BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-08_____

DOCKET NO. UG-08_____

DIRECT TESTIMONY OF

TARA L. KNOX

REPRESENTING AVISTA CORPORATION

I. INTRODUCTION

Q. Please state your name, business address and present position with Avista Corporation?

A. My name is Tara L. Knox and my business address is 1411 East Mission Avenue, Spokane, Washington. I am employed as a Senior Rate Analyst in the State and Federal Regulation Department.

Q. Would you briefly describe your duties?

A. I am responsible for preparing the regulatory cost of service models for the Company, as well as providing support for the preparation of results of operations reports.

Q. Would you describe your educational background and professional experience?

A. I am a 1982 graduate of Washington State University with a Bachelor of Arts degree in General Humanities, and a Master of Accounting degree in 1990. As an employee in the Rate Department at Avista since 1991, I have attended several ratemaking classes, including the EEI Electric Rates Advanced Course that specializes in cost allocation and cost of service issues. I have also been a member of the Cost of Service Working Group since 1999, which is a discussion group made up of technical professionals from utilities throughout the United States and Canada concerned with cost of service issues.

Q. What is the scope of your testimony in these proceedings?

A. My testimony and exhibits will cover the Company's electric and natural gas cost of service studies performed for this proceeding. Additionally, I am sponsoring the electric and natural gas revenue normalization adjustments and the production property adjustment to the test

year results of operations. In conjunction with the production property adjustment I present the Company's proposed retail revenue credit rate.

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II. REVENUE NORMALIZATION

Electric Revenue Normalization

Q. Would you please describe the electric revenue adjustment included in Ms. Andrews pro forma results of operations?

A. Yes. The electric revenue normalization adjustment represents the difference between the Company's actual recorded retail revenues during the 2007 test period and retail revenues on a normalized (pro forma) basis. The total revenue normalization adjustment increases Washington net operating income by $18,145,000 as shown in column (W) on page 7 of Exhibit No.___(EMA-2). The revenue normalization adjustment consists of three primary components: 1) repricing customer usage (adjusted for any known and measurable changes) at present base tariff rates in effect, 2) adjusting customer loads and revenue to a calendar-year basis (unbilled revenue adjustment), and 3) weather normalizing customer usage and revenue.

Q. Would you please briefly discuss electric weather normalization?

A. Yes. The Company's weather normalization adjustment calculates the change in kWh usage required to adjust actual loads during the 2007 test period to the amount expected if

weather had been normal. This adjustment incorporates the effect of both heating and cooling on weather-sensitive customer groups. The weather adjustment is developed from regression analysis of ten years of billed usage per customer and billing period heating and cooling degree-day data. The resulting seasonal weather sensitivity factors are applied to monthly test period customers and the difference between normal heating/cooling degree-days and monthly test period observed heating/cooling degree-days.

In addition to its use as a component of the revenue normalization adjustment, Company witness Mr. Kalich includes the combined Washington and Idaho adjustment with 2007 loads to reflect the normal load shape for 2009 pro forma loads in the modeling for the Pro Forma Power Supply costs.

Q. How are normal heating and cooling degree days defined?

A. Normal heating and cooling degree days are based on a rolling 25-year average of heating and cooling degree-days reported for each month by the National Weather Service for the Spokane Airport weather station. For heating, the 25 years are included on a heating season basis, July through June, so (for example) the October average reflects all the Octobers beginning in 1982 and through 2006 whereas the May average reflects all of the Mays beginning in 1983 and through 2007. For cooling, the 25 years reflect the cooling season calendar years beginning in 1983 and through 2007. Each year the normal values will be adjusted to capture the next heating and cooling season with the oldest data dropping off, thereby encapsulating the most recent information available at the end of each calendar year.

Q. Is this proposed weather adjustment methodology consistent with the methodology utilized in the company's last general rate case in Washington?

A. The only change from the methodology utilized in Docket No. UE-070804 is the definition of normal heating and cooling degree days. In prior cases the Company has used NOAA (National Oceanographic and Atmospheric Administration) published Monthly Station Normals for the Spokane airport weather station which represents a 30-year average. As mentioned above, in this case the Company is proposing a 25-year average instead.

