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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION OF AVISTA CORPORATION FOR THE AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR ELECTRIC AND NATURAL GAS SERVICE TO ELECTRIC AND NATURAL GAS CUSTOMERS IN THE STATE OF IDAHO	)	CASE NO. AVU-E-23-01 CASE NO. AVU-G-23-01 DIRECT TESTIMONY OF JOHN J. SPANOS

FOR AVISTA CORPORATION

(ELECTRIC AND NATURAL GAS)

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 Avista Corporation.

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 36 years of depreciation experience which includes giving expert testimony in over 400 cases before 41 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 700 other depreciation or valuation assignments. Please refer to Exhibit No. 14, Schedule 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 Avista Corporation attached as Exhibit No. 14, Schedule 2 (Depreciation Study).

Q. Are you sponsoring any other Schedules beyond Schedule 1 and Schedule 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, 2021. The proposed rates appropriately reflect the rates at which Avista'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 Avista in this proceeding?

A. Yes. I prepared the Depreciation Study submitted by Avista with its filing in this proceeding. The Depreciation Study is entitled: 2021 Depreciation Study - Calculated Annual Depreciation Accruals Related to Electric, Gas and Common Plant as of December 31, 2021. This report sets forth the results of my Depreciation Study for Avista and has been included as Exhibit No. 14, Schedule 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.[1]

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-15 of the Depreciation Study presents the estimated survivor curve, the net salvage percent, the original cost as of December 31, 2021, the book depreciation reserve and the calculated annual depreciation accrual and rate for

[1] The Company filed its prior Depreciation Study on February 23, 2018, based on the average service life rates of plant in service as of December 31, 2016. Current depreciation rates were approved by this Commission per Order No. 34276 in Case Nos. AVU-E-18-03 and AVU-G-18-02.

each account or subaccount. The section beginning on page VII-2 presents the results of the retirement rate and simulated plant analyses prepared as the historical bases for the service life estimates. The section beginning on page VIII-2 presents the results of the salvage analysis. The section beginning on page IX-2 presents the depreciation calculations related to surviving original cost as of December 31, 2021.

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 Avista'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 1989 through 2021 period for electric plant and the 1964 through 2021 period for gas plant, however, the earliest year of data varied 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 most plant accounts. 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 Avista'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" and how did you use such curves

to estimate the service life characteristics for each property group?

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 63-R3 indicates an average service life of sixty-three years; a right-moded, or R, type curve (the mode occurs after average life for right-moded curves); and a moderate height, 3, for the mode (possible modes for R type curves range from 1 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 is currently being utilized by Avista, and 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 Avista's plant and equipment during your past depreciation studies?

A. Yes. I made field reviews of Avista's property as part of this study in December 2021 to observe representative portions of plant. I have also conducted field visits in 2005, 2011 and 2017 during prior studies. 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 1983 through 2021 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 39-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, 1983-2021, 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 to the net salvage percentage for steam and other production facilities.

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 Avista, it was determined that the dismantlement or decommissioning costs for steam production and other production facilities is 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 through VIII-6 of Exhibit No. 14, Schedule 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 353, 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 1989 through 2021 and analyzed in periods that best represent the overall service life of this property. The life table for the 1989-2021 experience band is presented on pages VII-104 through VII-106 of the report. The life table displays the retirement and surviving ratios of the aged plant data exposed to retirement by age interval. For example, page VII-104 shows $109,554 retired at age 0.5 with $287,408,644 exposed to retirement. Consequently, the retirement ratio is 0.0004 and the surviving ratio is 0.9996. This life table, or original survivor, is plotted along with the estimated smooth survivor curve, the 46-R2 on page VII-103.

The net salvage percent is presented on pages VIII-50 through VIII-52. 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 1983 through 2021. The 39-year period experienced $4,221,991 ($2,124,736-$6,346,727) in net salvage for $47,916,566 plant retired. The result is negative net salvage of nine percent ($4,221,991/$47,916,566). The most recent five-year period, 2017-2021, has shown

indications more negative (negative 12 percent), therefore, it was determined that based on industry ranges, the current estimate for the Company and future expectations, negative ten percent was the most appropriate estimate.

My calculation of the annual depreciation related to the original cost as of December 31, 2021, of electric plant is presented on pages IX-135 and IX-136. The calculation is based on the 46-R2 survivor curve, ten 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-8.

Q. Are there specific recovery amounts that were included in the study?

A. Yes. There is a specific recovery amount established for the reserve amortization for certain general plant accounts for electric, gas and common assets. In order to achieve a more stable accrual for certain general plant accounts in the future, I have recommended a five-year amortization to adjust unrecovered or over recovered reserve based on the amortization period by account. This approach will achieve consistent amortization rates for existing assets as well as future assets. The reserve for each of these accounts is segregated into two components. The first component is the amount required to achieve the proper rate for the amortization period. The remaining amount, which could be negative, is amortized over 5 years separately from the assets.

Q. Is 5 years the most common recovery period for the reserve adjustment for amortization?

A. Yes. The 5-year recovery period is the most commonly established period.

Q. What are some of the primary reasons for the approved 5-year recovery period?

A. First, the 5-year period relates to the shortest amortization period for the related assets in amortization accounts. Therefore, the alignment of the reserve to the existing assets will be adjusted consistent with the time the assets are in service. Second, 5 years is a typical period of time that depreciation studies or rate cases are performed so this is an appropriate time to review the depreciation rates for all accounts.

III. CONCLUSION

Q. Was the Depreciation Study filed by Avista Corporation 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, 2021, appropriately reflect the rates at which the values of Avista'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-15 of Exhibit No. 14, Schedule 2 represent the calculated rates as of December 31, 2021.

Q. Were there alternative depreciation rates for coal-fired plant determined for Washington as compared with the company's other jurisdictions?

A. Yes. The Company has established depreciation rates based on a probable retirement date for Colstrip Units 3 & 4 that are two years earlier for Washington assets than those for Idaho assets. These results are set forth in Table 1 of Exhibit No. 14, Schedule 2.

Q. How has Avista incorporated the results of your Depreciation Study

within its filed case?

A. As discussed by Company witness Ms. Benjamin, she sponsors the overall electric and natural gas Pro Forma Depreciation Adjustments 3.10, reflecting the results of my developed depreciation rates per the Depreciation Study, impacting the Idaho electric and natural gas revenue requirement over the Two-Year Rate Plan proposed in this proceeding.

Q. Does this conclude your pre-filed direct testimony?

A. Yes.