Exhibit No. ___(EMA-1T)

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-16_____

DOCKET NO. UG-16_____

DIRECT TESTIMONY OF

ELIZABETH M. ANDREWS

REPRESENTING AVISTA CORPORATION

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I. INTRODUCTION

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

A. My name is Elizabeth M. Andrews. I am employed by Avista Corporation as Manager of Revenue Requirements in the State and Federal Regulation Department. My business address is 1411 East Mission, Spokane, Washington.

Q. Would you please describe your education and business experience?

A. I am a 1990 graduate of Eastern Washington University with a Bachelor of Arts Degree in Business Administration, majoring in Accounting. That same year, I passed the November Certified Public Accountant exam, earning my CPA License in August 1991[1]. I worked for Lemaster & Daniels, CPAs from 1990 to 1993, before joining the Company in August 1993. I served in various positions within the sections of the Finance Department, including General Ledger Accountant and Systems Support Analyst until 2000. In 2000, I was hired into the State and Federal Regulation Department as a Regulatory Analyst until my promotion to Manager of Revenue Requirements in early 2007. I have also attended several utility accounting, ratemaking and leadership courses.

Q. As Manager of Revenue Requirements, what are your responsibilities?

A. As Manager of Revenue Requirements, aside from special projects, I am responsible for the preparation of normalized revenue requirement and ratemaking studies for the various jurisdictions in which the Company provides utility services. Since 2000, I

[1] Currently I keep a CPA-Inactive status with regards to my CPA license.

have led, or assisted in, the Company's electric and/or natural gas general rate filings in Washington, Idaho and Oregon.

Q. What is the scope of your testimony in this proceeding?

A. My testimony and exhibits in this proceeding will cover the need for the additional rate relief requested in the Company's filing. I will first summarize the Company's 18-month rate plan for January 2017 through June 2018. The Company's electric and natural gas revenue requirement requests included in the 18-month rate plan are based on the Company's electric and natural gas Attrition Studies for the 2017 and January to June 2018 rate periods.

I will also discuss the on-going attrition experienced by Avista, the impact on Avista's earnings over recent years through the recognition of attrition, and the importance of rate relief from this filing. Later in my testimony I will discuss in more detail the overall methodology and results of the Company's electric and natural gas 2017 and January to June 2018 Attrition Studies.

In addition to our Attrition Analysis for the 18-month rate plan, through Company witness Ms. Smith, the Company has also provided traditional electric and natural gas Pro Forma Studies, using modified historical test period results adjusted for limited, known and measureable pro forma adjustments. In addition, as explained by Ms. Smith, the Company has further adjusted its Pro Forma Studies to reflect additional "2017 Cross Check" and incremental "January to June 2018 Cross Check" adjustments, providing a "Cross Check" analysis for the 2017 and January to June 2018 periods, or 18-month rate plan. The Cross Check Studies are then compared to the Attrition Studies proposed by the Company for the

same period, as a "cross check" to the reasonableness of the end result revenue requirements from the electric and natural gas Attrition Studies.

Q. Are you sponsoring any exhibits to be introduced in this proceeding?

A. Yes. I am sponsoring Exhibit Nos.____(EMA-2) through ___(EMA-5), which were prepared by me or under my direction. Exhibit Nos.____(EMA-2) (Electric) and ___(EMA-3) (Natural Gas) present the results of the Company's 2017 electric and natural gas Attrition Studies, as well as the underlying data supporting these Attrition Studies. Exhibit Nos.____(EMA-4) (Electric) and ___(EMA-5) (Natural Gas) present the results of the Company's January to June 2018 electric and natural gas Attrition Studies, as well as the underlying data supporting these Attrition Studies. These exhibits also show, among other things, the proposed rate of return, the derivation of the net-operating-income-to-gross-revenue-conversion factor, and the proposed revenue requirement based on each Attrition Study analysis.

II. SUMMARY OF PROPOSED ELECTRIC AND NATURAL GAS 2017 & JANUARY TO JUNE 2018 REQUESTED REVENUE INCREASES – 18 MONTH RATE PLAN

Q. Please summarize the Company's electric and natural gas 18-month rate plan proposed for January 2017 through June 30, 2018.

A. The company is proposing an 18-month rate plan including the period January 2017 through June 2018, with proposed base rate increases effective January 1, 2017 and a second-step base rate increase January 1, 2018.

In recent years the Company has filed general rate cases in the first quarter of the year, and the rate adjustments resulting from the cases have generally been implemented in

January, which is the middle of the winter heating season. The 18-month proposal in this filing is intended to change the "cycle" of base rate adjustments from the middle of winter to the middle of the summer months. If the base rate adjustments occur in the summer months, then customers will be aware of these adjustments prior to entering the winter heating season, and will not experience a base rate increase in the middle of winter. Future general rate cases would then be filed in the summer months, with any rate adjustments expected to occur the next summer.

With regard to the proposed January 1, 2018 second-step electric base rate increase, as discussed further by Company witness Mr. Ehrbar, Avista is proposing to offset the bill impact to customers with a rebate of available Energy Recovery Mechanism (ERM) dollars through a bill credit in January through June of 2018. The net effect of the 18-month plan for electric customers is a proposed bill increase to customers on January 1, 2017, and no further base rate increase impact to the customers' bill prior to July 2018.[2]

Q. Please provide a summary of the 2017 and January to June 2018 rate requests included in the Company's Washington electric and natural gas Attrition Studies.

A. The results of the electric and natural gas Attrition Studies for 2017 show rate period rates of return ("ROR") for the Company's Washington jurisdictional operations of 6.02% and 6.73%, respectively. The results of the electric and natural gas Attrition Studies for the January to June 2018 period, show rate period ROR for the Company's Washington

[2] Natural gas customers would see a slight increase "second-step" rate increase effective January 1, 2018 of approximately 1% as discussed further below and by Mr. Ehrbar.

jurisdictional operations of 5.61% and 6.55%, respectively. These return levels are well below the Company's requested rate of return of 7.64% for both the 2017 and January to June 2018 rate periods.

Table No. 1 below provides a summary of the 2017 and January to June 2018 rate period Rates of Return per the Attrition Studies versus that proposed by the Company.

Table No. 1

18-Month Rate Plan
Rates of Return

Service	2017 Attrition Study	2018 (6 months) Attrition Study	Proposed
WA Electric	6.02%	5.61%	7.64%
WA Natural Gas	6.73%	6.55%	7.64%

The incremental revenue requirement, over and above rates currently in effect, that is necessary to give the Company an opportunity to earn its requested ROR in 2017 is $38,568,000 for electric operations, and $4,397,000 for natural gas operations. The overall base electric increase, effective January 2017, associated with this request is 7.79%. The base natural gas increase, effective January 2017, is 4.97% (or 2.77% on a billed basis).

The incremental revenue requirement necessary to give the Company an opportunity to earn its requested ROR for the January to June 2018 rate period is $10,301,000 for its electric operations and $941,000 for its natural gas operations. These incremental base electric and natural gas increases, effective January 1, 2018, must be collected over a 6-month period, resulting in an increase of 3.91% for electric and 1.8% for natural gas (or 1.0% on a billed basis).

Table No. 2 below provides a summary of the 2017 and January to June 2018 requested revenue requirement increases and percentage increases.

Table No. 2

18-Month Rate Plan
Revenue Requirement and Percentage Increases

Service	2017		2018 (6 months)	
	Revenue Requirement (000s)	Base %	Revenue Requirement (000s)	Base %[1]
WA Electric	$ 38,568	7.79%	$ 10,301	3.90%
WA Natural Gas	$ 4,397	4.97%	$ 941	1.80%
Natural gas % increase on a billed basis:		*2.77%*		*1.00%*

[1]Base % required to collect revenue requirement over the 6-month period ending June 30, 2018. See Company witness Mr. Ehrbar's testimony for further discussion.

Q. What are the primary factors driving the Company's requested electric and natural gas revenue increases?

A. The increase in overall costs to serve customers is driven primarily by three major factors: 1) the continuing need to replace and upgrade the facilities and technology we use every day to serve our customers, 2) low revenue growth and 3) increased net power supply costs[3].

More specifically, as discussed further by Company witness Mr. Thies, in the next four years Avista will need to spend approximately $1.6 billion of capital on utility

[3] Approximately $14.3 million (or 37%) of the requested 2017 revenue requirement is associated with increased net power supply costs, of which over $8 million is due to the expiration of the Portland General Electric capacity sales contract in December 2016. Approximately $3 million (or 28.4%) of the incremental revenue requirement for the January to June 2018 period of $10 million is due to increased net power supply costs.

generation, transmission and distribution facilities and other requirements. Other Company witnesses, (i.e. Ms. Rosentrater, Mr. Kinney, Mr. Cox and Ms. Schuh) provide more specific information on capital projects during the periods 2016 through June 2018, the need for those capital projects and explain how the Company evaluates the need for new plant investment to ensure that the investments are necessary.

As further discussed by Mr. Morris (and shown in Illustration No. 5 of his testimony), net plant investment for the last several years has been growing at a much faster pace than retail kilowatt-hour (kWh) sales and retail therm sales. This mismatch in the growth of net plant investment and sales is expected to continue to the future, requiring the Company to request increases in its retail rates to cover this increase in net plant investment, since revenue growth is not sufficient to cover it.

For 2017, the increase in net power supply expenses, compared to that currently authorized, also contributes significantly to the requested revenue requirement (approximately 37% of the total electric request). For the January to June 2018 (6-month) increase in net power supply expense, over and above the 2017 period, contributes approximately 28.4% of the incremental requested revenue requirement. Company witness Mr. Johnson discusses the changes in power supply costs over the 18-month rate plan period.

Q. What are the Company's rates of return that were last authorized by this Commission for its electric and natural gas operations in Washington?

A. The last authorized rate of return by this Commission for both the Company's electric and natural gas operations in its Washington jurisdiction was 7.29%, approved in Docket Nos. UE-150204 and UG-150205 (*Consolidated*), effective January 11, 2016.

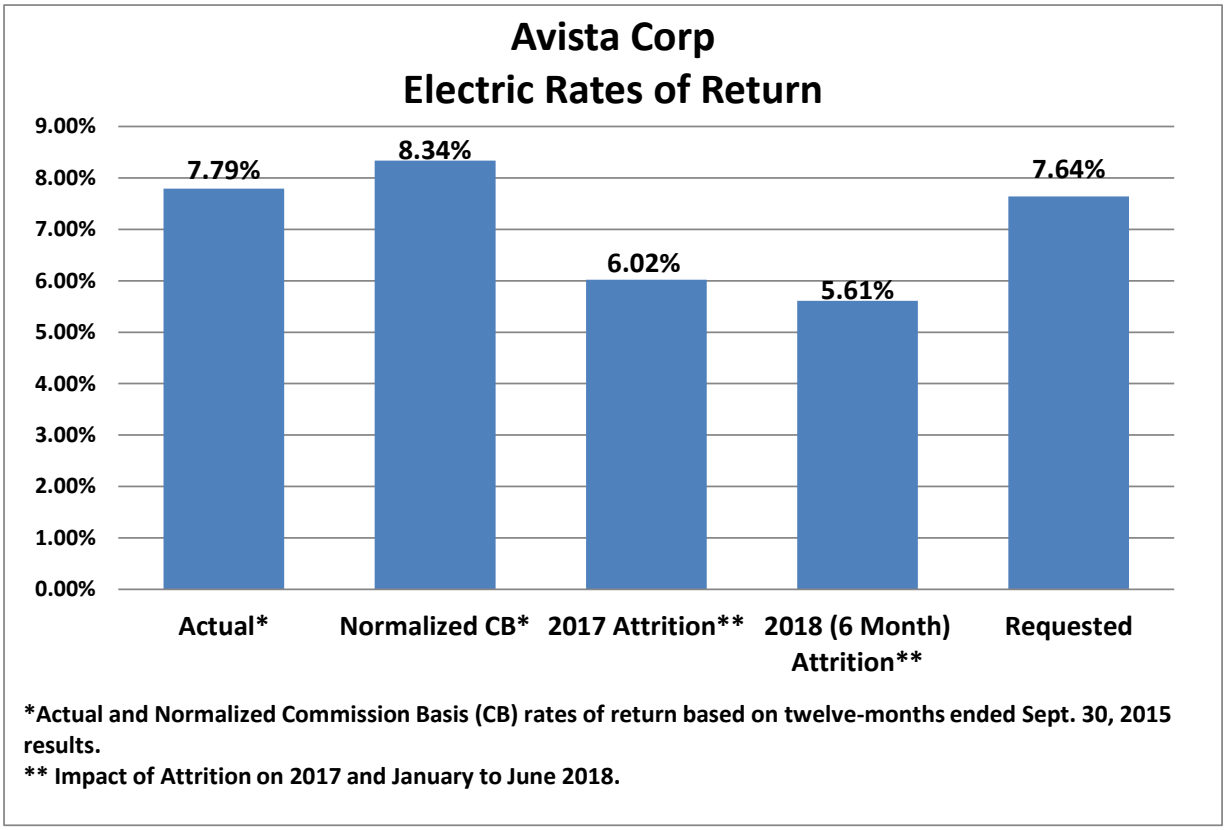
Q. On what test period is the Company basing its need for additional electric and natural gas revenue?

A. The test period being used by the Company is the twelve-month period ending September 30, 2015, presented on an attrition-adjusted basis. Current authorized rates were based upon the 2014 test year utilized in Docket Nos. UE-150204 and UG-150205 (*Consolidated)*, adjusted per Order No. 05 and approved by the Commission.

Q. By way of summary, please explain the different rates of return that you will be presenting in your testimony for electric operations.