Q. Why are you proposing to change from a 30-year to a 25-year average for normal degree days?

A. The NOAA normal publication utilizes the same National Weather Service data to develop their 30-year average or "normal", but it is only updated every ten years, so those statistics now reflect 1971 to 2000 data, which does not include the most current weather. During the years since the last NOAA publication, the Inland Northwest has experienced consistently warmer weather. Therefore, use of the outdated 30-year average may tend to overstate expected heating requirements and understate expected cooling requirements. Moving to a shorter average period, and maintaining the rolling average to keep current with the weather that has been experienced in Avista's service territory, helps to overcome the limitations of the published "normal" data.

Q. What was the impact of electric weather normalization on the 2007 test year?

A. Weather was warmer than normal during the 2007 test year, especially during the month of July, resulting in a net reduction to usage. The adjustment to normal required the addition of 77 heating degree-days and the deduction of 139 cooling degree-days. The net adjustment to Washington sales volumes was a reduction of 25,150,653 kWhs which is slightly less than one-half of one percent of billed usage.

Natural Gas Revenue Normalization

Q. Would you please describe the natural gas revenue adjustment included in Ms. Andrews pro forma results of operations?

A. Yes. The natural gas revenue normalization adjustment is similar to the electric adjustment and represents the difference between the Company's actual recorded retail revenues during the 2007 test period and retail revenues on a normalized (pro forma) basis. The adjustment includes the repricing of pro forma sales and transportation volumes at present rates using pro forma sales volumes that have been adjusted for unbilled sales, abnormal weather, and any material customer load or schedule changes. The rates used exclude: 1) Temporary Gas Rate Adjustment Schedule 155, which reflects the approved amortization rate for deferred gas costs approved in the Company's last PGA filing, 2) Public Purposes Rider Adjustment Schedule 191, and 3) Natural Gas Decoupling Rate Adjustment Schedule 159.

Q. Does the Revenue Normalization Adjustment contain a component reflecting normalized gas costs?

A. Yes. Purchase gas costs are normalized using the gas costs approved by the Commission in Docket No. UG-071864, the Company's 2007 PGA filing, as set forth under Schedule 150. Those gas costs are then applied to the pro forma retail sales volumes so that there is a matching of revenues and gas costs.

The total net amount of the natural gas revenue normalization, which includes the purchase gas cost adjustment, is an increase to net operating income of $1,149,000, as shown in column (I), page 5 of Exhibit No. ___(EMA-3).

Q. Would you please briefly discuss natural gas weather normalization?

A. Yes. The natural gas weather adjustment is developed from a regression analysis of ten years of billed usage per customer and billing period heating degree-day data. The resulting seasonal weather sensitivity factors are applied to monthly test period customers and the difference between normal heating degree-days and monthly test period observed heating degree-days. This calculation produces the change in therm usage required to adjust existing loads to the amount expected if weather had been normal.

Q. How are normal heating and cooling degree days defined?

A. Normal heating degree-days are based on a rolling 25-year average of heating degree-days reported for each month by the National Weather Service for the Spokane Airport weather station. The 25 years are included on a heating season basis, July through June, so (for example) the October average reflects all the Octobers beginning in 1982 and through 2006 whereas the May average reflects all of the Mays beginning in 1983 and through 2007. Each year the normal values will be adjusted to capture the next heating season with the oldest data dropping off, thereby encapsulating the most recent information available at the end of each calendar year.

Q. Is this proposed weather adjustment methodology consistent with the methodology utilized in the company's last general rate case in Washington?

A. The only change from the methodology utilized in Docket No. UG-070805 is the definition of normal heating degree days. In prior cases the Company has used NOAA (National Oceanographic and Atmospheric Administration) published Monthly Station Normals for the Spokane airport weather station which represents a 30-year average. For the reasons mentioned above, in this case the Company is proposing a 25-year average instead.

Q. What was the impact of natural gas weather normalization on the 2007 test year?

A. Weather was warmer than normal during the 2007 test year. A colder than normal January was offset by warmer than normal February, March, and December resulting in a relatively small annual weather adjustment. The adjustment to normal required the addition of 77 heating degree-days. The adjustment to sales volumes was an addition of 799,539 therms which is approximately one-third of one percent of billed usage.

III. PRODUCTION PROPERTY ADJUSTMENT / RETAIL REVENUE CREDIT

Q. What is the purpose of the production property adjustment?

A. Production and transmission rate base, revenues and expenses have been pro formed to 2009 rate year levels. The production property adjustment was applied to these pro forma fixed and variable costs in order to spread the costs to 2007 test year billing determinants. Essentially, the production property adjustment is a retail revenue credit for the difference between 2009 and 2007 loads computed on the revenue requirement components.

