BEFORE THE WASHINGTON UTILITIES & TRANSPORTATION COMMISSION

Complainant,

v.

AVISTA CORPORATION d/b/a AVISTA UTILITIES,

Respondent.

DOCKET NOs. UE-080416 and UG-080417

DIRECT TESTIMONY OF CHARLES W. KING (CWK-1T)

ON BEHALF OF

PUBLIC COUNSEL

AND

THE INDUSTRIAL CUSTOMERS OF NORTHWEST UTILITIES

SEPTEMBER 19, 2008

DIRECT TESTIMONY OF CHARLES W. KING (CWK-1T)
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I. INTRODUCTION / SUMMARY

Q: Please state your name and business address.

A: My name is Charles W. King. My business address is Suite 300, 1111 14th Street, N.W., Washington, DC 20005.

Q: By whom are you employed and in what capacity?

A: I am the President of the economic consulting firm of Snavely King Majoros O'Connor & Bedell, Inc.

Q: Have you prepared a summary of your qualifications and experience?

A: Yes. Exhibit No. ___ (CWK-2) is a summary of my qualifications and experience.

Q: Have you previously submitted testimony in regulatory proceedings?

A: Yes. Exhibit No. ___ (CWK-3) is a tabulation of my appearances as an expert witness before state and federal regulatory agencies.

Q: On whose behalf are you testifying?

A: I am testifying on behalf of the Public Counsel Section of the Washington State Attorney General's Office (Public Counsel) and the Industrial Customers of Northwest Utilities (ICNU).

Q: What exhibits are you sponsoring in this proceeding?

A: I am sponsoring Exhibits Nos._____ (CWK-2) and _____(CWK-3), already mentioned. I am also sponsoring Exhibit No._____(CWK-4) consisting of five schedules.

Q: What are the objectives of your testimony?

A: This testimony addresses depreciation. I recommend alternative depreciation rates and expenses to those proposed by Avista Utilities ("Avista" or "the Company"), based on a corrected treatment of future plant removal costs.

Q: What are your recommended depreciation rates and test year expenses?

A: My adjustments to Avista's depreciation rates and expenses apply only to those for electric transmission and distribution plant and for gas distribution plant. A comparison of my rates and test year expenses with those of the Company is set forth in Schedule 1 of Exhibit_____(CWK-4). A summary of that information is as follows:

Year 2007 Depreciation Expense			
	Avista	**Public Counsel**	**Adjustment**
Electric			
Transmission	$ 8,233,982	$ 6,697810	$ (1,536,173)
Distribution	14,781,408	12,583,606	(2,197,802)
Gas			
Distribution	7,976,709	6,167,980	(1,808,729)

II. APPROACHES FOR CALCULATING NET REMOVAL COSTS

Q: What accounts for the differences between your recommended depreciation rates and expenses and those proposed by Avista?

A: The differences relate to the way I have allowed for the accrual of future net removal costs relative to the procedure used by the Company.

Q: Why are net removal costs relevant to depreciation?

A. The practice among regulated public utilities is to include an allowance for salvage and cost of removal in the calculation of depreciation rates. Salvage is the value of plant as scrap or reuse/resale. Removal costs are incurred to dismantle and remove plant from its current location. Most electric and gas utility plant has far more removal cost than salvage value, so the net of the two is negative, that is, it represents a cost that should be recovered over the life of the plant.

The conventional procedure for accruing for future removal costs is to increase the depreciation rate so as to allow for the accrual of future removal costs. The rationale for this treatment is that the ratepayers who benefit from the use of the plant should pay for the cost of its removal while it is in service. That payment should be spread over the life of the plant in a fair and equitable manner.

Q: How does Avista propose to accrue net removal costs?

A: Avista, or rather Avista's consultants, Gannett Fleming, would accrue net removal costs by computing a "net salvage ratio," which is a ratio of anticipated net removal costs to total plant in service. When removal costs are greater than salvage value – as is the case with all transmission and distribution plant – the ratio is negative. For purposes of clarity, I refer to these ratios as net removal cost ratios and express them in positive terms.

Avista applies these removal cost ratios to the plant in service to create an adder to the total amount of money that has to be recovered through depreciation. The Company uses "remaining life depreciation," which means that it computes depreciation rates by subtracting the depreciation reserve for each account from the total original cost, and then it divides that net plant amount by the remaining life years to derive an annual accrual. That annual accrual is then divided by the total investment in the account to derive the depreciation rate.