A. There are five different rates of return that are discussed. The actual ROR earned by the Company during the test period, the normalized or Commission Basis (CB) ROR results for the test period, the Attrition adjusted ROR for both 2017 and the January to June 2018 period determined in my Exhibit Nos.___(EMA-2) and ___(EMA-4), and the requested ROR. These returns are shown in Illustration No. 1 below:

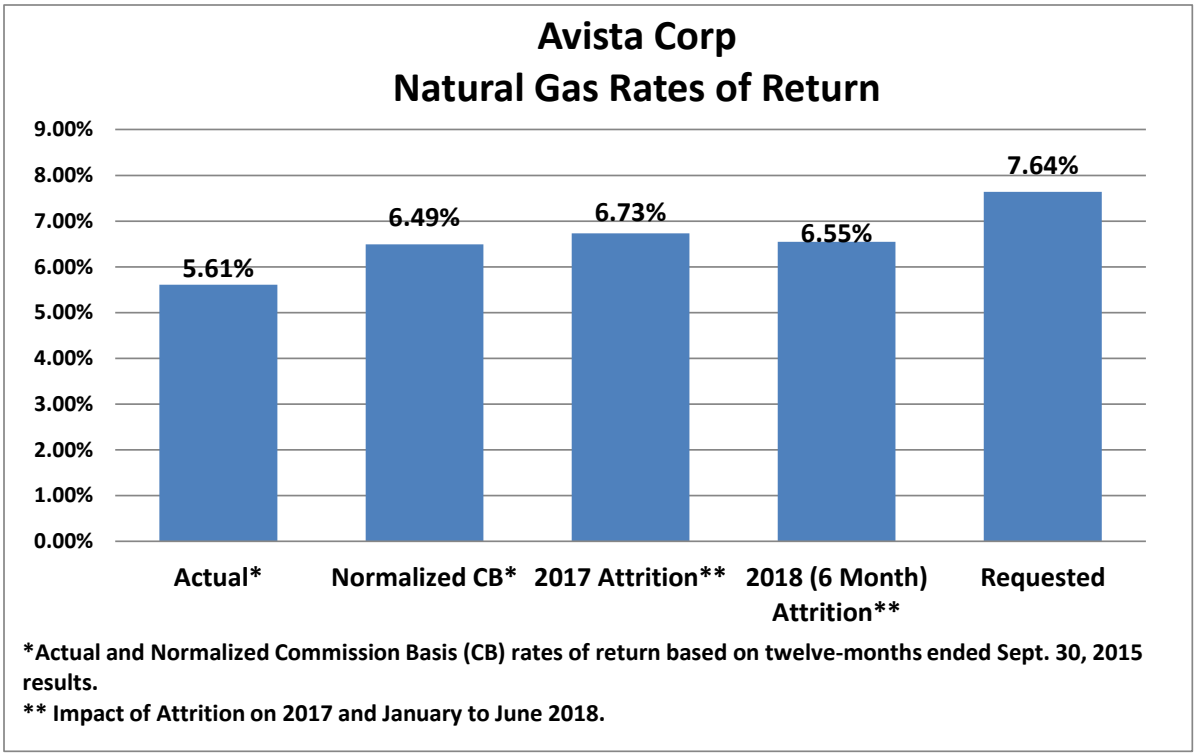
Illustration No. 1



Q. What are these same identified rates of return discussed in your testimony for the natural gas operations?

A. These same five rates of return for the natural gas operations (Actual, Normalized CB, Attrition 2017 and January to June 2018 Attrition per Exhibit Nos.___(EMA-3) and ___(EMA-5), and Requested) are shown below in Illustration No. 2.

Illustration No. 2



III. ONGOING ATTRITION AND IMPACT ON AVISTA'S EARNINGS

Q. Since its 2012 general rate cases filed by Avista, the Company has provided evidence demonstrating that it is experiencing attrition. Please explain how the Commission defined attrition in Avista's last general rate case, Docket Nos. UE-150204 and UG-150205.

A. Per Order No. 05, page 18, paragraph 47 in Docket Nos. UE-150204 and UG-150205, the Commission defined attrition as follows:

> …attrition occurs when the test-period relationship between rate base, expenses and revenues does not hold under conditions in the rate effective period, such that a utility's expenses or rate base grows more quickly than revenues, and a utility would likely have no reasonable opportunity to earn its allowed rate of return. An attrition adjustment is a discrete adjustment to the modified historical test year that the Commission may use when it determines attrition is present.

Q. Has the Commission recognized that Avista has been experiencing Attrition over the last few years?

A. Yes it has. In Order 05 of Docket Nos. UE-150204 and UG-150205, the Commission recapped much of its findings related to the finding of Attrition in Avista's recent general rate case proceedings:

First at page 22 of Order 05, paragraph 54 and 55 related to 2013-2014:

> The Commission finds, on the basis of the evidence presented, that consideration of attrition in setting rates for 2013 is appropriate. (paragraph 54)…. While the Company and Staff have each submitted attrition studies that justify the 2013 increase, they did not submit such studies for the 2014 increase, which also is justified substantially on anticipated continued attrition. Rather, they argue that the trends of attrition from 2013 will continue through 2014, thereby justifying a further rate increase. For the purposes of this Settlement, we accept the trending analysis from both Staff and Avista. (paragraph 54)

The Commission at page 2, Order 5, in its Synopsis approved an attrition adjustment for Avista's Washington electric and natural gas operations for the rate period 2016 stating:

> With regard to the Company's claims of attrition eroding its earnings for both its natural gas and electric operations, the Commission recognizes that Avista has been underearning in its natural gas operations for many years. ... We acknowledge that Avista is likely to experience attrition in its natural gas operations in the rate year [2016], … Although the Company has shown a recent balanced financial position on its electric operations, we are concerned this will not continue for the foreseeable future and, absent an attrition adjustment, that the Company may not have an opportunity to achieve earnings on electric operations at or near authorized levels. Thus, we grant an attrition adjustment to the modified test year amounts for Avista's electric service.

It is also important to note, within Order 5 at page 40, paragraph 109, the Commission recognized that the presence of increased capital spending in an environment of low load growth is the "new norm":

> The evidence in this case demonstrates that Avista is making increased capital investments in non-revenue generating plant (primarily on the distribution system) in an environment of low load growth. However, we do not believe that these circumstances are extraordinary. In fact, we believe that these circumstances represent the "new normal."

Q. Is Avista continuing to experience attrition?

A. Yes. The evidence Avista has presented in this filing shows that the Company continues to experience attrition and will do so during the proposed 18-month rate plan period.

Q. What does this imply for ratemaking in this rate case filing?

A. In order for the Company to have the opportunity to earn a reasonable rate of return during the 18-month rate plan period of 2017 through June 2018, recognition of the need for additional rate relief based on continuation of an attrition adjustment is imperative.

Q. In conjunction with preparing the Company's electric and natural gas Attrition Studies, has the Company performed a revenue requirement analysis or "Pro Forma Study" based on a modified historical test period, adjusted to reflect limited adjustments?

A. Yes, it has. As explained by Ms. Smith, the Company has prepared electric and natural gas Pro Forma Studies, based on a modified historical test period, adjusted to reflect limited adjustments. These studies are provided as Exhibit Nos. __(JSS-2) and __(JSS-3). Specifically, pages 6 through 10 of both studies show the revenue requirement produced from a modified historical test period approach, adjusted only for limited pro forma adjustments.

Q. What were the results of those Pro Forma Studies?

A. For the Electric Pro Forma Study, the resulting revenue requirement was an increase of only $11.843 million, whereas the Natural Gas Pro Forma Study produced a revenue requirement reduction of $1.151 million. For comparison purposes, Table No. 3 below compares the Pro Forma Study and Attrition Study results for both the Company's electric and natural gas operations. [4]

Table No. 3

Pro Forma versus Attrition Study Results Revenue Requirement Above Current Rates (000s)			
Service	2017 Pro Forma Studies (see Exh. Nos. JSS-2 & 3, page 10)	2017 Attrition Studies (see Exh. Nos. EMA-2 & 3, page 12)	Difference: Resulting Attrition Adjustment*
WA Electric	$ 11,843	$ 38,568	**$ 26,725**
WA Natural Gas	$ (1,151)	$ 4,397	**$ 5,548**
*The amounts shown here are the resulting "Attrition Adjustments" necessary above the Pro Forma Study results required for Avista to earn its requested Rate of Return of 7.64%.			

As noted in Table No. 3 above, the 2017 revenue requirement produced from the modified historical test period approach, adjusted for limited pro forma adjustments, produces a significantly smaller end result than that produced by the Company's Attrition Studies for the same 2017 period. In fact, it is approximately $32.3 million ($26.7 + $5.6) less on a combined electric and natural gas basis. This is a significant difference, demonstrating that without the use of an "Attrition Adjustment," Avista would not have the

[4] As explained by Ms. Smith, the Company has also provided electric and natural gas "Cross Check Studies" that adjust the "Pro Forma Study" results, identified in Table No. 3, recognizing additional expected increases in expenses and capital investment identified by the Company beyond the Pro Forma Study. These Cross Check Studies provide the level of net income and net rate base expected for the 2017 and January to June 2018 rate periods. These balances are then compared to the results produced by the Attrition Studies for comparison purposes only, to determine the reasonableness of the results produced by the Attrition Studies, and for the limited purpose of preparing the cost-of-service studies as presented by Company witnesses Ms. Knox and Mr. Miller. The Cross Check Study values readily lend themselves to their cost-of-service analysis. See Exhibit Nos. _(JSS-2) and _(JSS-3), pages 11-12 (2017) and pages 13-14 (January to June 2018).

opportunity to earn its requested Rate of Return, and would significantly under-earn during the 2017 rate period.[5]

This reconciliation also provides the electric and natural gas "Attrition Adjustments" necessary from the Pro Forma Study levels to produce the Company's requested revenue requirement.

Q. How does Avista's growth in revenue, expenses and rate base compare over time, both for the recent historical period as well as expectations for future years?

A. Illustration No. 3 below, which is also included in Company witness Mr. Morris's testimony, shows actual information for the period 2006 to 2015, and forecasted information for 2016 to 2019. The red line on the graph shows the actual growth in net utility plant investment through 2015, which is representative of growth in rate base, and the expected growth for 2016 through 2019.[6]

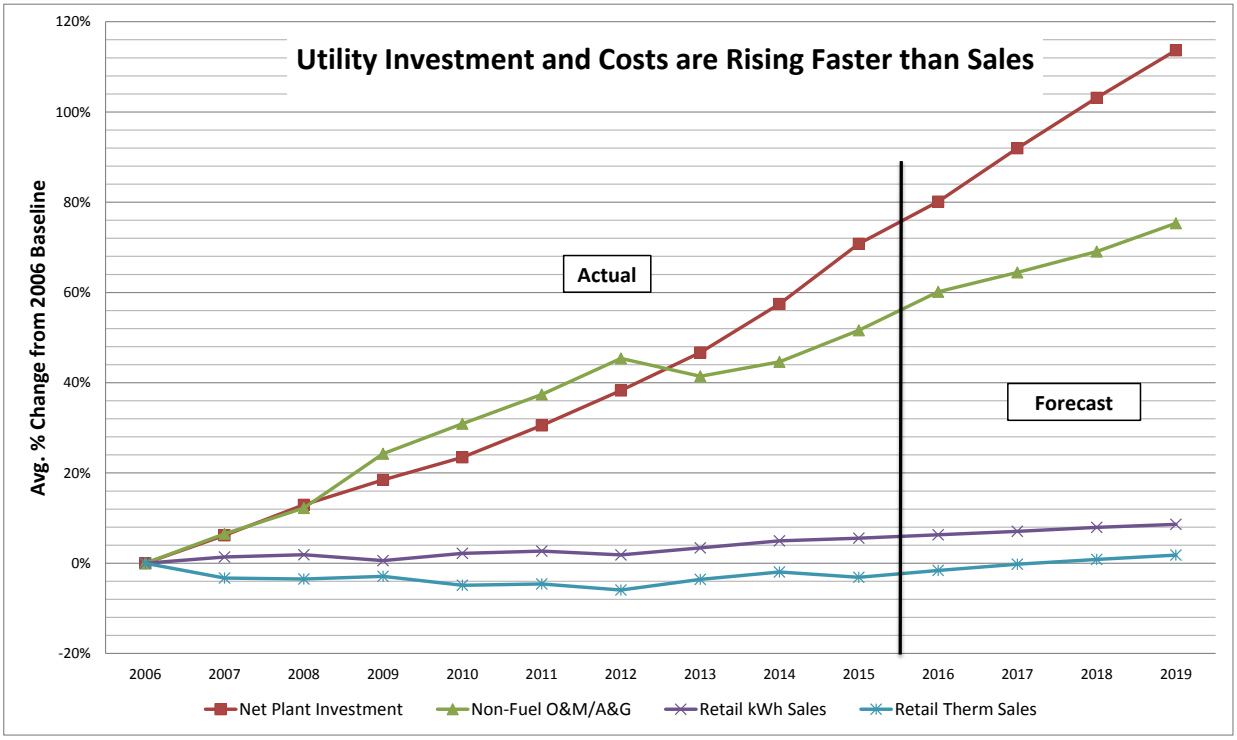
The purple and blue lines on the graph show the changes in retail kilowatt-hour (kWh) sales and retail therm sales, respectively, for the same time period. The graph shows net plant investment growing at a much faster pace than kWh and therm sales, and this mismatch is forecasted to continue to the future.

