	(231,857)	0.01535	0.98465	93.10
24.5	14,953,188	(331,828)	0.02219	0.97781	91.67
25.5	12,734,195	(454,310)	0.03568	0.96432	89.64
26.5	10,273,078	(384,564)	0.03743	0.96257	86.44
27.5	8,153,383	(445,344)	0.05462	0.94538	83.20
28.5	6,234,661	(149,555)	0.02399	0.97601	78.66
29.5	5,178,147	(234,532)	0.04529	0.95471	76.77
30.5	4,704,690	(104,243)	0.02216	0.97784	73.29
31.5	3,731,395	(34,652)	0.00929	0.99071	71.67
32.5	3,883,021	(42,621)	0.01098	0.98902	71.00
33.5	3,928,911	(41,368)	0.01053	0.98947	70.22
34.5	3,667,245	(52,580)	0.01434	0.98566	69.48
35.5	3,365,421	(22,277)	0.00662	0.99338	68.49
36.5	3,153,478	(79,776)	0.02530	0.97470	68.04

Life Data  
 Account 380 - Services  
 Placement Band: 1930-2019  
 Experience Band: 2013-2019

Age	BOY Survivors	Total Retirements	Retirement Ratio	Survivor Ratio	Portion Surviving At Start of Age Interval
37.5	2,999,058	(73,054)	0.02436	0.97564	66.31
38.5	2,760,823	(120,154)	0.04352	0.95648	64.70
39.5	2,297,937	(115,582)	0.05030	0.94970	61.88
40.5	1,916,347	(191,833)	0.10010	0.89990	58.77
41.5	1,673,495	(62,824)	0.03754	0.96246	52.89
42.5	1,597,474	(71,031)	0.04446	0.95554	50.90
43.5	1,488,138	(64,595)	0.04341	0.95659	48.64
44.5	1,263,459	(35,139)	0.02781	0.97219	46.53
45.5	1,161,277	(15,205)	0.01309	0.98691	45.23
46.5	1,178,715	(43,728)	0.03710	0.96290	44.64
47.5	1,093,376	(40,138)	0.03671	0.96329	42.98
48.5	899,982	(21,583)	0.02398	0.97602	41.41
49.5	811,241	(22,890)	0.02822	0.97178	40.41
50.5	683,502	(30,632)	0.04482	0.95518	39.27
51.5	619,179	(34,116)	0.05510	0.94490	37.51
52.5	585,890	(21,672)	0.03699	0.96301	35.45
53.5	506,877	(14,001)	0.02762	0.97238	34.14
54.5	468,786	(24,758)	0.05281	0.94719	33.19
55.5	401,564	(37,698)	0.09388	0.90612	31.44
56.5	316,424	(12,784)	0.04040	0.95960	28.49
57.5	319,080	(13,303)	0.04169	0.95831	27.34
58.5	332,308	(40,391)	0.12155	0.87845	26.20
59.5	265,863	(23,176)	0.08717	0.91283	23.01
60.5	227,444	(11,018)	0.04844	0.95156	21.01
61.5	222,509	(30,412)	0.13668	0.86332	19.99
62.5	189,218	(19,375)	0.10240	0.89760	17.26
63.5	148,215	(15,166)	0.10233	0.89767	15.49
64.5	114,253	(21,332)	0.18671	0.81329	13.91
65.5	76,297	(19,103)	0.25038	0.74962	11.31
66.5	32,344	(13,199)	0.40808	0.59192	8.48
67.5	13,818	(4,455)	0.32245	0.67755	5.02
68.5	4,847	(2,782)	0.57400	0.42600	3.40
69.5	2,154	(1,783)	0.82763	0.17237	1.45
70.5	473	(432)	0.91295	0.08705	0.25
71.5	592	(102)	0.17305	0.82695	0.02
72.5	503	(31)	0.06250	0.93750	0.02
73.5	547	(13)	0.02389	0.97611	0.02
74.5	549	0	0.00000	1.00000	0.02