Q: Can you illustrate how this procedure works?

A: Yes. Beginning with the simplest example, assume a single asset with a 20 year life. Its depreciation rate is the reciprocal of 20:

$$1/20 = 5\%$$

Now, let us assume that the asset is expected to have salvage value equivalent to 5 percent of its investment value. The depreciation rate declines:

$$\frac{1-.05}{20} = \frac{.95}{20} = 4.75\%$$

Assume next that the cost of removing this asset amounts to 15 percent of its value. The depreciation rate increases:

$$\frac{1 -.05 + .15}{20} = \frac{1.10}{20} = 5.55\%$$

This is called a "whole life" rate because it is based on the whole life of 20 years. To develop the remaining life rate, we must identify some additional items of data: the original investment, the depreciation reserve (the amount of depreciation that has already been recovered), and the remaining life of the asset.

In this illustration, let us assume that the asset originally cost $1 million and that past depreciation charges have recovered $400,000. This means that we have yet to recover $600,000 in original cost, plus a negative net salvage (i.e. net cost of removal) amounting to 10 percent of the original cost, or $100,000. The total amount yet to be recovered is thus $700,000. Let us further assume that the asset is 10 years old, leaving 10 years of remaining life. In remaining life depreciation, the unrecovered amount is divided by the remaining life years:

$$\frac{\$700{,}000}{10 \text{ years}} = \$70{,}000 \text{ required annual accrual}$$

The depreciation rate is then calculated by dividing the annual amount to be recovered by the gross investment, in this case:

$$\frac{\$70{,}000}{\$1{,}000{,}000} = 7.0\%$$

The foregoing illustrates the traditional formulation of depreciation rates. As I shall discuss later in this testimony, I am recommending a modification that independently derives an annual allowance for the present value of net removal costs. Assume that this calculation yields an annual allowance of $5,000. In that case, the depreciation rate would be calculated as:

$$\frac{\$60{,}000 + \$5{,}000}{\$1{,}000{,}000} = 6.5\%$$

Q: What are the removal cost ratios that Avista proposes to use in calculating its depreciation?

A: Avista's removal cost ratios for electric transmission and distribution plant and gas distribution plant are set forth in column B of Schedule 2 of Exhibit ___ (CWK-4). They range from 5 to 30 percent. A 30 percent removal cost ratio means that for every dollar of investment recovered, another 30 cents is accrued against future removal costs.

Q: When were these removal cost ratios calculated?

A: They were calculated as part of a depreciation study of Avista's plant by the consulting firm of Gannett Fleming in the course of Avista's last general rate case, Docket Nos. UE-070804 and UG-070805. That study was adopted as part of a stipulated settlement in those cases. I understand that it was given relatively little scrutiny by any of the parties to that case.

Q: Are the ratios in Column B of Schedule 2 the only removal cost ratios that Avista uses to calculate depreciation?

A. No. Avista has removal cost ratios for most of its steam and "other" production plant[1] and for some of the accounts in its gas storage and processing plant category.

Q: Why have you focused on transmission and distribution removal cost ratios?

A: There are generally two ways to derive removal cost ratios. For "life span" assets such as electric generating plants and gas storage facilities, a specific estimate is made of the cost to dismantle and remove the plant. Usually, those estimates are based on studies of the current cost to dismantle and remove the plant, that is, the cost to remove the plant today. I have no objection to this procedure.

I do object, however, to the procedure for estimating the removal costs of "mass property" plant, including most of the accounts in the transmission and distribution functional categories. As I will discuss shortly, the procedure used by Avista grossly over-accrues removal costs.

[1] "Other production" generally includes combustion turbines, internal combustion, and combined cycle generating units. It may also include renewable generation from wind, solar or biomass.

Q: What evidence do you have that Avista's mass property removal cost ratios over-accrue for removal costs?

A: The evidence is found in Schedule 2 to my Exhibit_____(CWK-4). On that schedule I have developed an approximation of the annual accruals for future removal costs as of the time of the Gannet Fleming study. I have compared those accruals with the average annual costs incurred by Avista to remove plant during the previous five years. As the schedule shows, Avista accrued $1,222,406 in 2004 (the year of the Gannett Fleming study) against removal costs for electric transmission plant. It actually spent only $52,276 on average during the previous five years to remove that plant. For electric distribution plant, Avista accrued $2,498,734 but spent only $113,842 annually during the previous five years. For gas distribution plant, Avista accrued $1,296,135 but spent only $177,587. Overall, Avista accrued more than 12 times its actual removal costs for electric plant and more than seven times its actual removal costs for gas plant.