Q. Do you have an exhibit that shows the calculation of the proposed retail revenue credit rate showing how it ties to the production property adjustment?

A. Yes. Exhibit No. ___(TLK-2) begins with the identification of the production and transmission revenue, expense and rate base amounts included in each of Ms. Andrews actual, restating, and pro forma adjustments to 2007 results of operations (not including the production property adjustment). The values on line 40, labeled Pro Forma Total, reflect production and transmission revenues, expenses, and rate base necessary to serve 2009 retail loads. The values on line 44, labeled 2007 Production/Transmission Costs, are the amounts on line 40 multiplied by

the production property factor in order to reflect the proportion of those costs required to be recovered by 2007 retail loads. The difference between the 2007 and 2009 values is the production property adjustment Ms. Andrews included in her calculation of revenue requirement in this case.

The proposed retail revenue credit rate is the revenue requirement on the total production and transmission components of pro forma results of operations divided by retail load. Page 2 of Exhibit No.___(TLK-2) shows the calculation of the proposed revenue requirement associated with production and transmission costs in this case. The rate of return and debt cost percentages on line 2 are inputs from the proposed cost of capital. The rate base and net expense values are the same costs calculated on page 1 to determine the production property adjustment. Revenue related expenses have been specifically excluded from the production/transmission revenue requirement for the retail revenue credit. The proposed retail revenue credit rate is $0.04638 per kWh or $46.38 per mWh. There are two columns showing that the retail revenue credit rate produced by this revenue requirement calculation is the same whether you look at the costs before or after the production property adjustment. The calculation of the retail revenue credit rate will need to be revised based on the final production and transmission costs and rate of return that are approved by the Commission.

IV. ELECTRIC COST OF SERVICE

Q. Please briefly summarize your testimony related to the electric cost of service study.

A. I believe the Base Case cost of service study presented in this case is a fair representation of the costs to serve each customer group. The Base Case study shows Residential

Service Schedule 1 and Extra Large General Service Schedule 25 provide substantially less than the overall rate of return under present rates. Pumping Service Schedule 31 provides somewhat less than the overall rate of return under present rates. General Service Schedule 11 and Large General Service Schedule 21 and Street and Area Lights provide more than the overall rate of return under present rates.

Q. Are you sponsoring any exhibits related to the electric cost of service study?

A. Yes. I am sponsoring Exhibit No.__(TLK-3), electric cost of service study process description; and Exhibit No. ___(TLK-4), electric cost of service study summary results.

Q. Were these exhibits prepared by you?

A. Yes.

Q. Please identify the Company's electric cost studies presented to this Commission in the last five years.

A. An Electric cost of service study was presented to this Commission in Docket No. UE-050482 and Docket No. UE-070804.

Q. What is an electric cost of service study and what is its purpose?

A. An electric cost of service study is an engineering-economic study, which separates the revenue, expenses, and rate base associated with providing electric service to designated groups of customers. The groups are made up of customers with similar load characteristics and facilities requirements. Costs are assigned in relation to each group's characteristics, resulting in an evaluation of the cost of the service provided to each group. The rate of return by customer group indicates whether the revenue provided by the customers in each group recovers the cost to serve those customers. The study results are used as a guide in

determining the appropriate rate spread among the groups of customers. Exhibit No. ___(TLK-3) explains the basic concepts involved in performing an electric cost of service study. It also details the specific methodology and assumptions utilized in the Company's Base Case cost of service study.

Q. What is the basis for the electric cost of service study provided in this case?

A. The electric cost of service study provided by the Company as Exhibit No.___(TLK-4) is based on the 2007 test year pro forma results of operations presented by Company witness Ms. Andrews in Exhibit No.___(EMA-2).

Q. Would you please explain the cost of service study presented in Exhibit No. ___(TLK-4)?

A. Yes. Exhibit No. ___(TLK-4) is composed of a series of summaries of the cost of service study results. The summary on page 1 shows the results of the study by FERC account category. The rate of return by rate schedule and the ratio of each schedule's return to the overall return are shown on Lines 39 and 40. This summary was provided to Mr. Hirschkorn for his work on rate spread and rate design. The results will be discussed in more detail later in my testimony.