Life Data  
 Account 380 - Services  
 Placement Band: 1930-2019  
 Experience Band: 2013-2019

Age	BOY Survivors	Total Retirements	Retirement Ratio	Survivor Ratio	Portion Surviving At Start of Age Interval
75.5	549	(0)	0.00046	0.99954	0.02
76.5	549	(486)	0.88666	0.11334	0.02
77.5	62	(62)	1.00000	0.00000	0.00
78.5	0	0	0.00000	1.00000	0.00
79.5	93	0	0.00000	1.00000	0.00
80.5	93	(13)	0.13468	0.86532	0.00
81.5	80	(80)	1.00000	0.00000	0.00
82.5	76	(76)	1.00000	0.00000	0.00
83.5	0	0	0.00000	1.00000	0.00

Life Data  
 Account 380 - Services  
 Placement Band: 1930-2012  
 Experience Band: 1998-2012

Age	BOY Survivors	Total Retirements	Retirement Ratio	Survivor Ratio	Portion Surviving At Start of Age Interval
0	42,076,463	(205,952)	0.00489	0.99511	100.00
0.5	41,155,419	(327,000)	0.00795	0.99205	99.51
1.5	40,573,756	(226,231)	0.00558	0.99442	98.72
2.5	40,112,617	(302,249)	0.00754	0.99246	98.17
3.5	39,509,431	(116,840)	0.00296	0.99704	97.43
4.5	38,962,253	(144,067)	0.00370	0.99630	97.14
5.5	38,190,919	(101,354)	0.00265	0.99735	96.78
6.5	35,470,521	(102,597)	0.00289	0.99711	96.53
7.5	33,806,304	(109,715)	0.00325	0.99675	96.25
8.5	33,318,561	(131,978)	0.00396	0.99604	95.93
9.5	33,017,326	(116,993)	0.00354	0.99646	95.55
10.5	32,792,653	(221,049)	0.00674	0.99326	95.22
11.5	31,809,395	(185,107)	0.00582	0.99418	94.57
12.5	30,259,175	(227,029)	0.00750	0.99250	94.02
13.5	28,078,596	(464,170)	0.01653	0.98347	93.32
14.5	25,876,635	(158,034)	0.00611	0.99389	91.78
15.5	23,225,803	(557,843)	0.02402	0.97598	91.21
16.5	20,779,592	(614,679)	0.02958	0.97042	89.02
17.5	19,080,871	(904,927)	0.04743	0.95257	86.39
18.5	16,850,959	(822,547)	0.04881	0.95119	82.29
19.5	14,217,901	(1,054,950)	0.07420	0.92580	78.28
20.5	11,325,045	(1,126,645)	0.09948	0.90052	72.47
21.5	8,384,063	(390,724)	0.04660	0.95340	65.26
22.5	7,050,569	(509,953)	0.07233	0.92767	62.22
23.5	5,822,289	(405,179)	0.06959	0.93041	57.72
24.5	4,798,383	(240,932)	0.05021	0.94979	53.70
25.5	4,610,006	(221,559)	0.04806	0.95194	51.00
26.5	4,490,990	(175,058)	0.03898	0.96102	48.55
27.5	4,302,633	(143,586)	0.03337	0.96663	46.66
28.5	4,098,107	(85,046)	0.02075	0.97925	45.10
29.5	3,887,364	(65,826)	0.01693	0.98307	44.17
30.5	3,714,298	(70,213)	0.01890	0.98110	43.42
31.5	3,479,180	(78,965)	0.02270	0.97730	42.60
32.5	3,170,214	(76,899)	0.02426	0.97574	41.63
33.5	2,906,518	(101,889)	0.03506	0.96494	40.62
34.5	2,740,927	(86,571)	0.03158	0.96842	39.20
35.5	2,557,537	(74,626)	0.02918	0.97082	37.96
36.5	2,357,923	(109,823)	0.04658	0.95342	36.85

