

Docket No. 4770
Forty-Second Set of Data Requests of the
Division of Public Utilities and Carriers to National Grid
May 14, 2018

Depreciation

- 42-1. On page 6 starting on line 17 of Mr. Allis's Rebuttal discusses "statistical analysis". Does this term as used in the testimony mean the "statistical analysis of historical data" as discussed on Page 6, lines 13-15 of Allis Rebuttal? If not, please explain what is meant by the term statistical analysis as used in this section of Mr. Allis's Rebuttal.
- 42-2. Page 9, lines 18-19 of Mr. Allis's Rebuttal states: "her estimate of what the inflation rate will be in the future." Does Mr. Allis agree that in Schedule RMM-5, Schedule RMM-8, and Schedule RMM-10, Ms. McCullar applied the 2 percent inflation rate to amounts that occurred in the past?
- 42-3. Page 9, lines 18-19 of Mr. Allis's Rebuttal states: "her estimate of what the inflation rate will be in the future." Please explain where in Ms. McCullar's analysis she applied an inflation rate to any future amounts?
- 42-4. Page 16, lines 13-16 of Mr. Allis's Rebuttal states: "The net salvage analysis for this account is based on historical data recorded for the period 2005 to 2017. For this period, the average age of retirements in the historical analysis is about 29 years, which is considerably shorter than both the average service life and probable life for the account."
- (a) Please provide the workpapers that show the calculation of the 29 year average age of retirement.
- (b) Is the 29 year average age of retirement a weighted average using the age of the retirement and the original cost of the retirement? If not, please describe how the average age is calculated.
- 42-5. Page 16, lines 13-16 of Mr. Allis's Rebuttal states: "The net salvage analysis for this account is based on historical data recorded for the period 2005 to 2017. For this period, the average age of retirements in the historical analysis is about 29 years, which is considerably shorter than both the average service life and probable life for the account."

Using the following hypothetical please explain how the average age of retirement as discussed in Mr. Allis's Rebuttal testimony is calculated.

- (1) Assume in 2016, one unit of Services originally installed in 1958 retired¹ and one unit of Services originally installed in 2016 retired.

¹ 1958 is the oldest surviving installation year as shown on page IX-28 (pg 181 of 203) of Schedule NWA-2 Gas

- (2) Assume the cost of one unit of Services installed in 1958 was \$28.900.²
- (3) Assume the cost of one unit of Services installed in 2016 was \$240.007.³
- (a) Using the half-year convention, is it true that the one unit of Services originally installed in 1958 and retired in 2016 would have a retirement age of 58.5 (2016 – 1958 + .05)? If not, please provide the retirement age that would be used in the calculation of the average age of retirement as discussed in Mr. Allis’s Rebuttal testimony.
- (b) Using the half-year convention, is it true that the one unit of Services originally installed in 2016 and retired in 2016 would have a retirement age of 0.5 (2016 – 2016 + .05)? If not, please provide the retirement age that would be used in the calculation of the average age of retirement as discussed in Mr. Allis’s Rebuttal testimony.
- (c) Would the average age of retirement as discussed in Mr. Allis’s Rebuttal testimony be 29.5 years or 6.73 years as calculated in parts (1) or (2) below? If neither, please show how the average age of retirement as discussed in Mr. Allis’s Rebuttal testimony would be calculated based in this hypothetical?
- (4) Would the average age of retirement as discussed in Mr. Allis’s Rebuttal testimony be calculated using the average calculation shown in footnotes 12, 13, and 14 on page 14 of Mr. Allis’s Rebuttal testimony? That is, would the average age of retirement in this hypothetical be $(58.5 \times 1 + 0.5 \times 1) / 2 = 29.5$ years?
- (5) Would the average age of retirement as discussed in Mr. Allis’s Rebuttal testimony be calculated using a weighted average of the original cost of the one unit of Services retired as shown in the table below?

Installation Year	CPI-U	Age of Retirement	Weighted Age
(a)	(b)	(c)	(d) = (b)*(c)
1958	28.900	58.5 years	1,690.65
2016	240.007	0.5 year	120.00
Total	268.907		1,810.65
Average Age (1,810.65 / 268.91)		6.73 years	

42-6. Please provide the workpapers that show the calculation of the average age of historical retirements shown in Figure 1 on page 18 of Mr. Allis’s Rebuttal testimony.

² The original cost is based on the CPI-U as shown on Schedule RMM-3 attached to Ms. McCullar’s testimony.

³ The original cost is based on the CPI-U as shown on Schedule RMM-3 attached to Ms. McCullar’s testimony.