Pages 2 and 3 are both summaries that show the revenue to cost relationship at current and proposed revenue. Costs by category are shown first at the existing schedule returns (revenue); next the costs are shown as if all schedules were providing equal recovery (cost). These comparisons show how far current and proposed rates are, from rates that would be in alignment with the cost study. Page 2 shows the costs segregated into production, transmission,

distribution, and common functional categories. Page 3 segregates the costs into demand, energy, and customer classifications.

The Excel model used to calculate the cost of service and supporting schedules have been included in their entirety both electronically and hard copy in the workpapers accompanying this case.

Q. Does the Company's electric Base Case cost of service study follow the methodology filed in the Company's last electric general rate case in Washington?

A. Yes. The Base Case cost of service study was prepared using the same methodology applied to the study presented in Docket No. UE-070804. In the settlement agreement in Docket No. UE-070804, the Company agreed to conduct new load and cost allocation studies with input from Staff and other interested parties. The load study process is currently in its initial phase, therefore no modifications to the methodology are proposed in this case.

Q. Given that the specific details of this methodology are described in Exhibit No.___(TLK-3), would you please give a brief overview of the key elements and the history associated with those elements?

A. In general the cost study follows the methodology established in Docket No. UE-920499 for Puget Sound Power and Light (now PSE). Production and transmission costs are classified to energy and demand by a peak credit analysis. The definition of peaks and peak credit are specific to Avista and were accepted by the Commission for Avista in Docket No. UE-991606 and confirmed in Docket No. UE-050482. Distribution costs are classified and allocated

by the basic customer theory[1] that was derived directly from the methodology approved for Puget in Docket No. UE-920499. Administrative and general costs are first directly assigned to production, transmission, distribution, or customer relations functions. The Commission found this process acceptable in Avista's Docket No. UE-991606. The remaining administrative and general costs are categorized as common costs and have been allocated by a variety of factors as approved by this Commission for Puget in Docket No. UE-920499. The specific factors and items they are applied to are described in detail in Exhibit No. ___(TLK-3), see pages 5 and 9.

Q. What are the results of the Company's Base Case cost of service study?

A. The following table shows the rate of return and the relationship of the customer class return to the overall return (relative return ratio) at present rates for each rate schedule:

Table 1

Customer Class	Rate of Return	Return Ratio
Residential Service Schedule 1	4.07%	0.67
General Service Schedule 11	12.13%	2.01
Large General Service Schedule 21	8.75%	1.45
Extra Large General Service Schedule 25	3.17%	0.53
Pumping Service Schedule 31	5.00%	0.83
Lighting Service Schedules 41 - 49	7.96%	1.32
Total Washington Electric System	6.04%	1.00

As can be observed from the above table, residential and extra large general service schedules (1 and 25) show significant under-recovery of the costs to serve them, the pumping service schedule (31) shows moderate under-recovery, while the general, large general, and

[1] Basic customer theory classifies only meters, services and street lights as customer-related plant; all other distribution facilities are considered demand-related

lighting service schedules (11, 21, and 41 - 49) show over-recovery of the costs to serve them. However, only general service schedule 11 currently provides a rate of return significantly higher than the rate of return requested in this case. The summary results of this study were provided to Mr. Hirschkorn as an input into development of the proposed rates.

Q Is there something else that should be noted with regards to the cost study results?

A. Yes. As shown on page 1, lines 38 and 41 of Exhibit No.___(TLK-4) Schedule 25 does not provide enough net income to cover the interest expense (debt cost) associated with their rate base. Consequently, Schedule 25 is allocated negative income tax which improves their net income and rate of return results. Simply comparing the relative return ratios in Table 1 fails to acknowledge that this schedule does not cover their debt cost at present rates.

V. NATURAL GAS COST OF SERVICE

Q. Are you sponsoring any exhibits related to the natural gas cost of service study?

A. Yes. I am sponsoring Exhibit No.___(TLK-5), natural gas cost of service study process description; and Exhibit No. ___(TLK-6), natural gas cost of service study summary results.

Q. Were these exhibits prepared by you or under your direction?

A. Yes.

Q. Please identify the natural gas cost studies presented to this Commission in the last five years.

A. Natural gas cost of service studies were filed with this Commission in Docket No. UG-070805, Docket No. UG-050483 and Docket No. UG-041515.