Life Data  
 Account 380 - Services  
 Placement Band: 1930-2012  
 Experience Band: 1998-2012

Age	BOY Survivors	Total Retirements	Retirement Ratio	Survivor Ratio	Portion Surviving At Start of Age Interval
37.5	1,984,034	(88,482)	0.04460	0.95540	35.14
38.5	1,745,640	(59,517)	0.03409	0.96591	33.57
39.5	1,611,573	(47,065)	0.02920	0.97080	32.42
40.5	1,482,566	(49,858)	0.03363	0.96637	31.48
41.5	1,278,867	(41,866)	0.03274	0.96726	30.42
42.5	1,127,283	(31,862)	0.02826	0.97174	29.42
43.5	1,047,605	(45,937)	0.04385	0.95615	28.59
44.5	986,285	(28,738)	0.02914	0.97086	27.34
45.5	876,223	(26,719)	0.03049	0.96951	26.54
46.5	767,083	(48,440)	0.06315	0.93685	25.73
47.5	680,598	(14,325)	0.02105	0.97895	24.11
48.5	630,112	(13,056)	0.02072	0.97928	23.60
49.5	553,116	(29,322)	0.05301	0.94699	23.11
50.5	518,040	(9,291)	0.01794	0.98206	21.89
51.5	471,096	(4,180)	0.00887	0.99113	21.49
52.5	423,514	(3,470)	0.00819	0.99181	21.30
53.5	368,317	(3,438)	0.00934	0.99066	21.13
54.5	334,697	(16,467)	0.04920	0.95080	20.93
55.5	310,351	(28,385)	0.09146	0.90854	19.90
56.5	273,131	(9,916)	0.03630	0.96370	18.08
57.5	237,330	(12,778)	0.05384	0.94616	17.42
58.5	185,653	(12,704)	0.06843	0.93157	16.49
59.5	152,297	(11,013)	0.07231	0.92769	15.36
60.5	111,294	(8,056)	0.07238	0.92762	14.25
61.5	90,232	(8,704)	0.09646	0.90354	13.22
62.5	69,768	(8,131)	0.11654	0.88346	11.94
63.5	56,040	(8,696)	0.15517	0.84483	10.55
64.5	45,075	(8,005)	0.17760	0.82240	8.91
65.5	39,848	(5,441)	0.13655	0.86345	7.33
66.5	32,662	(4,229)	0.12948	0.87052	6.33
67.5	26,979	(4,490)	0.16644	0.83356	5.51
68.5	21,792	(5,633)	0.25850	0.74150	4.59
69.5	15,566	(5,009)	0.32181	0.67819	3.41
70.5	10,107	(3,876)	0.38345	0.61655	2.31
71.5	9,039	(6,550)	0.72463	0.27537	1.42
72.5	32,721	(3,752)	0.11467	0.88533	0.39
73.5	28,894	(4,053)	0.14026	0.85974	0.35
74.5	25,537	(1,950)	0.07636	0.92364	0.30

Life Data  
Account 380 - Services  
Placement Band: 1930-2012  
Experience Band: 1998-2012

Age	BOY Survivors	Total Retirements	Retirement Ratio	Survivor Ratio	Portion Surviving At Start of Age Interval
75.5	23,587	(1,898)	0.08046	0.91954	0.28
76.5	21,689	(2,851)	0.13147	0.86853	0.25
77.5	18,838	(10,778)	0.57214	0.42786	0.22
78.5	8,060	(5,279)	0.65498	0.34502	0.09
79.5	2,688	(2,681)	0.99750	0.00250	0.03
80.5	7	(7)	1.00000	0.00000	0.00
81.5	0	0	0.00000	1.00000	0.00



