BEFORE THE MONTANA PUBLIC SERVICE COMMISSION

DIRECT TESTIMONY
OF
JOHN J. SPANOS

ON BEHALF OF
NORTHWESTERN ENERGY

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is John J. Spanos. My business address is 207 Senate Avenue, Camp Hill, Pennsylvania, 17011.

Q. In what capacity are you employed?

A. I am President of the firm Gannett Fleming Valuation and Rate Consultants, LLC (Gannett Fleming) and have been associated with the firm since June 1986.

Q. On whose behalf are you testifying in this case?

A. I am testifying on behalf of NorthWestern Corporation d/b/a NorthWestern Energy ("NorthWestern" or "Company").

Q. Please describe your educational background and professional experience.

A. I have Bachelor of Science degrees in Industrial Management and Mathematics from Carnegie-Mellon University and a Master of Business Administration from York College. I have over 38 years of depreciation experience which includes giving expert testimony in more than 470 cases before 46 regulatory commissions, including this Commission. These cases have included depreciation studies in the electric, gas, water, wastewater, and pipeline industries. In addition to cases where I have submitted testimony, I have also supervised over 800 other depreciation or valuation assignments. Please refer to Exhibit JJS-1 for my qualifications statement, which includes further information with respect to my work history, case experience, and leadership in the Society of Depreciation Professionals.

Q. What is the purpose of your testimony in this case?

A. I sponsor the Depreciation Study performed for NorthWestern attached as Exhibit JJS-2 (Depreciation Study).

Q. Are you sponsoring any other exhibits other than Exhibit JJS-2?

A. No, I am not.

II. DEPRECIATION STUDY

Q. Please describe the Depreciation Study that you sponsor.

A. The Depreciation Study sets forth the calculated annual depreciation accrual rates by account as of December 31, 2023. The proposed rates appropriately reflect the rates at which NorthWestern's assets should be depreciated over their useful lives and are based on the most commonly used methods and procedures for determining depreciation rates.

Q. Please define the concept of depreciation.

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

Q. Did you prepare the Depreciation Study filed by NorthWestern in this proceeding?

A. Yes. I prepared the Depreciation Study submitted by NorthWestern with its filing in this proceeding. The Depreciation Study is entitled: 2023 Depreciation Study - Calculated Annual Depreciation Accruals Related to Electric, Gas and Common Plant as of December 31, 2023. This report sets forth the results of my Depreciation Study for NorthWestern and has been included as Exhibit JJS-2.

Q. In preparing the Depreciation Study, did you follow generally accepted practices in the field of depreciation valuation?

A. Yes.

Q. Are the methods and procedures of this Depreciation Study consistent with past practices?

A. The methods and procedures of this study are the same as those utilized in past studies of this Company as well as others before this Commission. Depreciation rates are determined based on the average service life procedure and the remaining life method.

Q. Please describe the contents of the Depreciation Study.

A. The Depreciation Study is presented in nine parts: Part I, Introduction, presents the scope and basis for the Depreciation Study. Part II, Estimation of Survivor Curves, includes descriptions of the methodology of estimating survivor curves. Parts III and IV set forth the analysis for determining service life and net salvage estimates. Part V, Calculation of Annual and Accrued Depreciation, includes the concepts of depreciation and amortization using the remaining life. Part VI, Results of Study, presents a description of the results of my analysis and a summary of the depreciation calculations. Parts VII, VIII and IX include graphs and tables that relate to the service life and net salvage analyses, and the detailed depreciation calculations by account.

The table on pages VI-4 through VI-13 of the Depreciation Study presents the estimated survivor curve, the net salvage percent, the original cost as of December 31, 2023, the book depreciation reserve and the calculated annual depreciation accrual and rate for each account or subaccount. The section beginning on page VII-2 presents the results of the retirement rate analyses prepared as the historical bases for the service life estimates. The section beginning on page VIII-2 presents the results of the net

salvage analysis. The section beginning on page IX-2 presents the depreciation calculations related to surviving original cost as of December 31, 2023.