[5] Later in my testimony I discuss the difference in results of the Company's electric and natural gas Cross Check Studies versus the results from its Attrition Studies. The electric and natural gas 2017 Cross Check Studies revenue requirement results are approximately $4.9 million and $2 million, respectively, higher than the electric and natural gas Attrition models for 2017. The electric and natural gas January to June 2018 Cross Check Studies revenue requirement results are approximately $1.2 million and $1.3 million, respectively, higher than the electric and natural gas Attrition models for January to June 2018. This is a total difference of $6.1 million (electric) and $3.3 million (natural gas) between these Studies. See Table 6 later in my testimony summarizing the comparison of the Pro Forma, Cross Check and Attrition studies.

[6] The net plant numbers include total utility electric and natural gas investment in all three states (WA, ID, and OR).

The green line on the graph also shows that non-fuel operations and maintenance (O&M) expenses and administrative and general (A&G) expenses are also growing at a faster pace than sales.

Illustration No. 3



Q. The non-fuel O&M/A&G costs dip down in 2013, and then grow at somewhat slower pace than in prior years. Does this reflect the benefits from recent cost management measures?

A. Yes. With regard to utility operating expenses, following the elimination of the defined benefit pension plan for non-union new hires beginning in 2014, and the transition away from providing medical coverage for non-union retirees,[7] the Company continues to monitor its compensation and benefits practices to ensure that they are

[7] These changes for the bargaining unit will be subject to future negotiations.

competitive with those offered by other similar utilities. Avista continues to design a portion of all employees' compensation as pay-at-risk, which is dependent on achieving cost-saving targets each year for O&M and A&G. In addition, Avista's asset management programs, as discussed further by Ms. Rosentrater, are designed, in part, to focus on capital projects that will decrease O&M costs.[8]

However, as also noted by Mr. Morris, even as Avista continues to work control costs, it is also experiencing a continuing increase in various compliance and reporting requirements. These requirements involve, among other things, monitoring, inspecting, testing, reporting, adding redundancy, and increasing security – both physical security and cyber security. The requirements are driven by, among other things, NERC requirements related to electric reliability, FERC requirements related to assuring the existence of competitive wholesale markets, environmental requirements to ensure we are being good stewards of the environment, and financial requirements to ensure full and fair disclosure of information. Compliance with these important requirements involve people and systems, which is putting upward pressure on our O&M costs.

This continued upward pressure, albeit lower than that prior to 2012, continues to cause O&M to increase at a faster pace than sales of kWh and therms. Avista will continue to experience attrition going forward, requiring rates be set based on the Attrition Adjusted

[8] The Company had provided in prior general rate case proceedings additional detail regarding the fourth quarter 2012 implementation of its Voluntary Severance Incentive Plan (VSIP) program to reduce employee complement at the Company, reducing the overall base labor costs starting in 2013 and going forward. As explained later in my testimony, these reductions, as well as others noted above, are incorporated into the 2015 "escalation base" to escalate costs through the Attrition Studies to the 2017 and January to June 2018 rate periods. This ensures that these cost saving measures, as well as any cost saving measures since 2012 are included in the rates set for the 2017 and January to June 2018 rate periods.

revenue requirement presented in this case and as shown above.

Q. How has the recognition of Attrition over the last few years impacted Avista's earnings?

A. In 2013 and 2014 Avista's normalized results were close to the Return on Equity (ROE) approved by this Commission for the two-year rate plan established in Docket Nos. UE-120436 and UG-120437. Table No. 4 below shows the ROE for each year, by service and on a consolidated basis.

Table No. 4

2013 and 2014 Earned Return on Equity

	Electric ROE	Natural Gas ROE	Total Utility (Weighted)
2013	**9.9%**	**7.2%**	**9.5%**
2014	**10.6%***	**6.4%**	**9.9%**
Two-Year Rate Plan Wtd ROE	**10.3%**	**6.9%**	**9.7%**

***Pension and post-retirement medical expenses for 2013, 2014, and 2015 were $18.7 million, $14.1 million, and $18.7 million, respectively. This unexpected decrease in 2014 was related to favorable returns on the fund balances in 2014, and changes in interest rates and discount rates. Removing this one-year aberration in expense for 2014, which was beyond the control of the Company, reduces the normalized ROE for Washington electric operations from 10.6% to 10.2%. This 10.2% ROE is reasonably close to the 9.8% authorized level.

Table No. 4 above shows that Avista over-earned for its electric operations and under-earned for its natural gas operations. But for Avista's Washington utility operations as a whole, the results were 9.5% for 2013 and 9.9% for 2014, as compared to the authorized ROE of 9.8%. Avista's average ROE for the two-year period was 9.7% as compared to the authorized return of 9.8%. These results provide an after-the-fact confirmation that the revenue increases granted based on recognition of attrition provided earned returns very

close to the authorized ROE of 9.8%. Without the recognition of attrition, Avista's earned returns for 2013 and 2014 would have been substantially below its authorized return.

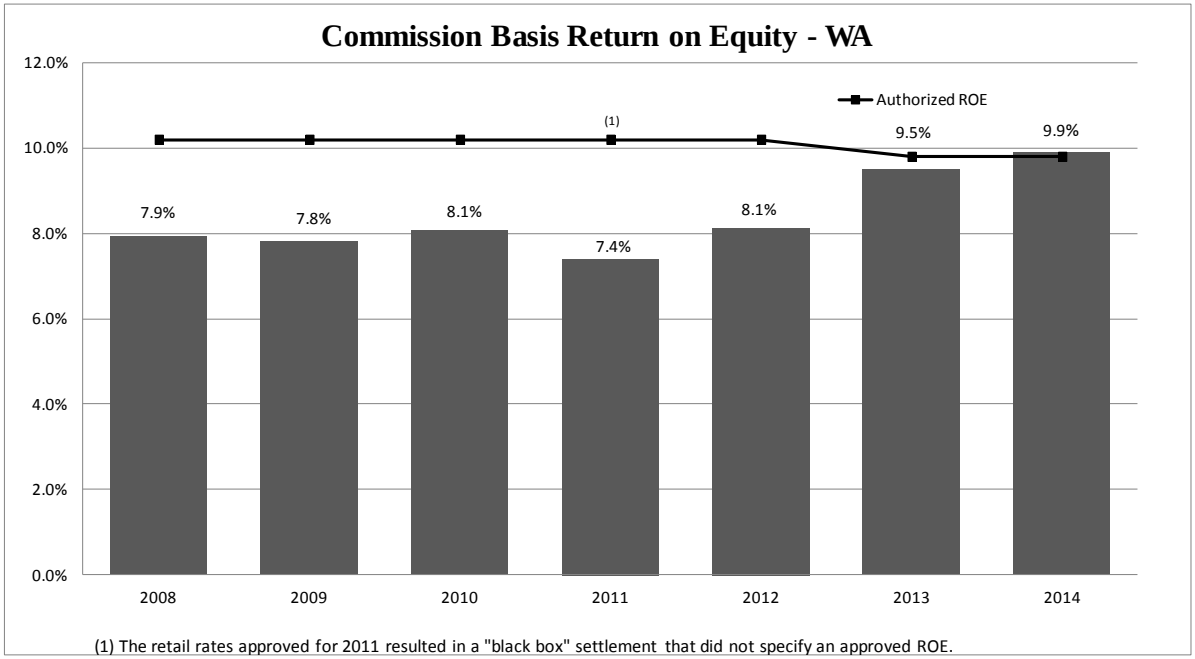
Q. What were the earned returns for Avista's utility operations in Washington prior to 2013, where the revenue adjustments approved by the Commission did not factor in the attrition being experienced by Avista?

A. The bar chart in Illustration No. 4 below shows Avista's earned ROE each year from 2008 to 2014 for our combined electric and natural gas operations in the State of Washington, on a normalized basis from the Company's annual Commission Basis Reports.

In developing these reports, which are filed on or before April 30th each year, Avista normalizes the operating results to determine what its ROE would have been if the Company had experienced normal operating conditions, including, among other things, normal temperatures, normal hydroelectric conditions and wholesale electric prices, removal of prior period adjustments, etc.

The bar chart shows that all of the normalized ROEs for 2008 to 2012 were well below the ROEs approved by the Commission as being reasonable. The earned returns in 2013 and 2014 represent a marked improvement over the prior years, and are very close to the ROE approved by the Commission.

Illustration No. 4:



As noted above, and throughout the remainder of my testimony and other Company witnesses providing direct-filed testimony, the Company has provided substantial evidence in this case that the Company will continue to experience attrition from the 2015 test period through the 2017 and January to June 2018 rate periods. In order for Avista to have a reasonable opportunity to earn a fair return during the 18-month rate plan, the effects of attrition must be included in the determination of the electric and natural gas revenue requirements.

IV. ATTRITION MODEL METHODOLOGY

Q. How has the Company addressed attrition in this filing?

A. Avista has prepared both electric and natural gas Attrition Studies to quantify the mismatch in the growth of revenues, expenses and rate base for ratemaking purposes. The Company's proposed electric and natural gas revenue increases in this filing are based

on the Attrition Adjustments derived from the 2017 and January to June 2018 electric and natural gas Attrition Studies provided as Exhibit Nos. __(EMA-2) through __(EMA-5). These Attrition Studies, described in further detail below in Section V. "Avista's Attrition Studies", used a similar methodology as that recently approved by the Commission in Order 05, in Docket Nos. UE-150204 and UG-150205. Discussed below are Avista's modeling assumptions related to:

- Appropriate Data and Time Period Used
- Regression Analysis – Linear (Electric) / Non-Linear (Natural Gas)
- After Attrition Adjustments
- O&M Escalation

Appropriate Data and Time Period Used

Q. Please explain the data used by Avista within its Attrition Studies, and the historical time period that is most appropriate.

A. The starting point for the Attrition Studies, and the data used within the models to determine the appropriate escalation (or growth trends) are the normalized expense and rate base data for prior years from Commission Basis Reports (CBRs). The data used from the Commission Basis Reports reflect normalized numbers based on normalizing methods previously approved by the Commission over a historical period of time.

In determining the data used for a trend analysis for the purpose of an attrition study, the data should reflect, as closely as possible, the Company's recent and planned expenditures. Specifically, in 2007, capital investment started increasing at a faster pace

compared to prior years (i.e. the 2001-2006 period). Given current and planned expenditures by the Company, we do not foresee a return to the expenditure trend prior to 2007 in the near-term.[9]

In this case, within the Company's Attrition Studies, the Company has used the CBR data for the period 2007 – September 2015 (twelve-month-period-ending (12ME) September 30, 2015). This data (2007 - 12ME September 2015) provides the most current, relevant information available at the time of filing to represent the best trending data to be used for the Company's Attrition modeling. This is also consistent with the Commission's approved methodology as noted within Order 05. Specifically, at page 42, paragraph 113 of Order 05, Docket Nos. UE-150204 and UG-150205, the Commission stated with regards to the appropriate time period used within an Attrition Study:

> …an attrition study should use multiple years of historical data to arrive at a stable, non-volatile projection of revenue, expenses and rate base.

The Commission further noted at page 42, paragraph 114:

> With corrections [to Staff's model], the Company largely adopts Staff's methodology on rebuttal, but insists that the 2007-2014 time period is the most appropriate. In this instance, we agree with the Company's time period rather than that of Staff.[10]

The Company has used the data for 2007 through 12ME September 2015 to determine the appropriate growth trends to use for all cost categories: Net Plant After Deferred Income Tax; Total Depreciation/Amortization; Taxes Other Than Income; and O&M/A&G. The annual growth rates for each cost category were applied to adjusted test

[9] Mr. Thies, in his testimony, explains why Avista has increased its capital spending in recent years, and why it plans to continue a higher level of spending over the next number of years.
[10] Commission Staff had used Avista CBR data for the period 2009-2014.

year expenses and rate base (adjusted to December 31, 2015) to arrive at the level of expenses, rate base and ultimate revenue requirement requested for the 2017 and January to June 2018 rate periods, as discussed further below in Section V. "Avista's Attrition Studies."[11]

Q. Besides historical Commission Basis Report data used, what additional data is used within the Company's Attrition Studies?

A. In addition to data used from historical Commission Basis Reports, power supply revenues and expenses for the rate year included in the electric Attrition Study are based on those developed using the AURORA model, as explained by Company witness Mr. Kalich, together with the power supply costs presented by Mr. Johnson. These power supply costs are based on methodologies used and approved for ratemaking in Washington for many years.[12]

Retail revenues for the rate year, for both electric and natural gas Attrition Studies, are based on the Company's most recent retail load forecast. The methodologies employed for the load forecast have been refined over time and have been shared regularly with

[11] The "escalation base" used in the Attrition Studies is the 12ME December 2015 AMA escalation base, which includes adjustments from the 12ME September 30, 2015 CBR to incorporate changes to reflect the expected balances at December 31, 2015, including (in part) actual changes to net plant after ADFIT from September 30, 2015 to December 31, 2015 AMA, adjustments to remove September 2015 normalized power supply, along with other miscellaneous adjustments, reflecting a 12ME December 2015 AMA starting point or escalation base.

[12] As discussed further in Section V "Avista's Attrition Studies," the Company eliminates Commission Basis normalized power supply expenses from historical Commission Basis results to determine the escalation base. Commission Basis power supply expenses are excluded from the historical data utilized to determine the historical trends applied to the escalation base. After the non-energy cost escalation amount has been determined, pro forma normalized power supply expenses are added to the 2017 escalated results. The pro forma power supply values are therefore independent of the historical Commission Basis trend determination. For the natural gas Attrition Study, gas costs are excluded within the normalized natural gas September 2015 CBR, therefore no adjustment to remove historical test period gas costs is necessary. Gas costs are therefore also excluded prior to determining the natural gas escalation base and growth trends.

stakeholders in the Integrated Resource Planning processes in Technical Advisory Committee meetings. This is the same approach used by Avista and Commission Staff in our last rate case in Docket Nos. UE-150204 and UG-150205.