Q. Please describe the natural gas cost of service study and its purpose.

A. A natural gas cost of service study is an engineering-economic study which separates the revenue, expenses, and rate base associated with providing natural gas service to designated groups of customers. The groups are made up of customers with similar usage characteristics and facility requirements. Costs are assigned in relation to each groups' characteristics, resulting in an evaluation of the cost of the service provided to each group. The rate of return by customer group indicates whether the revenue provided by the customers in each group recovers the cost to serve those customers. The study results are used as a guide in determining the appropriate rate spread among the groups of customers. Exhibit No.__(TLK-5) explains the basic concepts involved in performing a natural gas cost of service study. It also details the specific methodology and assumptions utilized in the Company's Base Case cost of service study.

Q. What is the basis for the natural gas cost of service study provided in this case?

A. The cost of service study provided by the Company as Exhibit No.__(TLK-6) is based on the 2007 test year pro forma results of operations presented by Ms. Andrews in Exhibit No.__(EMA-3).

Q. Would you please explain the cost of service study presented in Exhibit No.__(TLK-6)?

A. Yes. Exhibit No. __(TLK-6) is composed of a series of summaries of the cost of service study results. Page 1 shows the results of the study by FERC account category. The rate of return and the ratio of each schedule's return to the overall return are shown on lines 38 and 39. This summary is provided to Mr. Hirschkorn for his work on rate spread and rate design. The results will be discussed in more detail later in my testimony. The additional summaries show the costs organized by functional category (page 2) and classification (page 3), including margin and unit cost analysis at current and proposed rates.

The Excel model used to calculate the cost of service and supporting schedules have been included in their entirety both electronically and hard copy in the workpapers accompanying this case.

Q. Does the Natural Gas Base Case cost of service study utilize the methodology from the Company's last natural gas case in Washington?

A. Yes. The Base Case cost of service study was prepared using the same methodology applied to the study presented in Docket No. UG-070805.

Q. What are the key elements that define the cost of service methodology?

A. Gas costs and underground storage costs are tied to the current purchased gas tracker methodology. Natural gas main investment has been segregated into large and small mains. Large usage customers that take service from large mains do not receive an allocation of small mains. Meter installation and services investment is allocated by number of customers weighted by the relative current cost of those items. System facilities that serve all customers are classified by the peak and average ratio that reflects the system load factor, then allocated by coincident peak demand and throughput, respectively. Demand side management costs are

treated in the same way as system facilities. General plant is allocated by the sum of all other plant. Administrative & general expenses are segregated into labor related, plant related, revenue related, and "other". The costs are then allocated by factors associated with labor, plant in service, or revenue, respectively. The "other" A&G amounts get a combined allocation that is one-half based on O&M expenses and one-half based on throughput. A detailed description of the methodology is included in Exhibit No.__(TLK-5).

Q. Does this methodology follow previously approved methods?

A. Yes, with the exception of Company-specific purchased gas and related items that match the PGA assumptions, the methodology I have presented here, and in prior cases before this Commission, replicates the methodology established in Docket No. UG-940814 for Washington Natural (now PSE).

Q. What are the results of the Company's natural gas cost of service study?

A. I believe the Base Case cost of service study presented in this filing is a fair representation of the costs to serve each customer group. The study indicates that Large Firm Service Schedule 121 is providing considerably less than the overall return (unity), and Transportation Service Schedule 146 is providing more than unity, but well below the requested return. Small Firm and Interruptiible Service schedules are slightly below unity, and Residential Service is just over unity.

The following table shows the rate of return and the relative return ratio at present rates for each rate schedule:

Table 2

Customer Class	Rate of Return	Return Ratio
Residential Service Schedule 101	6.15%	1.02
Small Firm Service Schedule 111	5.77%	0.95
Large Firm Service Schedule 121	3.65%	0.60
Interruptible Service Schedule 131	5.55%	0.92
Transportation Service Schedule 146	7.70%	1.27
Total Washington Natural Gas System	6.06%	1.00

The summary results of this study were provided to Mr. Hirschkorn as an input into development of the proposed rates.

Q Is there something else that should be noted with regards to the cost study results?

A. Yes. As shown on page 1, lines 37 and 40 of Exhibit No.___(TLK-6) Schedule 121 does not provide enough net income to cover the interest expense (debt cost) associated with their rate base. Consequently, Schedule 121 is allocated negative income tax which improves their net income and rate of return results. Simply comparing the relative return ratios in Table 1 fails to acknowledge that this schedule does not cover their debt cost at present rates.

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

A. Yes.