Q. Please explain how you performed your Depreciation Study.

A. I used the straight-line remaining life method of depreciation, with the average service life procedure. The annual depreciation is based on a method of depreciation accounting that seeks to distribute the unrecovered cost of fixed capital assets over the estimated remaining useful life of each unit, or group of assets, in a systematic and reasonable manner.

Q. How did you determine the recommended annual depreciation accrual rates?

A. I did this in two phases. In the first phase, I estimated the service life and net salvage characteristics for each depreciable group, that is, each plant account or subaccount identified as having similar characteristics. In the second phase, I calculated the composite remaining lives and annual depreciation accrual rates based on the service life and net salvage estimates determined in the first phase.

Q. Please describe the first phase of the Depreciation Study, in which you estimated the service life and net salvage characteristics for each depreciable group.

A. The service life and net salvage study consisted of compiling historical data from records related to NorthWestern's plant; analyzing these data to obtain historical trends of survivor characteristics; obtaining supplementary information from management and operating personnel concerning practices and plans as they relate to plant operations; and interpreting the above data and the estimates used by other electric and gas utilities to form judgments of average service life and net salvage characteristics.

Q. What historical data did you analyze for the purpose of estimating service life characteristics?

A. Generally speaking, I analyzed the Company's accounting entries that record plant transactions during the 2000 through 2023 period for electric, gas and common plant by account. The transactions included additions, retirements, transfers, sales, and the related balances.

Q. What method did you use to analyze these service life data?

A. I used the retirement rate method for all plant accounts that were subject to life analysis. This is the most appropriate method when retirement data covering a long period of time is available because this method determines the average rates of retirement actually experienced by the Company during the period of time covered by the Depreciation Study.

Q. Please describe how you used the retirement rate method to analyze NorthWestern's service life data.

A. I applied the retirement rate analysis to each different group of property in the study. For each property group, I used the retirement rate data to form a life table which, when plotted, shows an original survivor curve for that property group. Each original survivor curve represents the average survivor pattern experienced by the several vintage groups during the experience band studied. The survivor patterns do not necessarily describe the life characteristics of the property group; therefore, interpretation of the original survivor curves is required in order to use them as valid considerations in estimating service life. The Iowa-type survivor curves were used to perform these interpretations.

Q. What is an "Iowa-type survivor curve"?

A. Iowa-type curves are a widely-used group of survivor curves that contain the range of survivor characteristics usually experienced by utilities and other industrial

companies. The Iowa-type curves were developed at the Iowa State College Engineering Experiment Station through an extensive process of observing and classifying the ages at which various types of property used by utilities and other industrial companies had been retired.

Iowa-type curves are used to smooth and extrapolate original survivor curves determined by the retirement rate method. The Iowa-type curves and truncated Iowa-type curves were used in this study to describe the forecasted rates of retirement based on the observed rates of retirement and the outlook for future retirements.

The estimated survivor curve designations for each depreciable property group indicate the average service life, the family within the Iowa system to which the property group belongs, and the relative height of the mode. For example, the Iowa 57-R2.5 indicates an average service life of fifty-seven years; a right-moded, or R, type curve (the mode occurs after average life for right-moded curves); and a moderate height, 2.5, for the mode (possible modes for R type curves range from 0.5 to 5).

Q. What approach did you use to estimate the lives of significant facilities structures such as production plants?

A. I used the life span technique to estimate the lives of significant facilities for which concurrent retirement of the entire facility is anticipated. In this technique, the survivor characteristics of such facilities are described by the use of interim survivor curves and estimated probable retirement dates.