Regression Analysis – Linear (Electric) / Non-Linear (Natural Gas)

Q. In determining the growth trends, as noted above, to be used within its electric and natural gas Attrition Studies, what methodology did the Company apply?

A. In determining the appropriate growth escalation trend to use in its electric and natural gas Attrition Studies, the Company applied the regression analysis methodology consistent with that approved by the Commission in Order 05, Docket Nos. UE-150204 and UG-150205, to each cost category (Net Plant After Deferred Income Tax, Total Depreciation/Amortization, Taxes Other Than Income, and O&M/A&G).

Consistent with Avista's prior case, for electric service, the data across the period 2007-2015 (12ME September 2015 AMA) were largely linear, and therefore a least-squares linear regression analysis was appropriate for calculating annual growth escalation trends for its electric Attrition Studies. (See electric Exhibit Nos. __(EMA-2) (2017) and __(EMA-4) (January to June 2018), pages 9-12, for charts depicting the linear nature of the data, and the calculations.) Once the annual electric rate of growth was determined, each rate of growth was multiplied by 2 to get the two-year growth factor (from 2015 AMA to 2017 AMA) and 2.5 to get the two-and-one-half-year growth factor (from 2015 AMA to June 2018 AMA)

Again, similar to Avista's prior case, for natural gas service, the data does not fit a linear model. Rather, the data across the period 2007-2015 (12ME September 2015 AMA) appear to show an accelerating rate of growth, or non-linear. Therefore, I calculated the

growth factors by first plotting a second-order polynomial (i.e. quadratic) function across the 2007-2015 (12ME September 2015 AMA) years of data. To determine the appropriate growth factors, I used the first derivative of the quadratic function to calculate the instantaneous (annual) rate of growth at the test year. This rate of growth was multiplied by 2 to get the two-year growth factor (from 2015 AMA to 2017 AMA) and 2.5 to get the two-and-one-half-year growth factor (from 2015 AMA to June 2018 AMA). (See natural gas Exhibit Nos. __(EMA-3) (2017) and __(EMA-5) (January to June 2018), pages 9-12, for charts depicting the non-linear nature of the data, and the calculations.)

These growth trends as defined for the electric and natural gas studies were then applied to the specific cost categories in each Attrition model as discussed further in Section V. "Avista's Attrition Studies."

Q. Did the attrition results as determined by the historical growth trends, based on the 2007-2015 data, produce an adequate level of Net plant after DFIT and depreciation expense sufficient enough for the Company to earn its proposed rate of return for 18-month rate period?

A. No they did not. Due to the lumpiness and timing of certain large capital investments going into service compared to previous years, primarily in the first half of 2016, and some in 2017, the growth trended balances do not fully reflect the capital investment expected when rates are in effect for the 2017 and January to June 2018 rate periods. To compensate for this understatement, Avista is proposing after attrition adjustments related to specific capital investments, as described further below.

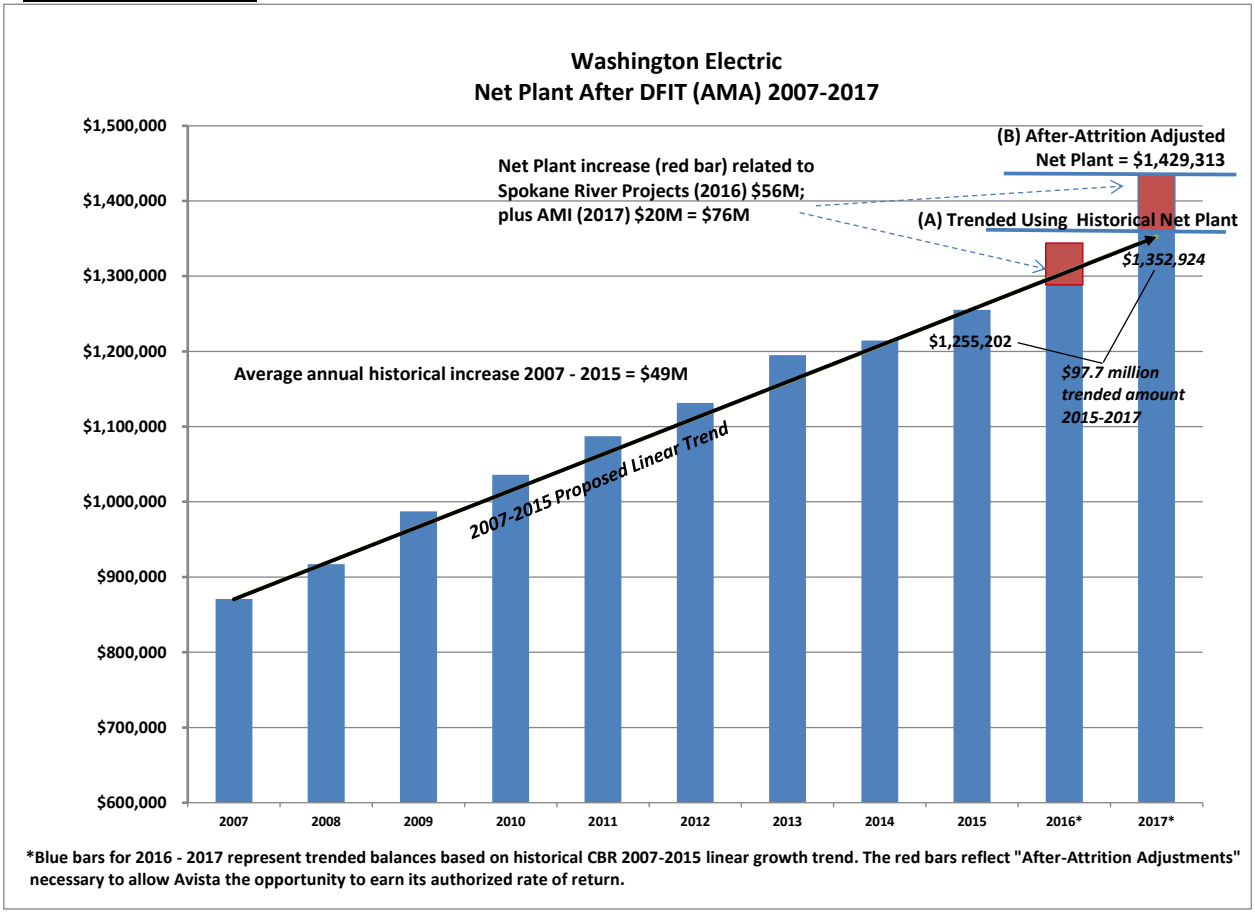
After-Attrition Adjustments

Q. To compensate for certain significant "lumpy" capital investment "in-service" patterns the Company will experience in 2016 and 2017, the Company is proposing after-attrition adjustments. Before explaining these adjustments, please explain why an "After-Attrition Adjustment" is necessary.

A. As noted above, Avista's proposed growth trend analysis, specifically for Net Plant After ADFIT used historical CBR data for the period 2007-2015 on an AMA basis. Illustration No. 5 below provides the annual Net Plant after ADFIT for the actual CBR period 2007-2015 and expected in 2016 and 2017.[13]

[13] Expected net plant after ADFIT at June 30, 2018 was excluded as it does not represent a similar time period (calendar results) for comparison purposes with each prior year depicted.

Illustration No. 5



In Illustration No. 5 above, the blue bars represent actual annual electric CBR data for Net Plant After ADFIT for the period 2007-2015[14]. However, for 2016 and 2017, the blue bars provide the trended level of electric net plant after ADFIT balances (based on the proposed linear growth trend described in the preceding section) produced using the proposed growth trend. Labeled as "(A) Trended Using Historical Net Plant," is the 2017 AMA balance trended two-years forward from the 2015 escalation base, totaling $1,352,924 (a growth of $97.7 million over two-years, or $49 million annually.)[15] A black line,

[14] The 2015 balance of $1,255,202 shown in Illustration No. 5 agrees to the 12ME 12.2015 AMA balance shown on Exhibit No. _(EMA-2), page 5, Column [G], line 46. This balance is the "Escalation Base" or starting point the growth trend is applied to, to trend to the 2017 rate period.

[15] These balances can also be seen on Exhibit No. _(EMA-2), page 5, Column [I] and [J], line 46.

representing the 2007-2015 historical linear growth trend line and extension of the growth line to 2016 and 2017 is also shown.

In 2016 and 2017, the Red Bar includes the impact of the "After-Attrition Adjustments" proposed by the Company. For 2017, this revised total is labeled "(B) After-Attrition Adjusted Net Plant = $1,429,313," and results in net "After-Attrition Adjustments" related to specific 2016 and 2017 projects in the amount of $76.4 million as discussed below.

As noted on Illustration No. 5, the average annual growth in net plant after ADFIT for the period 2007-2015 is approximately $49 million. This same approximate growth of $49 million was added to the 2015 base each year to determine the balances for the period 2016 and 2017 shown above (Blue Bar). However, the expected net plant after ADFIT in 2016 and 2017[16] are approximately $89 million each year (or a total of $179 million for 2016-2017) versus only $49 million annually or $98 million over the same two years per the growth trended results – a difference of over $81 million. The entirety of this difference would go unrecovered by Avista for plant in-service during the 2017 rate period if not for the "After-Attrition Adjustments" on specific projects (as described below), totaling of $76.4 million as proposed by the Company.

The combination of the linear/non-linear growth trended capital, plus the After-Attrition Adjustments discussed here for both Avista's electric and natural gas operations, provide results that reasonably reflect the net plant investment for the 2017 rate year.

[16] Per Ms. Smith's 2007 Cross Check Studies – See Exhibit No. __(JSS-2) pages 10-11, sum of Adjustments 3.10 and 4.00 (2016 AMA); and 4.01 and 4.03 (2017 AMA).

Without these adjustments, the Company would not have the opportunity to earn its proposed rate of return during the 2017 rate period.

Q. What electric projects is the Company proposing to include as "After-Attrition Adjustments"?

A. As noted in Table No. 5 below, the Company is proposing to include the following projects as "After-Attrition Adjustments" totaling approximately $76.4 million in electric Net Plant After ADFIT additions:

Table No. 5

Spokane River Projects (2016):			
Project	**In-Service**		**Net Plant after ADFIT Amount (millions)**
Nine Mile	7/2016	$	37.4
Post falls	2/2016	$	6.9
Little Falls	1/2016	$	11.4
Total Spokane River Projects (2016):		**$**	**55.7**
Electric AMI Project (2017):		**$**	**20.7**
Total 2017 After-Attrition Adjustment:		**$**	**76.4**

As noted in Table No. 5 above, the Spokane River Projects consist of replacing and upgrading the generation facilities located on the Spokane River at Nine Mile, Post Falls and Little Falls. The increase in Net Plant after ADFIT of these three projects totals approximately $55.7 million. As discussed by Company witness Mr. Kinney, these projects are planned for completion and in-service in either the first quarter (Q'1) or the beginning of third quarter (Q'3) of 2016. All three of these projects consist of facilities that are over 100-years old, impacting the length of time and cost to complete, and will be in-service prior to

2017 rates going into effect.[17] This additional $55.7 million (net plant after ADFIT) in generation plant provides "lumpy" net plant balances far in excess of the normal transfers to plant typically seen in the first half of any year (noted above to average $49 million annually for all net plant after ADFIT added in a year), and is a part of the $89 million planned in 2016 alone.

Also included as an "After-Attrition Adjustment" is the Company's Advanced Metering Infrastructure (AMI) project. As discussed by Ms. Rosentrater, the Washington advanced metering project will deploy an advanced metering system for all of the Company's electric and natural gas customers in our Washington service area.[18] The total net plant after ADFIT associated with the AMI project in 2017 is approximately $20.7 million, and represents a portion of the $89 million of planned Net Plant After ADFIT additions in 2017.

Q. You have only discussed electric operations above. Is there a similar issue related to the Company's natural gas operations?

A. Yes. The average annual growth in Net Plant After ADFIT for the period 2007-2015 for the Washington natural gas operations is approximately $12 million. However, the expected increases to net plant after ADFIT in 2016 and 2017[19] total approximately $37.5 million, versus only $12 million annually or $24 million over the same two years per the growth trended results – a difference of over $25.5 million. The Company

[17] See Mr. Kinney's testimony at Exhibit No. __(SJK-1T) for more detailed information and support for the Spokane River Projects.
[18] See Ms. Rosentrater's testimony at Exhibit No. __(HLR-1T) for more detailed information and support for the AMI project.
[19] Per Ms. Smith's 2007 Cross Check Studies – See Exhibit No. __(JSS-3) pages 10-11, sum of Adjustments 3.09 and 4.01 (2016 AMA); and 4.02 and 4.03 (2017 AMA).

has proposed an After-Attrition Adjustment of $9 million to reflect a portion of this increase in Net Plant After ADFIT, associated with the natural gas portion of the AMI capital project going into service in 2017 as discussed above.

Q. Was an "After-Attrition Adjustment" included and approved in Avista's last general rate case in Docket Nos. UE-150204 and UG-150205 to recognize that the use of historical growth factors alone would not properly reflect what was expected to occur in the rate year?