Q: How did Avista manage to accrue so much more removal costs than it spent removing plant?

A: This imbalance is the result of the procedure by which Gannett Fleming developed the mass property removal cost ratios. Gannett Fleming compared the original cost of retirements during recent years with the experienced costs of removal during those same years. The ratios of the removal costs to plant retirements became the removal cost ratios. As noted, these ratios can be as high as 30 percent. When those rates are applied to all plant in service, the result is the annual accruals shown in Schedule 2 of Exhibit No. ___ (CWK-4).

The reason for these very high removal cost ratios is that Gannett Fleming compared dollars of very different values. The numerator of the removal cost ratio is recently incurred removal costs covering the years between 2000 and 2004. The denominator is the original cost of the plant retired. Those costs can be quite old. The average service life of a section of gas main is 65 years. If a 65 year-old gas main is retired in 2004, its original cost is expressed in 1939 dollars. According to Handy-Whitman, the construction cost index in 1939 for steel gas mains was 18. By 2004, that index had increased to 456, or 25 times.[2]

With many low-valued dollars in the numerator and a few high-valued dollars in the denominator, the removal cost ratio is very high. As noted, these high ratios result in removal cost accruals well over 12 times the actual removal cost expenditures for electric plant and seven times for gas plant. This is why I refer to Gannett Fleming's procedure as the Traditional Inflated Future Cost Approach, or TIFCA.

Q: What is the rationale behind TIFCA?

A: The rationale underlying TIFCA is set forth in *Public Utility Depreciation Practices*, published by the National Association of Regulatory Utility Commissioners[3]:

> Historically, most regulatory commissions have required that both gross salvage and cost of removal be reflected in depreciation rates. The theory behind this requirement is that, since most physical plant placed in service will have some residual value at the time of its retirement, the

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[2] *Handy-Whitman Bulletin No. 165*, pp. G-6-6 and G-6-8, Whitman Requardt & Associates, LLP, Baltimore, MD.

[3] National Association of Regulatory Utility Commissioners (NARUC), *Public Utility Depreciation Practices*, (August 1996), p. 157.

> original cost recovered through depreciation should be reduced by that amount. Closely associated with this reasoning are the accounting principle that revenues be matched with costs and the regulatory principle that utility customers who benefit from the consumption of plant pay for the cost of that plant, no more, no less. The application of the latter principle also requires that the estimated cost of removal of plant be recovered over its life.

The TIFCA procedure purports to forecast the future cost of removal associated with plant currently in service, and it charges that cost to the ratepayers that use that plant.

Q: Does TIFCA accurately forecast the future cost of removal of plant now in service?

A: No. TIFCA actually projects into the future the historical inflation between the average placement year of recently retired plant and the recent years when removal costs were incurred. It would be a pure accident if this rate of past inflation actually matched the future rate of inflation between the present and the time when current plant is retired.

Q: Assuming that TIFCA did accurately measure future inflation, would it appropriately conform to the standard for removal cost accrual you have cited from the NARUC Depreciation Manual?

A: No. TIFCA fails to allocate the costs of future inflation to the various generations of ratepayers. Instead, the TIFCA procedure charges ratepayers now for the nominal dollar cost of removing plant at the time of its retirement. Under Gannett Fleming's TIFCA methodology, when Avista installs a gas main in 2008, it would add a removal cost allowance of $0.25 to each dollar of construction cost recovered. Yet that $0.25 will not be spent, on average, for another 65 years, or until the year 2073. A dollar spent in 2073 is worth far less than a dollar collected in 2008. The TIFCA procedure simply ignores this relationship between present and future dollars. It assumes that a dollar collected now has exactly the same value as a dollar spent 65 years from now. Gannett Fleming would have Avista collect these 2073 dollars from ratepayers starting next year.

Q: Can you illustrate that effect?