OLT CODE 2, Exp. 2013-2019

Account 380 - Services  
 Placement Band: 1930-2019  
 Experience Band: 2013-2019  
 T-Cut: 77.5

Life	Iowa Curve	Sum of Squared Differences	Residual Measure	Max Curve Age
44	S1	720	3.02	88
45	S1.5	749	3.08	90
44	R2	1,117	3.76	82
45	L2.5	1,333	4.11	117
44	R1.5	1,374	4.17	85
45	S2	1,472	4.32	89
44	S0.5	1,535	4.41	88
45	L2	1,580	4.47	126
45	L3	2,018	5.05	107
45	R2.5	2,058	5.10	80
43	R1	2,566	5.70	86
45	L1.5	2,662	5.80	134
45	S2.5	2,920	6.08	87
43	S0	3,062	6.23	86
45	R3	3,950	7.07	76
45	L1	4,589	7.62	142
46	S3	4,948	7.91	88
42	R0.5	5,523	8.36	84
46	L4	6,772	9.26	99
45	L0.5	7,034	9.44	163
46	R4	9,504	10.97	70
41	O1	9,892	11.19	82
45	L0	10,139	11.33	184
46	S4	11,941	12.29	80
46	O2	12,462	12.56	142
45	L5	14,116	13.37	86
45	R5	18,002	15.10	62
45	S5	20,059	15.93	70
58	O3	21,770	16.60	224
74	O4	27,030	18.50	326
45	S6	27,751	18.74	62

PRIOR TO 2013

Account 380 - Services  
 Placement Band: 1930-2012  
 Experience Band: 1998-2012  
 T-Cut: 81.5

Life	Iowa Curve	Sum of Squared Differences	Residual Measure	Max Curve Age
35	L0.5	2,201	5.15	127
35	L1	2,226	5.18	110
35	L0	2,804	5.81	143
35	L1.5	3,061	6.07	104
34	O1	4,063	7.00	68
35	S0	4,230	7.14	70
36	O2	4,395	7.28	111
35	R0.5	4,419	7.30	70
35	L2	4,605	7.45	98
35	S0.5	5,513	8.15	70
35	R1	6,232	8.67	70
35	L2.5	7,384	9.43	91
35	S1	7,465	9.48	70
35	R1.5	8,213	9.95	68
35	S1.5	9,884	10.91	70
40	O3	9,918	10.93	154
34	L3	10,818	11.42	81
34	R2	11,107	11.57	63
34	S2	12,814	12.42	67
34	R2.5	14,132	13.05	60
34	S2.5	15,752	13.78	66
48	O4	15,927	13.85	211
33	R3	17,946	14.70	56
33	S3	19,049	15.15	63
33	L4	20,765	15.82	71
32	R4	24,866	17.31	49
32	S4	27,284	18.13	56
31	L5	29,212	18.76	60
31	R5	33,027	19.95	42
30	S5	34,868	20.50	47
29	S6	41,104	22.25	40

BEFORE THE NEBRASKA PUBLIC SERVICE COMMISSION

IN THE MATTER OF THE )  
APPLICATION OF BLACK HILLS )  
NEBRASKA GAS, LLC d/b/a )  
BLACK HILLS ENERGY, RAPID CITY, )  
SOUTH DAKOTA, SEEKING )  
APPROVAL OF A GENERAL RATE )  
INCREASE. )

Application No. NG-109

AFFIDAVIT OF WITNESS

STATE OF Illinois )  
 ) ss.  
COUNTY OF Sangamon )

I, William Dunkel, being first duly sworn on oath, depose and state that I am the witness identified in the foregoing prepared testimony filed in the above-captioned action and I am familiar with its contents, and that the facts set forth therein are true to the best of my knowledge, information, and belief.

William Dunkel

SUBSCRIBED and sworn to before me this 8<sup>th</sup> day of September, 2020.

(SEAL)



[Signature]  
Notary Public

My Commission Expires: July 30, 2023