A. Yes. Commission Staff witness Mr. McGuire recognized that his historical growth trends (related to Net Plant After DFIT and Depreciation Expense) alone would not be sufficient to allow Avista an opportunity to earn a fair return, and proposed an "After Attrition Adjustment" related to the Company's Project Compass capital project, which moved into service on February 2, 2015, following the base year utilized in that proceeding of December 2014. He explains this and notes his adjustment is appropriate as follows:

> I provide Avista with an after-attrition adjustment for Project Compass. That is, I allow for recovery in rates the capital costs associated with Project Compass beyond what would be implied by use of growth factors. … I determined that this was appropriate because Project Compass appears to be an abnormality with respect to the Company's ongoing capital growth pattern. Consider that the calculated rate of growth for electric net plant between 2009 and 2014 was approximately $50 million per year. Next, consider that the Company's actual electric transfers to plant was $45 million in February 2015 alone (the month Project Compass was placed in service). February transfers will not be the only plant placed in service in 2015 and, so, implying that it will be by only using my $50 million annual growth rate will likely lead to stranded capital costs and a higher probability of earnings attrition. Treating Project compass as an abnormality by including it as an after-attrition adjustment addresses this issue. (emphasis added) See Docket Nos. UE-150204 and UG-150205, McGuire Exhibit No. _(CRM-1T), page 54 line 19 – page 55 line 10.

The Commission accepted Staff's electric and natural gas After-Attrition Adjustment for Project Compass.[20]

O&M Escalation

Q. As noted above, Avista used CBR data for the period 2007 through September 2015 to determine the growth trend to use for all cost categories, including O&M expenses. Each growth trend was then applied to its specific cost category to determine rate period levels of expenses and rate base. Please explain why the 2007 – September 2015 data is the appropriate data to use for the O&M growth trend. A. In determining the data used for a trend analysis for the purpose of an attrition study, it is important the data should reflect, as closely as possible, the Company's recent and planned expenditures. In reviewing the appropriate O&M growth trend, Avista looked at both its historical trend and changes in O&M expenses, as well as that expected during the specified rate periods.

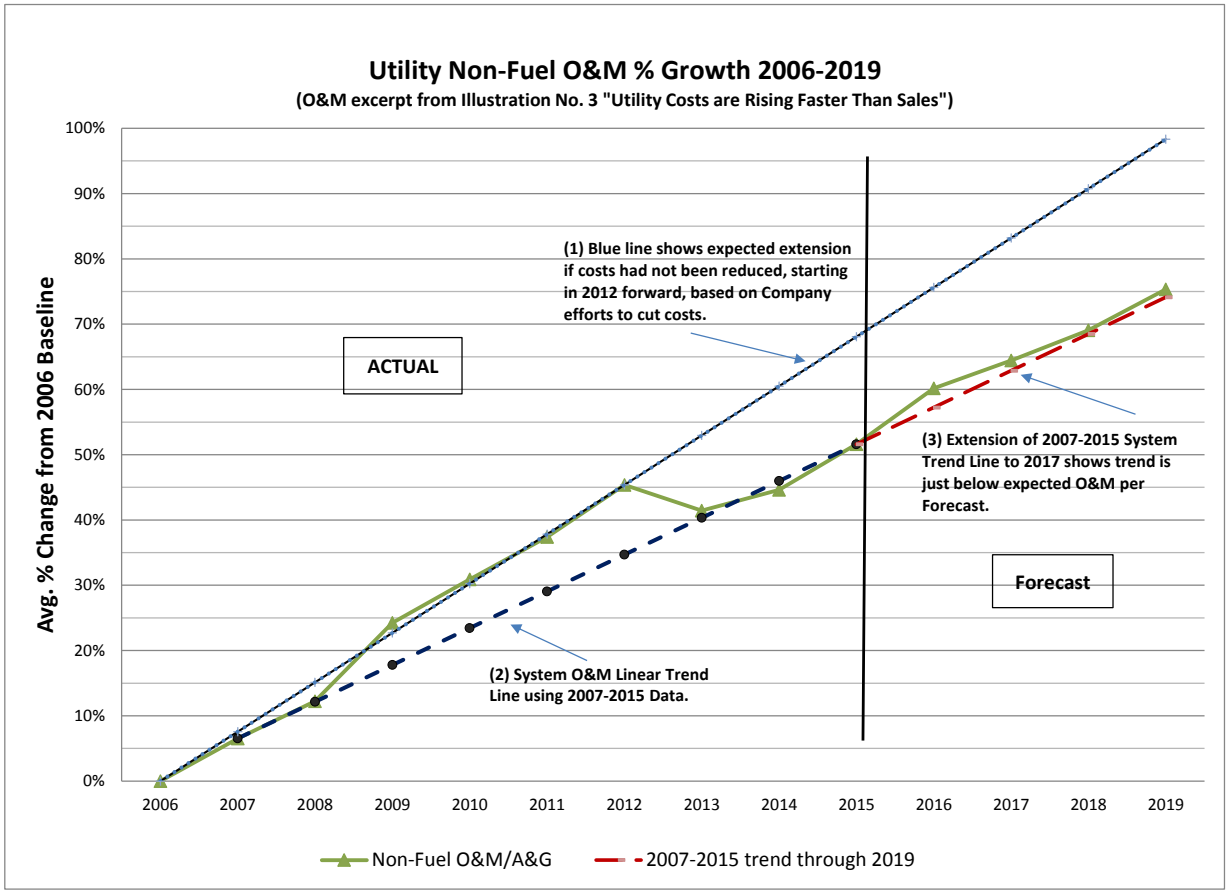
Previously I explained that, although it is true Avista is continuing to identify and implement measures to control its utility operating costs, such as: changes to its defined benefit pension plan for non-union new hires beginning in 2014; the transition away from providing medical coverage for non-union retirees; and asset management programs, it is also experiencing a continuing increase in various compliance and reporting requirements. Many of these requirements are driven by, among other things: NERC requirements related to electric reliability; FERC requirements related to assuring the existence of competitive wholesale markets; environmental requirements to ensure we are being good stewards of the

[20] At a level that reflected 100% recovery level of Project Compass.

environment; and financial requirements to ensure full and fair disclosure of information. Compliance with these important requirements involve people and systems, putting upward pressure on our O&M costs.

Previously, Illustration No. 3 ("Utility Costs are Rising Faster than Sales" chart), showed these changes in O&M expenses from 2006 to 2015 (actual) and expected from 2016-2019 (forecast); along with trends for Net Plant Investment, and Retail kWh and Therm Sales for the same time periods. In Illustration No. 6, that same O&M actual and forecast data has been isolated and excerpted below.

Illustration No. 6



As with illustration No. 3, the green line on Illustration No. 6 shows the non-fuel O&M and A&G expenses for the period 2006 through 2015 (actual) and expected 2016 through 2019 (forecasted). Added to this chart are trend lines showing: (1) the expected trend (or extension of costs using 2006-2012 data) (blue line) if costs had not been reduced starting in 2012 forward based on Company efforts to reduce costs; (2) the system O&M linear trend (black dashed line) using actual 2007-2015 system data; and (3) extension of the 2007-2015 actual system O&M trend (red dashed line) from 2015 through 2019.

What can be seen from this illustration is the significant reduction in expenses starting in 2013, which has accomplished two very important results benefiting customers: 1) the slope of the trend in expenses has been reduced; and 2) the starting point or level of expense at 2015 (used by the Company's Attrition Studies as the "base" for its trend analysis) also reflects this reduction in expenses, ensuring that customers are benefiting from these reductions. Lastly, this illustration shows that the use of 2007 – 2015 data (as proposed by the Company for O&M, and consistent with all other cost categories) provides a reasonable and appropriate data set to determine the growth trend from 2015 to the 2017 and January to June 2018 rate periods. Extending the 2007-2015 growth trend beyond 2015, one can see that the red dashed line results in a level of expense slightly under that expected in 2017 and 2018.

Q. Specifically related to the planned expenses for the period between 2015 and 2017, what is Avista's planned increase in O&M % between 2015 and 2017 per the Company's financial forecast?

A. Per the Company's current financial forecast the annual increase in O&M from 2015 to 2017 is approximately 4.24% for the combined electric and natural gas systems.

Q. How does the annual forecasted % increase for O&M compare to the O&M growth trend proposed by the Company in this case for its Washington electric and natural gas operations?

A. As shown within Exhibit Nos. _(EMA-2) (electric) and _(EMA-3) (natural gas), page 12, the O&M annual growth escalation trend proposed by the Company in its electric and natural gas Attrition Studies (using 2007-2015 CBR data) is 4% and 2.28%, respectively. For comparison purposes, the following table shows the weighted average results between the electric and natural gas operations, given that electric operations represent approximately 81% and natural gas operations represent approximately 19%, of the Company's total operations[21]. Avista's proposed O&M annual increase of 4.0% for electric and 2.28% for natural gas results in an overall weighted average of 3.67% as shown below.

Weighted Average Annual O&M Increase			
Electric	**4.00%**	81%	3.22%
Natural Gas	**2.28%**	19%	0.44%
Weighted Average			**3.67%**

This 3.67% growth rate is less than the financial forecast of 4.36% annually between 2015 and 2017, and shows that the proposed 4.00% electric and 2.28% natural gas growth rates included in the Company's Attrition Models are reasonable, and if anything,

[21] 81% electric / 19% natural gas split based on current Results of Operations Utility Four Factor Allocation analysis for electric and natural gas factor "direct non-labor O&M and A&G".

understated.

Q. Given the one-way Earnings Tests in place related to the Decoupling Mechanism, how important is it to establish the correct O&M growth escalation factors between services?

A. It is very important to establish the correct O&M escalation growth factors for each service as Avista is subject to separate one-way earnings tests for each of its Washington electric and natural gas operations. If Avista over-earns, for example, in its natural gas operations because a higher O&M escalation growth factor is used, it would be required to return half of its overearnings, protecting customers. However, if Avista under-earns in its electric operations, because a low O&M escalation growth factor is used, there is no protection for the Company under these circumstances, Avista simply would not have the opportunity to earn its authorized rate of return.

V. AVISTA'S ATTRITION STUDIES

Q. Please describe the Company's proposed electric and natural gas Attrition models as provided in Exhibit Nos. __(EMA-2) through __(EMA-5).

A. Provided in Exhibit Nos.____(EMA-2) (Electric) and ___(EMA-3) (Natural Gas) are the results of the Company's 2017 electric and natural gas Attrition Studies, as well as the underlying data supporting these Attrition Studies. Exhibit Nos.____(EMA-4) (Electric) and ___(EMA-5) (Natural Gas) present the results of the Company's January to June 2018 electric and natural gas Attrition Studies, as well as the underlying data

supporting these Attrition Studies. Additional workpapers supporting these exhibits, as well as native electronic models are provided with Avista's filed case[22].

These exhibits also show, among other things, the proposed rate of return, the derivation of the net-operating-income-to-gross-revenue-conversion factor, and the proposed revenue requirement based on each Attrition Study analysis. The results and modeling of Avista's electric and natural gas Attrition Studies are described below:

2017 Electric Attrition Study

Q. Please explain what is shown on page 1 of the Electric Attrition Study provided as Exhibit No._____(EMA-2).

A. Exhibit No._____(EMA-2), page 1, shows the calculation of the electric general revenue requirement, based on the Company's electric Attrition Study analysis, to earn the 7.64% rate of return proposed by the Company for its State of Washington electric operations. Page 1 shows the 2017 electric revenue requirement of $38,568,000 (column (c)).

Column **(a)** of page 1, labeled **Attrition Balances,** shows the electric Attrition Net Operating Income and Attrition Rate Base balances, from page 5 of Exhibit No.____(EMA-2), column [O], lines 31 and 49.

Column **(b)** of page 1, labeled **Revenue Growth Factor,** shows the revenue growth factor of 1.015632, as reflected from page 5 of Exhibit No.____(EMA-2), column [O], line 55. In the case of retail revenue, my Attrition Study uses the Company's forecast of loads

[22] The Company has provided workpapers, both in hard copy and electronic formats, providing the twelve-months-ended September 30, 2015 electric and natural gas Commission Basis results and additional details related to the Attrition Study analysis.

and customers for 2017 to determine revenue in 2017. Since the rate increase in this proceeding will be applied to the twelve-months-ending September 30, 2015 test period billing determinants, I have divided my rate year attrition-adjusted revenue requirement by the revenue growth factor to reflect the amount needed to be recovered from the test period level of retail loads and customers. This is shown on page 5, line 54 to 56 of Exhibit No. __(EMA-2).

Column **(c)**, labeled **Attrition Study Results,** shows the calculation and final result of the $38,568,000 revenue requirement at the requested 7.64% rate of return. The revenue requirement is based on the electric Attrition Study "Attrition Rate Base" and "Attrition Net Operating Income" balances in column (a) adjusted for the revenue growth factor from column (b). The resulting percentage revenue increase above 2016 total revenues is 7.79%.

Q. Would you please explain page 2 of Exhibit No._____(EMA-2)?

A. Yes. Page 2 shows the proposed Cost of Capital and Capital Structure utilized by the Company in this case resulting in the weighted average cost of capital of 7.64%. Mr. Thies discusses the Company's proposed rate of return and the capital structure utilized in this case, while Company witness Mr. McKenzie provides additional testimony related to the appropriate return on equity for Avista.

Q. What does page 3 of Exhibit No._____(EMA-2) show?

A. Page 3 shows the derivation of the electric net-operating-income-to-gross-revenue conversion factor. The conversion factor takes into account uncollectible accounts receivable, Commission fees and Washington State excise taxes. Federal income taxes are reflected at 35%.

Q. Please summarize pages 4 through 13 of Exhibit No.____(EMA-2)?

A. Yes. Pages 4 and 5 provide Avista's 2017 electric attrition revenue requirement calculation; pages 6 and 7 provide electric cost and revenue trend data used for the period 2007-September 2015 per historical Commission Basis results of operations; page 8 provides summary data and adjustments to the historical data; 2007 through September 2015 balances for each trend category used in the development of the escalation growth factors are shown on pages 9 through 12; and the final page, page 13, shows the development of the electric weighted revenue growth rate from the September 2015 original test period to the 2017 rate period.