A: Yes. Please refer to Schedule 3 of my Exhibit No. ____ (CWK-4). Column A shows the "straight line" accrual of $20,000 in future removal costs of an asset that will be retired in 20 years. The accrual is $100 each year over the 20 years of the asset's service life. Superficially, this accrual appears consistent with the allocation of costs to ratepayers during each of the coming 20 years.

That appearance, however, ignores the decline in the value of the dollar. Column B shows the price deflator for each year from year 1 through 20 at a three percent annual rate of inflation. When these price deflators are applied to the annual "straight line" accrual, the impact on ratepayers is anything but straight line. Ratepayers during the first year pay $178 in dollars of constant purchasing power. It is not until the last year, year 20, that ratepayers actually pay close to $100 in constant dollars.[4] As can be seen, when inflation is factored in, the

[4] I have used a half-year convention, so that even in year 20, ratepayers do not pay $100 in constant dollars.

TIFCA removal cost accrual is severely front-loaded. Ratepayers in the early years of the asset's life pay much more than those in later years.

Q: Is there a procedure that fairly allocates the cost of inflation to ratepayers in the years when that inflation occurs?

A. Yes. Columns D through H of Schedule 3 illustrates a procedure that fairly allocates the effect of inflation to the years when that inflation occurs. There are two elements to this accrual mechanism. The first is the straight-line depreciation of the final removal cost, not in its future nominal dollars, but in dollars discounted from year 20 to year 1. With a three percent annual inflation, the inflation-adjusted value of $20,000 in year 20 is only $1,107.35 in year 1. Over 20 years, the annual depreciation of this value is $55.37.

The second component of the annual accrual is the cost of inflation. This is measured by the annual change in the discounted value of the $20,000 from the beginning of the year to the end of the year during each of the 20 years. Those values are presented in columns E and F of Schedule 3. The annual change is shown in Column G. As can be seen, this value increases each year.

The sum of the annual depreciation of the discounted value of the final removal cost and the annual inflation amount is the annual accrual that can fairly be charged to ratepayers each year. These values are presented in Column H of Schedule 3.

Q: Is this procedure your own invention, or does it have precedence in accounting practices?

A: This procedure is not my invention. It is the methodology embodied in Statement of Financial Accounting Standards No. 143 ("SFAS 143"), *Accounting for Asset Retirement Obligations*, which was issued by the Financial Account Standards Board in June 2001. This standard governs the recognition of obligations to incur future removal costs that are required by law, regulation or contract. It applies to all corporate entities, including utilities, and specifically including Avista. SFAS 143 requires that Avista recognize legal obligations to incur removal costs at the time the asset is placed in service. It must then report an annual expense that consists of the two components I have just described, depreciation of the discounted value of the final removal cost and the annual increment in that discounted value.

Q: If Avista must follow SFAS 143, why doesn't it use SFAS 143 for its removal cost accruals instead of the TIFCA procedure?

A: There are two reasons. First, SFAS 143 applies only to legal obligations to incur removal costs. Avista has judged that most of its removal costs are not subject to a legal obligation, so it has not applied SFAS 143 to the majority of its future removal costs. Second, even if the removal costs were legal obligations, Avista is not necessarily obliged to use the SFAS 143 accounting for regulatory purposes. Regulators may depart from Generally Accepted Accounting Practices ("GAAP") if they have good reasons for doing so.

Q: Is it then appropriate for Avista to ignore SFAS 143 in developing its removal cost accruals?

A: No. The timing of the recognition of removal costs that is embodied in SFAS 143 is the appropriate and fair approach to accrual of removal cost allowances. That is true regardless of the legal status of those removal cost obligations or the condition of regulation.

Q: Have any states adopted the SFAS 143 approach to accruing removal costs?

A: Yes. In July of last year, the Maryland Public Service Commission adopted the SFAS 143 methodology to calculate removal costs in decisions involving the Potomac Electric Power Company[5] and the Delmarva Light & Power Company.[6] In June, the Michigan Public Service Commission imposed a requirement that each utility compute both discounted and undiscounted removal costs when developing its depreciation rates.[7] Similar approaches, focusing on current rather than future removal costs, are used for all utilities in Pennsylvania, in New Jersey for Rockland Electric Company,[8] Atlantic City Electric Company,[9] Jersey Central Power & Light Company[10] and Public Service Electric & Gas Company,[11] and in Delaware for the Delmarva Power & Light Company.[12] A current cost approach has been used for the past 17 years for the Georgia Power Company.[13]