The interim survivor curves describe the rate of retirement related to the replacement of elements of the facility, such as, for a building, the retirements of plumbing, heating, doors, windows, roofs, etc., that occurs during the life of the facility. The probable retirement date provides the rate of final retirement for each

year of installation for the facility by truncating the interim survivor curve for each installation year at its attained age at the date of probable retirement. The use of interim survivor curves truncated at the date of probable retirement provides a consistent method for estimating the lives of the several years of installation for a particular facility inasmuch as a single concurrent retirement for all years of installation will occur when it is retired.

Q. Has Gannett Fleming used this approach in other proceedings?

A. Yes, we have used the life span technique in performing depreciation studies presented to and accepted by many public utility commissions across the United States and Canada. This technique has been approved by this Commission, in the same manner recommended in this case.

Q. What are the bases for the probable retirement years that you have estimated for each facility?

A. The bases for the probable retirement years are life spans for each facility that are based on informed judgment and incorporate consideration of the age, use, size, nature of construction, management outlook and typical life spans experienced and used by other electric utilities for similar facilities. Most of the life spans result in probable retirement years that are many years in the future. As a result, the retirements of these facilities are not yet subject to specific management plans. Such plans would be premature. At the appropriate time, detailed studies of the economics of rehabilitation and continued use or retirement of the structure will be performed, and the results incorporated in the estimation of the facility's life span.

Q. Have you physically observed NorthWestern's plant and equipment during your past depreciation studies?

A. Yes. I made field reviews of NorthWestern's property as part of this study in March 2024 to observe representative portions of plant. Field reviews are conducted to become familiar with Company operations and obtain an understanding of the function of the plant and information with respect to the reasons for past retirements and the expected future causes of retirements. This knowledge as well as information from other discussions with management was incorporated in the interpretation and extrapolation of the statistical analyses.

Q. Please describe how you estimated net salvage percentages.

A. I estimated the net salvage percentages by incorporating the historical data for the period 2010 through 2023 and considered estimates for other electric and gas companies. The net salvage percentages are based on a combination of statistical analyses and informed judgment. The statistical analyses consider the cost of removal and gross salvage ratios to the associated retirements during the 14-year period. Trends of these data are also measured based on three-year moving averages and the most recent five-year indications.

Q. Were the net salvage percentages for generation facilities based on the same analyses?

A. Yes, for the interim analyses. The net salvage percentages for electric generation facilities were based on two components, the interim net salvage percentage and the final net salvage percentage. The interim net salvage percentage is determined based on the historical indications from the period, 2010-2023, of the cost of removal and gross salvage amounts as a percentage of the associated plant retired. The final net salvage or dismantlement component was determined based on the assets anticipated to be retired at the concurrent date of final retirement.

Q. Have you included a dismantlement component into the overall recovery of electric generation facilities?

A. Yes. A dismantlement component has been included for the net salvage percentage for hydro production, other production, and wind production facilities. There is no component of terminal net salvage for the Colstrip facility.

Q. Can you explain how the dismantlement component is included in the Depreciation Study?

A. Yes. The dismantlement component is part of the overall net salvage for each location within the production assets. Based on studies for other utilities and the cost estimates of NorthWestern, it was determined that the dismantlement or decommissioning costs for hydro production and other production facilities are best calculated on a $/KW factor based on surviving plant at final retirement. These amounts at a location basis are added to the interim net salvage percentage of the assets anticipated to be retired on an interim basis to produce the weighted net salvage percentage for each location. The detailed calculation for each location is set forth on pages VIII-2 and VIII-3 of Exhibit JJS-2.

Q. Please describe the second phase of the process that you used in the Depreciation Study in which you calculated composite remaining lives and annual depreciation accrual rates.

A. After I estimated the service life and net salvage characteristics for each depreciable property group, I calculated the annual depreciation accrual rates for each group, using the straight-line remaining life method, and using remaining lives weighted consistent with the average service life procedure.

Q. Please describe the straight-line remaining life method of depreciation.

A. The straight-line remaining life method of depreciation allocates the original cost of the property, less accumulated depreciation, less future net salvage, in equal amounts to each year of remaining service life.