Q. Please describe in more detail what can be found on pages 4 and 5 of Exhibit No. __(EMA-2).

A. Pages 4 and 5 present the normalized income statement and rate base for Washington electric operations, with the full cost, revenue and rate base detail that is found in Avista's September 2015 CBR. This report also provides the final result of the Company's electric attrition adjusted revenue requirement proposed in this filing.

Q. What is shown in column [A] on pages 4 and 5?

A. The first column, labeled **[A] 12ME 09.2015 AMA Commission Basis Report Totals**, provides the results of the September 30, 2015 Commission Basis Report (CBR) that includes normalized cost and revenue data for Avista's Washington electric operations for the period twelve-months-ended September 30, 2015 (on an AMA basis). This column shows that on a CBR, normalized basis for this historical test period, the Company's earned ROR for its Washington electric operations was 8.34%.

The next column, labeled **[B] 09.2015 Normalized Net Power Supply**, is subtracted from column [A], removing all CBR normalized energy related costs and revenues (*e.g.* fuel, purchased power, sales for resale revenues) from the September 30, 2015 CBR totals. (Pro forma level net power supply costs are added back later, as discussed further below.) This removal ensures that only non-energy costs are trended to the 2017 rate period.

The next column, labeled **[C] Deferred Dr./Cr. Regulatory Amortizations and Miscellaneous Adjustments,** is an addition to column [A] and includes various adjustments to regulatory deferred debit and credit rate base balances and regulatory amortizations; Working Capital; O&M; and miscellaneous A&G (per Order 05, Docket Nos. UE-150204 and UG-150205) as follows:

a) The regulatory deferred debits and credits rate base balance was reduced to reflect the asset balance expected in 2017, resulting in a reduction to rate base of $6.302 million. [23]

b) Regulatory amortization expense was reduced by $2.1 million to remove expiring regulatory amortization expenses relating to various deferral amortizations.[24]

c) Working Capital is adjusted to reflect appropriate working capital balances at

[23] Ms. Smith discusses further in her testimony this reduction in rate base at Exhibit No.__(JSS-1T), Adjustment 1.02: "Deferred Debits and Credits," which reduces the following deferred debit asset balances to their appropriate 2017 level: Settlement Exchange Power; Restating CDA Settlement Deferral; Restating CDA/SRR (Spokane River Relicensing) CDR Deferral; Restating Spokane River Deferral; Restating Spokane River PM&E Deferral; Restating Montana Riverbed Lease; and Restating Lancaster Amortization.

[24] Regulatory Amortizations expiring prior to the 2017 rate year include: Montana Riverbed Lease Deferral, Lancaster Deferral, 2011 Colstrip and Coyote Springs 2 Thermal Maintenance Expense Deferral, BPA Settlement Deferral, Canada to Northern California (CNC) Transmission Project Deferral, LiDAR O&M Expense Deferral and the Wartsila Generator (Small Gen) Expense Deferral. Ms. Smith discusses further in her testimony these amortizations at Exhibit No.__(JSS-1T).

December 31, 2015, per the Investor Supplied Working Capital (ISWC) methodology approved in Docket No. UE-140188. ISWC is also adjusted to reflect the impact of tax depreciation associated with "repairs and bonus depreciation" through December 2015, impacting current taxes payable. The net effect of this adjustment reduces working capital by $7.8 million.

d) Miscellaneous Restating Non-Utility/Non-Recurring adjustments to A&G were recorded to remove certain expenses per Order 05 of Docket Nos. UE-150204 and UG-150205. 1) Per order 05, at page 72, paragraph 213, the Commission ordered removal of the Long-Term Incentive Plan (LTIP) expenses. These LTIP expenses are being removed from test period expenses here to ensure these expenses are not included in the "escalation base," and therefore excluded from the 2017 rate period results. 2) Per order 05, at page 81, paragraph 244, the Commission ordered Avista to exclude any pro forma level insurance as not known and measureable, and reduce test period level Director and Officer (D&O) insurance expense by 10% associated with non-utility expenses. These expenses (10% of D&O insurance) are being removed from test period expenses here to ensure these expenses are not included in the "escalation base", and therefore excluded from 2017 rate period results. The net effect of these adjustments reduces A&G expense by $622,000.

e) Lastly, Avista is including an adjustment to normalize major maintenance expense associated with its Colstrip/Coyote Springs II thermal projects as ordered by the Commission in Order 05, page 56, paragraph 153. Ms. Smith

discusses this adjustment (Adjustment 3.12) within her testimony at Exhibit No. _(JSS-1T). The effect of this adjustment increases O&M expense by $822,000.

The net impact of these adjustments is a net reduction of $1.8 million amortization expense and a net reduction in regulatory rate base balances (deferred debits and credits and working capital) of $14.1 million. The resulting regulatory amortization and regulatory rate base balances as adjusted, represent the balances expected during the 2017 rate year, therefore, no escalation occurs for these balances as can be seen in column [G], page 4, row 10, and page 5, row 47. The additional net reduction to O&M and A&G expense of $163,000 will flow through with the O&M/A&G growth factor as discussed previously.

Q. Please continue with your explanation of pages 4 and 5 of Exhibit No. __(EMA-2).

A. The next column, labeled **[D] Net Retired Meter Deferral & Amortization Adjustment**, is an addition to column [A] and reflects the removal of the estimated undepreciated value of the electric distribution meters of $18.6 million, removing this balance from electric distribution plant, and recording it as a regulatory asset (added to regulatory deferred debits and credits rate base balance). The impact to net rate base is therefore $0. This adjustment also reduces depreciation to reflect the net depreciation expense included in the 2017 rate period, as well as the amortization expense of the Regulatory Asset over the Company's proposed fifteen-year amortization schedule, with a

return on the unamortized balance[25]. The net reduction in depreciation expense of $84,000, net of the increase in amortization expense of $1.2 million, increases expense $1.1 million.

The next column, labeled **[E] Add 12.2015 plant** is an addition to column [A] and restates net plant included in the historical CBR test year from a September 30, 2015 AMA basis to a December 31, 2015 AMA basis, together with the associated accumulated depreciation, DFIT and depreciation expense at December 31, 2015 AMA, to reflect actual balances as of December 31, 2015.[26] This portion of the adjustment is discussed by Ms. Schuh. This adjustment also includes additional plant-in-service associated with plant held for future use, as discussed further by Ms. Smith. The total net impact of this adjustment increases net plant after ADFIT by $23.7 million, and increases depreciation expense by $1.9 million.

[25]As discussed by Ms. Schuh, implementation of AMI will involve, among other things, the replacement of the existing electric meters. The Company plans to begin changing out meters in 2017, and needs to execute an agreement with a meter vendor in early 2016 in order to do so. When Avista executes an agreement with a meter vendor, it will be committing to remove and replace the existing electric meters with new meters. This commitment triggers, and requires, certain accounting to occur under Generally Accepted Accounting Principles (GAAP). As explained by the Company in its "Petition for an Order Authorizing Deferred Accounting Treatment related to the Undepreciated Net Book Value of the Company's Existing Meters," the Company is requesting to defer the balance required to be removed from its books at time of signing an agreement. As of December 31, 2015, prior to the installation of the new Advanced Metering Infrastructure (AMI) meter replacement project, the Company will have approximately $20.2 million on its books related to the net book value of its existing electric distribution meters. Based on the assumed undepreciated value of the meters at time of the final installation in 2020, the estimated net book value of the existing meters to transfer from electric distribution plant, and record as a regulatory asset in FERC Account 182.3 is $18.6 million at the time an agreement is signed. The Company is proposing to amortize this regulatory asset balance over a fifteen-year period through FERC Account 407, starting in January of 2017, or approximately $1.2 million in amortization expense per year. In 2017, the Company will continue to depreciate the existing meters at approximately $834,000 compared to the test period depreciation expense of $918,000. Therefore, a net reduction in depreciation expense of $84,000 is included, in addition to the increase in amortization expense of $1.2 million, for a net increase in expense of $1.1 million. Ms. Smith, within her electric Pro Forma Study, has reflected the reduction to net plant and depreciation expense, as well as the inclusion of the regulatory asset and amortization expense in adjustment 3.07 – Pro Forma Meter Deferral and amortization. Ms. Rosentrater discusses the AMI meter replacement project in detail within her testimony.

[26] New plant investment related to customer growth/revenue growth for the test period was adjusted to a December 31, 2015 AMA basis in this adjustment. Growth in new revenue plant is included in order to match growth in plant costs with related growth revenue included in the Attrition Study.

The next column, labeled **[F] Pro Forma Revenue Normalization Adjustment**, is an addition to column [A], incorporating Avista's January 2016 electric revenue decrease from Avista's last general rate case, Docket No. UE-150204 as if it had been in place for the whole 12-month period. This adjustment, discussed further by Ms. Knox, is necessary to include revenues at the 2016 approved base rate level.

The next column, **[G] 12ME 12.2015 AMA Escalation Base,** is the sum of the previous columns [A] through [F], providing the 2015 AMA escalation base costs and rate base excluding net energy costs. This escalation base provides the balances from which the escalation factors, discussed below, are applied to determine the 2017 final attrition revenue requirement.

Q. Please now explain columns [H] through [O].

A. The 2015 AMA plant and related items such as depreciation and property taxes need to be escalated two years to determine the expected costs for AMA 2017 (i.e., from December 2015 AMA to December 2017 AMA). O&M & A&G expense is at a 12ME September 30, 2015 basis, and is assumed representative of a calendar 2015 basis, which may slightly understate O&M and A&G expenses. These expenses therefore, also need to be escalated two years (i.e. from calendar 2015 to calendar 2017) to determine the expected costs in 2017. Column **[H] Escalation Factor** shows the 2 year escalation rates (for net plant after DFIT, depreciation/amortization, taxes other than income, O&M and other revenues). The determination of each of these factors is explained below.

The escalation factors are multiplied by the 2015 AMA base amounts from column [G], producing column **[I] Non-Energy Cost Escalation Amount**.

Adding column [I], the non-energy cost escalation amount to column [G], the 2015 AMA base amounts, produces column **[J] Trended 2017 Non-Energy Cost**, which provides the 2017 trended amounts, prior to including the impact of 2017 pro formed net power supply, 2017 revenue growth and the After Attrition Adjustments associated with the Spokane River and AMI capital projects.

Q. Please continue your discussion, describing the final columns [K] through [O].

A. Column **[K], 2017 Pro-Formed Net Energy Cost**, adds the energy costs and sales for resale revenue, as discussed by Mr. Johnson and Mr. Kalich. These values reflect fuel prices and market conditions for the 2017 rate year, but do not include the costs associated with incremental load growth from the twelve months ended September 2015 historical test year to the 2017 rate year.

The next column, **[L] Revenue Growth,** reflects Avista's revenue growth between the test year and the 2017 rate year, by multiplying the retail revenue in column [G] times the weighted revenue growth **Escalation Factor** in column [H]. The weighted revenue growth escalation factor is determined on page 13 of Exhibit No. __(EMA-2).

The incremental cost of power for the load change from the test year to 2017 was determined by re-running the pro forma power supply modeling process using 2017 loads. The Washington share of this result was compared to the Washington share of the pro forma power supply with normalized test year loads. Column [L] includes the revenue growth as well as the resulting change to net power supply costs. Incremental revenue related expenses

are computed on the incremental revenue using the components of the revenue conversion factor provided on page 3 of Exhibit No. __(EMA-2).

The next column, **[M] After Attrition Adjustment Spokane River Projects** and **[N] After Attrition Adjustment AMI Capital project,** includes the after attrition adjustments previously explained above.

Adding columns [K], Pro-Formed Net Energy Cost, through [N], After Attrition Adjustment – AMI Capital Project, to column [J], Trended 2017 Non-Energy Cost, produces the final column **[O] 2017 Revenue and Cost.** This column is the final column of the 2017 electric Attrition Study calculation, providing the 2017 attrition net operating income ($90,207,000) and attrition total rate base ($1,498,536,000), at lines 31 and 49, respectively. These totals are brought forward to page 1, column (a), of Exhibit No. __(EMA-2).

Q. Would you please explain what is shown on lines 54 to 56 of page 5 of Exhibit No. __(EMA-2)?

A. Yes. **Line 54** on page 5 of Exhibit No. __(EMA-2), shows the **Revenue Requirement** of $39,171,000 necessary for the Company to earn its requested 7.64% rate of return (ROR) in 2017, prior to the application of the growth factor.

Line 55 on page 5, provides the **Revenue Growth Factor** of 1.015632. Since the rate increase in this proceeding will be applied to the twelve-months-ended September 30, 2015 test period billing determinants, it is necessary to divide the 2017 rate year, attrition-adjusted revenue requirement by the revenue growth factor to reduce the revenue requirement to be applied to the test period level of retail loads and customers. The

1.015632 is produced by dividing the sum of the retail revenues on lines 1 and 2 in column [O] by the sum of the retail revenues on lines 1 and 2 in column [G].

Dividing line 54 (2017 revenue requirement) by the electric revenue growth factor of 1.015632, produces the amount shown on **line 56**, **Attrition Adjusted Revenue Requirement,** of $38,568,000, used by the Company in this proceeding.

Q. Please explain pages 6 and 7 of Exhibit No. __(EMA-2).

A. Pages 6 and 7 provide data from the annual normalized Commission Basis Reports, showing Washington electric expenses and rate base for the periods 2007 through September 2015. These data are used to analyze the annual growth rates in rate base and expenses, and were used as the starting point for the growth rates used in the Attrition Adjustment.