- 42-7. Please provide the workpapers that show the calculation of the average age of future retirements shown in Figure 1 on page 18 of Mr. Allis's Rebuttal testimony.
- 42-8. Regarding Figure 1 on page 18 of Mr. Allis's Rebuttal testimony.
- (a) Does the average age of future retirements shown in Figure 1 assume any future retirements of additions installed after 2016?
 - (b) Does the average age of future retirements in Figure 1 assume that all retirements in 2060 are only from investments that were installed as of December 31, 2016 or does the average age of future retirements assume that investment installed in 2059 would retire in 2060?
- 42-9. Please provide the workpapers showing the calculation of the inflation rates shown in Figure 2 on page 25 of Mr. Allis's Rebuttal testimony.
- 42-10. Page 25, lines 9-10 of Mr. Allis's Rebuttal testimony states: "accordingly she has not provided sufficient justifications for her decision to significantly alter the Company's historical net salvage data."
- (a) Please explain if this statement is referring to Ms. McCullar's analysis of the "Company's historical net salvage data" or is Mr. Allis claiming the Ms. McCullar has proposed a change to the "Company's historical net salvage data" on its books?
 - (b) If Mr. Allis is claiming the Ms. McCullar has proposed a change to the "Company's historical net salvage data" on its books, please provide the reference to Ms. McCullar's testimony where she is proposing to alter the "Company's historical net salvage data" on its books.
- 42-11. Please provide workpapers and documents that support index values shown in Figure 3 on page 27 of Mr. Allis's Rebuttal testimony.
- 42-12. Page 33 of Mr. Allis's Rebuttal testimony on page 33, lines 4-7 states: "This is one reason why the method of analysis I have used in the Depreciation Studies, which Wolf and Fitch explains is the analysis that is used if aged net salvage data is not available, is the most widely used method of analysis for depreciation studies."
- Does the phrase "method of analysis I have used in the Depreciation Studies", reference the calculation of the historic net salvage ratios in Part VIII of the Depreciation Studies? If not, please explain what is meant by "method of analysis I have used in the Depreciation Studies".
- 42-13. On page 35, lines 3-4 of Mr. Allis's Rebuttal discusses "an average realized net salvage percentage of negative 37 percent when expressed in constant dollars." Please cite to Ms. McCullar's testimony where she discusses this "negative 37 percent when expressed in constant dollars" for Account 380?

42-14. On page 35, lines 6-8 of Mr. Allis's Rebuttal states: "Based on this analysis, one might conclude that the analysis results in an average realized net salvage, expressed in constant dollars, of negative 35 percent. However, this is only the net salvage for an asset retired at age 0." Please cite to Ms. McCullar's testimony where she proposes a negative 35 percent at age 0 for Account 380?

42-15. Table 2 on page 36 of Mr. Allis's Rebuttal testimony shows a comparison of net salvage estimates.

- (a) Is it a correct statement that the -80% under "Company Estimate" is the company's proposed future net salvage percent for Account 380? If not, please provide a corrected statement.
- (b) Is the -80% "Company Estimate" based on mathematical calculations similar to those shown in Schedule NWA-3R, Schedule NWA-4R, Schedule NWA-5R, or Schedule NWA-6R? If yes, please provide the workpapers that calculate the -80% "Company Estimate".
- (c) Is it a correct statement that the -80% "Company Estimate" is "based on judgment which incorporated analyses of historical cost of removal and salvage data, expectations with respect to future removal requirements and markets for retired equipment and materials" as stated on page IV-2 of Schedule NWA-2 Gas? If not, please provide a corrected statement.

42-16. Table 2 on page 36 of Mr. Allis's Rebuttal testimony shows a comparison of net salvage estimates.

- (a) Is it a correct statement that the last four columns labeled "Corrected Wolf and Fitch Analysis" are a mathematical calculation of an estimated average future net salvage percent for Account 380? If not, please provided a corrected statement.
- (b) Is it a correct statement that the last four columns labeled "Corrected Wolf and Fitch Analysis" are based on the projected future retirement pattern for Account 380? If not, please provide a corrected statement.

42-17. Page 38, lines 7-11 of Mr. Allis's Rebuttal discussing the Wolf and Fitch text states: "In support of her calculations, Ms. McCullar cites page 265 of Wolf and Fitch, which explains that '[d]epreciation calculations require an estimate of the average salvage ratio (ASR) and future salvage ratio (FSR) for each vintage,' and further explains that when the Broad Group model is used (as is the case in the Depreciation Studies), then 'the same salvage schedule is applied to each vintage.' Wolf and Fitch then provide Table 6.11 (upon which the calculations in Table 2 above were based) as an example of how the average and future net salvage should be calculated."

Do the Depreciation Studies filed as Schedule NWA-2 Electric and NWA-2 Gas include "an estimate of the average salvage ratio (ASR) and future salvage ratio (FSR) for each vintage"? If so, please provide the cite to the Depreciation Studies which show these calculations.