Q. Please use an example to illustrate how the annual depreciation accrual rate for a particular group of property is presented in your Depreciation Study.

A. I will use Electric Account 362.00, Station Equipment, as an example because it is one of the largest depreciable mass accounts and represents approximately five percent of total electric, gas and common depreciable plant.

The retirement rate method was used to analyze the survivor characteristics of this property group. Aged plant accounting data was compiled from 2000 through 2023 and analyzed in periods that best represent the overall service life of this property. The life table for the 2000-2023 experience band is presented on pages VII-93 through VII-95 of the Depreciation Study. The life table displays the retirement and surviving ratios of the aged plant data exposed to retirement by age interval. For example, page VII-93 shows $219,076 retired at age 0.5 with $191,837,029 exposed to retirement. Consequently, the retirement ratio is 0.0011 and the surviving ratio is 0.9989. This life table, or original survivor, is plotted along with the estimated smooth survivor curve, the 55-R1.5 on page VII-92.

The net salvage percent is presented on page VIII-29. The percentage is based on the result of annual gross salvage minus the cost to remove plant assets as compared to the original cost of plant retired during the period 2010 through 2023. The 14-year period experienced $6,560,439 ($1,494,330-$8,054,769) in net salvage for $19,876,422 plant retired. The result is negative net salvage of 33 percent ($6,560,439/$19,876,422). The most recent five-year period, 2019-2023, has shown

indications of less negative net salvage values (negative 16 percent); therefore, it was determined that based on industry ranges, the current estimate for the Company and future expectations, negative 20 percent was the most appropriate estimate.

My calculation of the annual depreciation related to the original cost as of December 31, 2023, of electric plant in this example is presented on pages IX-76 through IX-79. The calculation is based on the 55-R1.5 survivor curve, 20 percent negative net salvage, the attained age, and the allocated book reserve. The tabulation sets forth the installation year, the original cost, calculated accrued depreciation, allocated book reserve, future accruals, remaining life and annual accrual. These totals are brought forward to the table on page VI-7.

Q. Was there any life analysis performed to include future plans?

A. Yes. The Company has planned a conversion to new communications technology for its meters in Account 370.00, Meters and Account 381.00, Meters. The program is scheduled to replace all standard meters and most AMR meters within the next five years. Therefore, the life analysis in Part VII of the Depreciation Study includes the projected replacements of these older technology meters. Account 370.00, Meters is best represented with the 20-L1 survivor curve and Account 370.20, Meters – AMR Equipment is best represented with the 20-R2.5 survivor curve. Similarly for Account 381.00, Meters will be represented with a 30-L3 survivor curve.

Q. Were there any rates developed for future assets?

A. Yes. There are new assets planned in numerous property groups. Each of these property groups have a depreciation rate established for new investment if placed into service after December 31, 2023 which are presented on pages VI-12 and VI-13 of the Depreciation Study. There are also depreciation rates established for the new

Yellowstone County Generating facility. This facility will have assets added into Accounts 341, 342, 343, 344, 345 and 346.

III. CONCLUSION

Q. Was the Depreciation Study filed by NorthWestern in this proceeding prepared by you or under your direction and control?

A. Yes.

Q. Can you summarize the results of your Depreciation Study?

A. Yes. The depreciation rates as of December 31, 2023, appropriately reflect the rates at which the values of NorthWestern's assets have been consumed over their useful lives to date. These rates are based on the most commonly used methods and procedures for determining depreciation rates. The life and net salvage parameters are based on widely used techniques and the depreciation rates are based on the average service life procedure and remaining life method. Therefore, the depreciation rates set forth on pages VI-4 through VI-13 of Exhibit JJS-2 represent the calculated rates as of December 31, 2023.

Q. Does this conclude your direct testimony?

A. Yes.

Verification

This Direct Testimony of John J. Spanos is true and accurate to the best of my knowledge, information, and belief.

/s/ John J. Spanos
John J. Spanos