Q. What is included on page 8 of Exhibit No. __(EMA-2)?

A. Page 8 shows the development of electric adjusted data and balances for the period 2007-September 2015 used to calculate the growth rates and escalation factors on pages 9 through 12. The escalation factors are intended to be used only on non-energy costs. Therefore it is necessary to remove the energy-related costs and revenues from the historical data. The Washington share of the normalized power supply costs and revenues from each year's Commission Basis Report (CBR) filing are deducted from the O&M and Other Operating Revenue in the historical reports. Similarly, adder schedule revenues and related expenses such as the DSM Tariff Rider and the Residential Exchange Credit that were included in the CBRs are also deducted from the historical results to create equivalent values for our trend analysis. (For the years 2004 and 2006, and beginning in 2013, the CBR data

already excluded DSM, residential exchange and other adder schedule revenue and expense adjustments, so additional adjustments were not required.)

Results are presented for the following aggregated subtotals: Adjusted Operating Expenses; Total Depreciation/Amortization; Adjusted Regulatory Amortization; Adjusted Taxes Other Than Income Taxes; Net Plant After Deferred Income tax; Total Rate Base; and Adjusted Other Revenues. These are used in the trend calculations shown on pages 9-12.

Q. Please explain pages 9 through 12 of Exhibit No. __(EMA-2).

A. Pages 9 through 12 show the calculation of the growth rate and 2-year escalation growth factors for each escalation category, using 2007 – September 2015 data provided on page 8, based on rates of growth for certain cost categories using a "simple least-squares linear regression" across the years of data (2007-September 2015). The categories used and corresponding page showing the escalation calculations are as follows:

Page 9 – Net Plant after DFIT
Page 10 – Depreciation/amortization
Page 11 – Taxes Other than Income
Page 12 – Adjusted Operating Expenses

Pages 9 – 12, show Avista's calculations using 2007-2015 data and a chart depicting the results.

Q. Please explain the final page of Exhibit No. __(EMA-2), page 13.

A. The final page of Exhibit No. __(EMA-2), page 13, shows the calculation of the growth in Avista's electric billing determinant index from September 2015 to 2017. Column **[A]** shows the billing determinants from the September 2015 revenue model supporting the Incremental Revenue Normalization Adjustment on pages 4 and 5, column

[F], discussed previously. These same billing determinants from the 2017 revenue forecast are shown in column **[B]**, then the percentage growth in the billing determinants from September 2015 to 2017 is calculated in column **[C]**. Column **[D]** shows the associated revenues from the September 2015 revenue model that were used to determine the weighting in column **[E]**. Finally, the weighted growth for each billing determinant is calculated in column **[F]** and the sum on line 19 is the 2017 escalation factor for retail revenue growth, showing 1.56%.

January to June 2018 Electric Attrition Study

Q. Please explain the Company's electric January to June 2018 Attrition Study, as provided in Exhibit No. __(EMA-4), pages 1-13.

A. The Company's electric January to June 2018 Attrition Study is virtually identical the Company's 2017 Attrition Study with the following exceptions:

Page 1 of Exhibit No. _(EMA-4) provides the attrition study results for the 18-month period ending June 2018. Page 1 shows the June 2018 ending electric revenue requirement of $48,869,000 (column (c)). Column **(a)** of page 1, labeled **Attrition Balances,** shows the electric Attrition Net Operating Income and Attrition Rate Base balances, from page 5 of Exhibit No.____(EMA-4), column [O], lines 31 and 49. Column **(b)** of page 1, labeled **Revenue Growth Factor,** shows the revenue growth factor of 1.018986, as reflected from page 5 of Exhibit No.____(EMA-4), column [O], line 55. In the case of retail revenue, my Attrition Study uses the Company's forecast of loads and customers for 2018 to determine revenue in 2018. Column **(c)**, labeled **Attrition Study Results,** shows the calculation and result of the $48,869,000 revenue requirement at the requested 7.64% rate of return for June

2018 above existing rates. Column (d) provides the 2017 Attrition Study Results of $38,568,000 previously described, with column (e) providing the incremental **6-months 06.2018 Revenue Requirement** above 2017 requested rates of $10,301,000. The resulting percentage revenue increase above 2017 total revenues to collect the incremental revenue requirement amount of $10,301,000 over the 6-month period January to June 2018 is 3.9%.

Pages 4-5 of Exhibit No. _(EMA-4) is identical for columns [A] through [G], resulting in 2015 AMA plant and related items such as depreciation and property taxes which need to be escalated two-and-one-half years to determine the expected costs for the June 2018 AMA period (i.e., from 2015 AMA to June 2018 AMA). O&M & A&G expense also must be escalated two-and-one-half-years (i.e. from calendar 2015 to June 2018) to determine the incremental expected costs for the period January to June 2018. Column **[H] Escalation Factor** shows the 2 ½ year escalation rates (for net plant after DFIT, depreciation/amortization, taxes other than income, O&M and other revenues). The determination of each of these growth factors is as explained previously, only multiplied by 2 ½ years.

The escalation factors are multiplied by the 2015 AMA base amounts from column [G], producing column **[I] Non-Energy Cost Escalation Amount**.

Adding column [I], the non-energy cost escalation amount to column [G], to the 2015 AMA base amounts, produces column **[J] Trended 06.2018 Non-Energy Cost**, which provides the June 2018 trended amounts, prior to including the impact of June 2018 pro formed net power supply, June 2018 revenue growth and the After Attrition Adjustments

associated with the Spokane River and AMI capital projects[27] producing the final column **[O] 06.2018 Revenue and Cost.** This column is the final column of the June 2018 electric Attrition Study calculation, providing the June 2018 attrition net operating income ($85,487,000) and attrition total rate base ($1,522,966,000), at lines 31 and 49, respectively. These totals are brought forward to page 1, column (a), of Exhibit No. __(EMA-4).

Line 54 on page 5 of Exhibit No. __(EMA-4), shows the **Revenue Requirement** of $49,797,000 necessary for the Company to earn its requested 7.64% rate of return (ROR) for the period ending June 2018, prior to the application of the growth factor.

Line 55 on page 5, provides the **Revenue Growth Factor** of 1.018986. Since the rate increase in this proceeding will be applied to the twelve-months-ended September 30, 2015 test period billing determinants, it is necessary to divide the June 2018 rate year, attrition-adjusted revenue requirement by the revenue growth factor to reduce the revenue requirement to be applied to the test period level of retail loads and customers. The 1.018986 is produced by dividing the sum of the retail revenues on lines 1 and 2 in column [O] by the sum of the retail revenues on lines 1 and 2 in column [G]. Dividing line 54 (June 2018 revenue requirement) by the electric revenue growth factor of 1.018986, produces the amount shown on **line 56**, **Attrition Adjusted Revenue Requirement,** of $48,869,000, used by the Company in this proceeding.

The incremental base revenue increase for the January to June 2018 rate period is $10,301,000 (18-month June 2018 Attrition Study result of $48,869,000, less the 2017

[27] No additional after-attrition adjustments are included in the attrition revenue requirement for the January to June 2018 period, beyond the after-attrition adjustments included for 2017.

Attrition Study result of $38,568,000).

2017 Natural Gas Attrition Study

Q. Before moving on to the Company's 2017 Natural Gas Attrition Study as provided in Exhibit No. __(EMA-3), are there similarities between the electric and natural gas studies?

A. Yes. The previous explanation of the exhibit pages and analysis for the electric Attrition Study are similar for the natural gas Attrition Study. I will describe briefly what can be found within Exhibit No. __(EMA-3), and any differences between various exhibit pages and analysis.

Q. Please explain what is shown on page 1 of the Natural Gas Attrition Study provided as Exhibit No._____(EMA-3).

A. Exhibit No._____(EMA-3), page 1, shows the calculation of the natural gas general revenue requirement, based on the Company's natural gas Attrition Study analysis, required to earn the 7.64% ROR proposed by the Company for its State of Washington natural gas operations. Page 1 shows the 2017 natural gas revenue requirement of $4,397,000 (column (e)).

Column **(a)** of page 1, labeled **Attrition Balances,** shows the natural gas Attrition Net Operating Income and Attrition Rate Base balances, from page 5 of Exhibit No.____(EMA-3), column [K], lines 31 and 47.

Column **(b)** of page 1, labeled **Revenue Growth Factor,** shows the revenue growth factor of 1.01800, from page 5 of Exhibit No.____(EMA-3), column [K], line 55. As explained in the electric Attrition Study discussion above, my Attrition Study uses the

Company's forecast of loads and customers for 2017 to determine the revenue in 2017. I have divided my rate year, attrition-adjusted revenue requirement by the revenue growth factor to adjust the revenue requirement to be applied to the test period level of retail loads and customers.

Column **(c)**, labeled **Attrition Study Results,** shows the calculation of the final $4,397,000 revenue requirement at the requested 7.64% rate of return based on the natural gas Attrition Study, "Attrition Rate Base" and "Attrition Net Operating Income" balances in column (a) adjusted for the revenue growth factor from column (b). The resulting percentage revenue increase above 2016 total general business revenues is 4.97%.

Q. Would you please explain page 2 of Exhibit No._____(EMA-3)?

A. Yes. Page 2 shows the proposed Cost of Capital and Capital Structure utilized by the Company in this case, and the weighted average cost of capital of 7.64%.

Q. What does page 3 of Exhibit No._____(EMA-3) show?

A. Page 3 shows the derivation of the natural gas net-operating-income-to-gross-revenue conversion factor. The conversion factor takes into account uncollectible accounts receivable, Commission fees and Washington State excise taxes. Federal income taxes are reflected at 35%.

Q. Would you now please explain pages 4 through 13 of Exhibit No.____(EMA-3)?

A. Yes. Pages 4 and 5 provide Avista's 2017 natural gas attrition revenue requirement calculation; pages 6 and 7 provide natural gas cost and revenue trend data for the period 2007-September 2015 per historical Commission Basis results of operations; page

8 provides summary data and adjustments to the historical data; 2007 through September 2015 balances for each trend category used in the development of the escalation factors are shown on pages 9 through 12; and the final page, page 13, shows development of the natural gas weighted growth rate for the retail revenue from the September 2015 test period to the 2017 rate period.

Q. You stated before that the natural gas Attrition Study is very similar to the electric Attrition Study. Please point out any conceptual differences on pages 4 through 13 of Exhibit No. __(EMA-3) compared to the same pages of Exhibit No.___(EMA-2).

A. Gas costs are treated somewhat differently in the Company's natural gas rates compared to electric rates because of the Purchased Gas Adjustment (PGA) process. The cost of gas provided to natural gas customers is tracked through a deferral process, which means that, to the extent actual costs of gas are higher or lower than the amount included in customer revenue, the difference is set aside to be examined in the annual PGA filings, where updated gas costs are determined. The natural gas cost portion of rates is now entirely included in Schedule 150, which will not be changed as part of this general rate case, and there is no proposed change to gas costs through the Attrition Study.

Pages 4 and 5 include the **Regulatory Amortization and Miscellaneous Adjustments** in column **[B], Pro Forma Revenue Normalization Adjustment** in column **[C],** and the **Add 12.2015 Plant** in column **[D]**. All growth escalation factors are shown in column **[F] Escalation Factor,** with the escalation amount showing in column **[G] Escalation Amount.** Column **[H] Trended 2017 Non-Energy Cost,** provides the sum of

the 12ME 12.2015 AMA Escalation Base in column [E] and column [G] Escalation Amount. Columns **[I] Revenue Growth** and **[J] After Attrition Adjustment AMI Capital Project** are added to column [H] to produce the final column **[K] 2017 Revenue and cost.**

Q. Please explain the column labeled [B] Regulatory Amortizations and Miscellaneous Adjustments.

A. The column labeled **[B] Regulatory Amortizations and Miscellaneous Adjustments,** is an addition to column [A] and includes various adjustments to regulatory amortizations; Working Capital; and miscellaneous A&G (per Order 05, Docket Nos. UE-150204 and UG-150205) as follows:

a) Column **[B]** includes the regulatory amortization expense associated with the proposed two-year amortization of the deferred natural gas revenue requirement associated with the Company's Project Compass Customer Information System (CIS) for calendar year 2015. This adjustment first eliminates the 2015 deferral of the expense recorded as a September 2015 CBR adjustment, which must be removed for the 2017 rate period. Second, amortization expense must be added to 2017 expense to reflect year two of the two-year amortization (2016-2017) expense. The effect of this adjustment increases regulatory amortization expense by $2.6 million.[28] The resulting

[28] As discussed by Ms. Smith in her direct testimony, Exhibit No. __(JSS-1T), per the Settlement Stipulation in Docket No. UG-140189, Section III, paragraph 7, page 4-5, the Company was allowed to defer for recovery in a future proceeding the natural gas revenue requirement amount associated with the Project Compass Customer Information System for the calendar year 2015, based on the actual costs of the Project at the time the Project goes into service. The carrying charge on the deferral balance was set at 3.25%. This project was moved into service in February of 2015. The company established a two-year amortization schedule (2016-2017) within Docket No. UG-150205.

regulatory amortization represents the balance expected during the 2017 rate year; therefore, no escalation occurs for this balance as can be seen in column [B], page 4, row 22.

b) Working Capital is adjusted to reflect appropriate working capital balances at December 31, 2015 AMA, per the Investor Supplied Working Capital (ISWC) methodology approved in Docket No. UG-140189. ISWC is also adjusted to reflect the impact of tax depreciation associated with "repairs and bonus depreciation" through December 2015, impacting current taxes payable. The net effect of this adjustment reduces working capital by $2.2 million.

c) Miscellaneous Restating Non-Utility/Non-Recurring adjustments to A&G were recorded to remove certain expenses per Order 05 of Docket Nos. UE-150204 and UG-150205. 1) Per order 05, at page 72, paragraph 213, the Commission ordered removal of the Long-Term Incentive Plan (LTIP) expenses. These LTIP expenses are being removed from test period expenses here to ensure these expenses are not included in the "escalation base," and therefore excluded from the 2017 rate period results. 2) Per order 05, at page 81, paragraph 244, the Commission ordered Avista to exclude any pro forma level insurance as not known and measureable, and reduce test period level Director and Officer (D&O) insurance expense by 10% associated with non-utility expenses. These expenses (10% of D&O insurance) are being removed from test period expenses here to ensure these expenses are not included in

the "escalation base", and therefore excluded from 2017 rate period results. The net effect of these adjustments reduces A&G expense by $179,000.