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[5] Maryland P.S.C. Order No. 81517, Case No. 9092, (July 19, 2007).
[6] Maryland P.S.C. Order No. 81518, Case No. 9093, (July 19, 2007).
[7] Michigan P.S.C. Case No. U-14292, Opinion and Order, (June 26, 2007).
[8] I/M/O Rockland Electric Company, BPU Docket Nos. ER02080614 and ER02100724, Initial Decision, June 10, 2003 and Summary Order, July 31, 2003.
[9] I/M/O Atlantic City Electric Company, BPU Docket Nos. ER03020110, ER04060423, EO03020091 and EM02090633, Decision and Order Adopting Initial Decision and Stipulation of Settlement, May 26, 2005.
[10] I/M/O Jersey Central Power & Light Company, BPU Docket Nos. ER0208056, ER0208057, EO02070417 and ER02030173, Summary Order, August 1, 2003.
[11] I/M/O Public Service Electric and Gas Company, BPU Docket No. GR05100845, Decision and Order Adopting Initial Decision and Stipulation of Settlement, November 11, 2006, p. 4.
[12] Delaware P.S.C. Order No. 6930, Case No. 05-304, signed June 6, 2006, ¶ 174.
[13] Georgia PSC Docket No. 4007-U, (1991).

Q: Have you applied this approach to Avista's mass property plant accounts?

A: Yes. On Schedule 4 of Exhibit No. _____(CWK-4), I have applied this approach to Avista's mass property electric transmission and distribution accounts and to its gas distribution accounts. I treat each account as though it were a single asset. Column A presents the plant investment as of the time of the Gannett Fleming study, which was December 31, 2004. In column B, I show Avista's future removal cost estimate from Schedule 2. For this purpose, I accept all of Avista's removal cost ratios as being valid predictors of future removal costs. Columns C, D, and E show the average service life, the remaining life, and the expired life of each account**.** Column F shows the Avista removal costs discounted back to the beginning of the account as though the account were a single asset. Column G depreciates those values by dividing them by the average service life. This is the first part of SFAS 143 annual expense.

Columns H and I of Schedule 4 develop the second component of the SFAS 143 annual expense, which is the inflation factor. Column H presents the difference between the 3 percent discount factor for the remaining life year less the discount factor for the following year. Column I applies this factor to the undiscounted terminal removal costs.

Column J shows the total expenses applicable to the study year of the Gannett Fleming study.

III. TEST YEAR DEPRECIATION RATES AND EXPENSES

Q: What are the depreciation rates that result from this treatment of net removal costs?

A: The revised depreciation rates are developed on Schedule 5 of Exhibit No._____(CWK-4). In columns A through E, I compute the "pure" depreciation expense for the Gannett Fleming study year. By "pure" depreciation, I mean that there is no component for removal cost accrual. Then, in Column F, I carry the removal cost allowance over from Column J of Schedule 4. The sum of the pure depreciation accrual and the removal cost accrual becomes the study year depreciation expense. When this number is divided by the plant balance in column A, the result is the depreciation rate.

Q: How did you compute the test year depreciation expense?

A: I computed the test year depreciation expense by applying the depreciation rates in Column H of Schedule 5 to the test year plant balances. That calculation is performed in Schedule 1 of Exhibit No._____(CWK-4).

Q: How did you compute the adjustment to test year depreciation expense?

A: That adjustment is also calculated on Schedule 1 of Exhibit No._____(CWK-4). In column B, I present Avista's depreciation rates, and in column C, I show the resultant depreciation expense. In column F, I show the difference between my depreciation expense and that proposed by Avista. As can be seen from the totals, the adjustment to electric transmission plant depreciation expense is $1,536,173, and for electric distribution plant it is $2,197,802. The adjustment to gas distribution depreciation expense is $1,808,728.

IV. CONCLUSION

Q. What do you conclude from your study of Avista's depreciation rates?

A. I conclude that Avista's treatment of net removal costs is unfair to current ratepayers because it creates an intergenerational inequity by accelerating the accrual of future net removal costs. Correcting for this unfair treatment results in reductions of Avista's test year depreciation expense for transmission plant of $1,536,173 for electric distribution plant of $2,197,802 and for gas distribution plant of $1,808,728.

Q: Does this complete your direct testimony?

A: Yes, it does.