The net effect of column [B] Regulatory Amortizations and Miscellaneous Adjustments reduces total rate base by $2.2 million and increases regulatory amortization and A&G expenses by $2.4 million.

Q. Please describe the results shown in the final column on pages 5, column [K] of Exhibit No. __(EMA-3).

A. The final column on pages 5, column [K] of Exhibit No. __(EMA-3) shows the 2017 natural gas Attrition Study calculation, providing the attrition net operating income ($20,426,000) and attrition rate base ($303,684,000), at lines 31 and 47, respectively. These totals are brought forward to page 1, column (a).

January to June 2018 Natural Gas Attrition Study

Q. Please explain the Company's Natural Gas January to June 2018 Attrition Study, as provided in Exhibit No. __(EMA-5), pages 1-13.

A. The Company's natural gas January to June 2018 Attrition Study is virtually identical the Company's 2017 Attrition Study with the following exceptions:

Page 1 of Exhibit No. _(EMA-5) provides the attrition study results for the 18-month period ending June 2018. Page 1 shows the June 2018 ending natural gas revenue requirement of $5,338,000 (column (c)). Column **(a)** of page 1, labeled **Attrition Balances,** shows the natural gas Attrition Net Operating Income and Attrition Rate Base balances, from page 5 of Exhibit No.____(EMA-5), column [K], lines 31 and 47. Column **(b)** of page 1, labeled **Revenue Growth Factor,** shows the revenue growth factor of 1.024440, as reflected

from page 5 of Exhibit No.____(EMA-5), column [K], line 55. In the case of retail revenue, my Attrition Study uses the Company's forecast of loads and customers for 2018 to determine revenue in 2018. Column **(c)**, labeled **Attrition Study Results,** shows the calculation and result of the $5,338,000 revenue requirement at the requested 7.64% rate of return for June 2018 above existing rates. Column (d) provides the 2017 Attrition Study Results of $4,397,000 previously described, with column (e) providing the incremental **6-months 06.2018 Revenue Requirement** above 2017 requested rates of $941,000. The resulting base percentage revenue increase above 2017 total revenues to collect the incremental revenue requirement amount of $941,000 over the 6-month period January to June 2018 is 1.8% (or 1.0% on a billed basis).

Pages 4-5 of Exhibit No. _(EMA-5) is identical for columns [A] through [E][29], resulting in a 2015 AMA plant and related items such as depreciation and property taxes which need to be escalated two-and-one-half years to determine the expected costs for the June 2018 AMA period (i.e., from 2015 AMA to June 2018 AMA). O&M & A&G expense also must be escalated two-and-one-half-years (i.e. from calendar 2015 to June 2018) to determine the incremental expected costs for the period January to June 2018. Column **[F] Escalation Factor** shows the 2 ½ year escalation rates (for net plant after DFIT, depreciation/amortization, taxes other than income, O&M and other revenues). The determination of each of these growth factors is as explained previously, only multiplied by 2 ½ years.

[29] With the exception of column [B], Regulatory Amortizations and Miscellaneous Adjustments. Regulatory amortization expense was reduced by $540,000 to reflect expiration of the two-year (2016-2017) 2015 Project Compass amortization at the end of 2017, removing 6-months of the amortization expense during the January to June 2018 rate period.

The escalation factors are multiplied by the 2015 AMA base amounts from column [E], producing column **[G] Escalation Amount**.

Adding column [G], the escalation amount to column [E], to the 2015 AMA base amounts, produces column **[H] Trended 06.2018 Non-Energy Cost**, which provides the June 2018 trended amounts, prior to including the impact of revenue growth and the After Attrition Adjustments associated with the AMI capital project, producing the final column **[K] 06.2018 Revenue and Cost.** This column is the final column of the June 2018 natural gas Attrition Study calculation, providing the June 2018 attrition net operating income ($20,314,000) and attrition total rate base ($310,261,000), at lines 31 and 47, respectively. These totals are brought forward to page 1, column (a), of Exhibit No. __(EMA-5).

Line 54 on page 5 of Exhibit No. __(EMA-5), shows the **Revenue Requirement** of $5,468,000 necessary for the Company to earn its requested 7.64% rate of return (ROR) for the period ending June 2018, prior to the application of the growth factor. **Line 55** on page 5, provides the **Revenue Growth Factor** of 1.024440. Since the rate increase in this proceeding will be applied to the twelve-months-ended September 30, 2015 test period billing determinants, it is necessary to divide the June 2018 rate year, attrition-adjusted revenue requirement by the revenue growth factor to reduce the revenue requirement to be applied to the test period level of retail loads and customers. The 1.024440 is produced by dividing the sum of the retail revenues on lines 1 and 2 in column [K] by the sum of the retail revenues on lines 1 and 2 in column [H]. Dividing line 54 (June 2018 revenue requirement) by the electric revenue growth factor of 1.024440, produces the amount shown

on **line 56**, **Attrition Adjusted Revenue Requirement,** of $5,338,000, used by the Company in this proceeding.

The incremental base revenue increase for the January to June 2018 rate period is $941,000 (18-month June 2018 Attrition Study result of $5,338,000, less the 2017 Attrition Study result of $4,397,000).

Electric and Natural Gas Attrition Study Revenue Requirement Summaries

Q. Referring back to Illustrations Nos. 1 and 2 in your testimony, what were the actual and attrition-adjusted rates of return realized by the Company during the test period for its electric and natural gas operations?

A. For the State of Washington, the actual test period rates of return were 7.79% for electric and 5.61% for natural gas. On a normalized basis, these rates of return were 8.34% for electric and 6.49% for natural gas. The 2017 attrition-adjusted rates of return are 6.02% and 6.73% for electric and natural gas, respectively, under present rates. The June 2018 attrition-adjusted rates of return are 5.61% and 6.55% for electric and natural gas, respectively, under present rates. Thus, the Company would not, on a 2017 or June 2018 attrition-adjusted basis for the test period, realize the 7.64% rate of return requested by the Company in this case.

Q. Please summarize the electric and natural gas calendar 2017 and January to June 2018 revenue increases required to allow the Company an opportunity to earn its proposed 7.64% rate of return on an attrition-adjusted basis?

A. The revenue requirement deficiency in 2017 totals $38,568,000 for electric and $4,397,000 for natural gas, as shown on line 8, page 1 of Exhibit Nos._____(EMA-2)

and __(EMA-3), or an increase of 7.79% and 4.97%, for electric and natural gas respectively, over 2016 general business revenues.

The incremental revenue requirement deficiency for January to June 2018 totals $10,301,000 for electric and $941,000 for natural gas, as shown on line 8, page 1 of Exhibit Nos._____(EMA-4) and __(EMA-5), or an increase of 3.9% and 1.8%, for electric and natural gas respectively.

Q. How do these revenue requirement numbers compare with the results from the electric and natural gas Pro Forma and Cross Check Studies?

A. As discussed earlier and explained by Ms. Smith, the Company has prepared electric and natural gas Pro Forma Studies, based on a modified historical test period, adjusted to reflect only limited adjustments. The results of the electric and natural gas Pro Forma Studies provided a revenue requirement increase of only $11.843 million for electric operations and a reduction of $1.151 million for the natural gas operations.[30] Clearly, this would be insufficient to allow the Company to earn its authorized rate of return.

By way of comparison, the Company's electric and natural gas Attrition Studies produced revenue requirement results of $38.568 million and $4.397 million, respectively for the 2017 rate period. For electric, this difference results in an electric Attrition Adjustment of $26.7 million above the electric Pro Forma Study results in order for the Company to achieve the proposed ROR of 7.64%. For natural gas, the difference results in a natural gas Attrition Adjustment of $5.6 million above the natural gas Pro Forma Study

[30] These studies were provided as Exhibit Nos. __(JSS-2) and __(JSS-3). Specifically, pages 6 – 10 of both studies show the revenue requirement produced from a modified historical test period approach, adjusted for limited, known and measureable pro forma adjustments.

results in order for the Company to achieve this same proposed ROR of 7.64%. The incremental January to June 2018 electric and natural gas revenue requirements of $10.301 million and $941,000, respectively, results in incremental Attrition Adjustments above 2017 amounts.

This is a significant difference, demonstrating that without the use of an "Attrition Adjustment," Avista would not have the opportunity to earn its requested Rate of Return, and would significantly under-earn during the 18-month rate plan period.

As explained by Ms. Smith, the Company has also provided electric and natural gas "Cross Check Studies" that adjust the "Pro Forma Study" results recognizing additional expected increases in expenses and capital investment beyond the Pro Forma Study. These Cross Check Studies provide the level of net income and net rate base expected for the 2017 calendar year and January to June 2018 rate periods based on increases in specific expenses and capital investment identified by the Company during those time periods.[31]

The purpose of these Cross Check Studies were to provide revenue requirement analyses based on individual restating and pro forma adjustments, and a separate independent analysis of Avista's need for revenue increases during the 18-month period from 2017 through June 2018. As explained by Ms. Smith, the calendar 2017 and January to June 2018 Cross Check Study results for both electric and natural gas show that in each case, the Cross Check Study revenue requirement results are greater than that produced by the

[31] The balances are then compared to the Attrition Studies proposed by the Company for the same period, as a "cross check" to the reasonableness of the end result revenue requirements from the electric and natural gas Attrition Studies. These 2017 Cross Check Studies were also used for the limited purpose of preparing the cost-of-service studies as presented by Ms. Knox and Mr. Miller, as the Cross Check Study values readily lend themselves to their cost-of-service analysis. See Exhibit Nos. _(JSS-2) and _(JSS-3), pages 11-12 (2017) and pages 13-14 (January to June 2018).

Attrition Studies. For electric, Exhibit No. _(JSS-2), this can be seen on page 12, line 50, column 4.07, as the 2017 electric Cross Check Study results in a $4.9 million higher revenue requirement than the Attrition Study results; and on page 14, line 50, column 18.08, the Cross Check Study results are $1.2 million higher for the incremental January to June 2018 period than that produced by the Attrition Study. For natural gas, Exhibit No. _(JSS-3), this can be seen for 2017 on page 12, line 50, column 4.07, as the 2017 natural gas Cross Check Study results in a $2 million higher revenue requirement than the Attrition Study results; and on page 14, line 50, column 18.07, the Cross Check Study results are $1.3 million higher for the incremental January to June 2018 period than the Attrition Study. Table No. 6 below, summarizes the results of the Company's Attrition, Pro Forma and Cross check Studies, showing the required Attrition Adjustments for calendar 2017, as well as the difference between the Attrition and Cross Check Studies[32].

Table No. 6

Comparison of Pro Forma, Cross Check and Attrition Studies
Revenue Requirement Above Current Rates

Service	Pro Forma Studies (see Exh. Nos. JSS-2 & 3, page 10)	2017 Attrition Studies (see Exh. Nos. EMA-2 & 3, page 1)	Difference: Resulting Attrition Adjustment[1]	2017 Cross Check Studies (see Exh. Nos. JSS-2 & 3, page 12)	2017 Difference: Cross Check vs Attrition Studies[2/3]
WA Electric	**$ 11,843**	**$ 38,568**	**$ 26,725**	$ 43,474	**$ (4,906)**
WA Natural Gas	**$ (1,151)**	**$ 4,397**	**$ 5,548**	$ 6,386	**$ (1,990)**

[1]The amounts shown here are the resulting "Attrition Adjustments" necessary above the Pro Forma Study results required for Avista to earn its requested Rate of Return of 7.64%.

[2]Difference respresents understatement shown by the Attrition Studies, versus that produced by the Cross Check Studies based on Company expectations in 2017.

[3]There were also differences between the June 2018 ending Cross Check and Attrition Studies, which showed an incremental reduction of $1.2 million electric and $1.3 million natural gas from the June 2018 Cross Check results compared to the June 2018 Attrition Study Results.

[32] Not shown in Table No. 6 above is the January to June 2018 incremental revenue requirement increase for electric and natural gas of $10,301,000 and $941,000, respectively. The incremental revenue requirement per Ms. Smith's January to June 2018 Cross Check Studies, prior to her Cross Check to Attrition Reconciling Adjustment (18.07), see Exhibit Nos. __(JSS-2) and __(JSS-3) at page 14, totaled $11,535,000 for electric and $2,194,000 for natural gas.

As noted within Table No. 6, for 2017 the electric Cross Check Study (Exhibit No. _(JSS-2), page 12, line 50) and natural gas Cross Check Study (Exhibit No. _(JSS-3), page 12, line 50), resulted in revenue requirement results of $43.5 million and $6.4 million, respectively. The electric and natural gas Attrition Study revenue requirements requested in this case are, therefore, $4.9 million and $2.0 million lower than that determined by the Cross Check Studies.[33]

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

A. Yes, it does.

[33] The electric and natural gas Cross Check Study difference from the Attrition Studies for the incremental January to June 2018 period as shown on page 14, line 50 of Exhibit Nos. __(JSS-4) and _(JSS-5), show a difference of $1.2 million and $1.3 million, respectively.