BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION,	**DOCKETS UE-150204 and UG-150205**
Complainant,	(*Consolidated*)
v.	
AVISTA CORPORATION d/b/a AVISTA UTILITIES,	
Respondent.	

EXHIBIT TO
TESTIMONY OF

Chris R. McGuire

STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION

Technical Appendix A – Attrition Model Details

September 13, 2019

1   **CRM-10 – Technical Appendix, Revising the Attrition Models**

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6 **I.   ELECTRIC ATTRITION MODEL**

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8   *A. Updating Exhibit EMA-6 per Order 05*

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10 **Q.   How did you modify the Electric Attrition Model (Exhibit EMA-6) to adjust the**

11   **escalation of O&M expenses and distribution plant, per Order 05?**

12 A.   For O&M Expenses, I changed cell C10 on tab "Adj Operating Exp-2007-2014" to 3.21

13   percent. Since there were two years between the test year and the rate year, the escalation

14   factor is two times 3.21 percent, or 6.42 percent, as shown on cell D10 of that same tab.

15   The escalation factor of 6.42 percent is carried forward to cell K16 of tab "Attrition

16   09.2014 to 2016." Cell K16 is referenced by other cells in column K containing

17   Operating Expenses.

18   For distribution plant, I made the modification directly on tab "Attrition 09.2014

19   to 2016" because EMA-6 did not include time-series data necessary to perform a trend

20   analysis specific to net distribution plant. To remove the escalation of distribution plant, I

21   changed cell K61 to 0 percent. Cell K61 is referenced by cell K68.

22   With these two changes, the Commission's modifications to the Electric attrition

23   methodology, as identified in Order 05, are effectuated.

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1   **Q.**   **How did you modify the Electric Attrition Model (Exhibit EMA-6) to incorporate**

2   **the Power Supply Update filed by Avista on October 29, 2015?**

3   **A.**   The October 29, 2015, Power Supply Update revised pro forma amounts for four

4   accounts: 447 Sales for Resale, 501 Thermal Fuel Expense, 547 Other Fuel Expense, and

5   555 Purchased Power Expense.

6   Incorporating the Power Supply Update into EMA-6 requires modifying the

7   amounts for these accounts on two separate tabs: (1) the tab titled "PF Power Supply

8   09.2014 load" and (2) the tab titled "PF Power Supply 2016 load." On the tab titled "PF

9   Power Supply 09.2014 load," cell D11 was revised to $88,588, cell D22 was revised to

10       $29,123, cell D24 was revised to $77,293, and cell D26 was revised to $119,195. These

11   amounts were provided in Avista's Power Supply Update, filed October 29, 2015.[1]

12   On the tab titled "PF Power Supply 2016 load," cell D11 was revised to $84,650,

13   cell D22 was revised to $29,123, cell D24 was revised to $77,293, and cell D26 was

14   revised to $122,174. The amounts for 501 Thermal Fuel Expense ($29,123) and 547

15   Other Fuel Expense ($77,293) were provided in Avista's Power Supply Update, filed

16   October 29, 2015.[2] The amounts for 447 Sales for Resale ($84,650) and 555 Purchased

17   Power ($122,174) were provided by Avista in discovery.[3]

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19 **Q.**   **Why does incorporating the Power Supply Update require modifying two separate**

20   **tabs in Exhibit EMA-6?**

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[1] Power Supply Update, Appendix 1, Dockets UE-150204/UG-150205 (October 29, 2015).
[2] Power Supply Update, Appendix 1, Dockets UE-150204/UG-150205 (October 29, 2015).
[3] Avista Response to UTC Staff Data Request No. 215.

1   A.   The calculation of 2016 revenues and costs in EMA-6 includes amounts associated with

2   "Revenue Growth," shown on Column J (Excel column Q) on the tab titled "Attrition

3   09.2014 to 2016." As can be seen in the formula line, amounts in the "Revenue Growth"

4   column refer to amounts calculated in the tab titled "incremental load expense." Those

5   amounts account for the incremental power supply cost and the incremental retail revenue

6   associated with load growth between the test year and the rate year. Therefore, the

7   calculations require pro forma power supply costs and revenues for the test year and for

8   the rate year, which are included in Exhibit EMA-6 on tabs "PF Power Supply 09.2014

9   load" and "PF Power Supply 2016 load," respectively.

10   It is necessary that both of these tabs be modified to incorporate the October 29,

11   2015, Power Supply Update. If only one tab is updated, the model will not function

12   properly and the Attrition Revenue Requirement will not accurately capture the updated

13   Power Supply Costs.

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15   *B. Updating Exhibit EMA-6 to Remove Rate Base Escalation*

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17   Q.   **How did you modify the Electric Attrition Model (Exhibit EMA-6) to remove the**

18   **escalation of rate base, as required by the Court Remand Decision?**

19   A.   Exhibit EMA-6 effects rate base through the escalation of net plant-in-service. The

20   escalation factor is calculated on the tab titled "Net Plant," and uses annual time-series

21   data for net plant after deferred income taxes (DFIT).

22   To remove the escalation of rate base, I changed the annual growth rate to 0

23   percent in cell B7 on the tab titled "Net Plant." The two-year escalation factor was thus

1   modified to 0 percent on cell B8 of that same tab. By reference, the 0 percent escalation

2   factor is put into effect for the Rate Base items in Column F (Excel column K) of the tab

3   titled "Attrition 09.2014 to 2016."

4   Thus, by changing cell B7 on the "Net Plant" tab to 0 percent, I removed from the

5   "Attrition 09.2014 to 2016" tab the escalation of Net Plant after Deferred Taxes, as

6   shown in Column F, Row 46 (Excel cell K75).

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8 **Q.**   **After zeroing out the escalator for Net Plant after DFIT, does Exhibit EMA-6 rely**

9   **on the proper rate base for calculating the Attrition Revenue Requirement?**

10 A.   Not yet. It's important to remember that the escalators in Exhibit EMA-6 were applied to

11   test year amounts, and by removing the escalator for net plant, the model calculates

12   Attrition Revenue Requirement using test year net plant-in-service, and nothing beyond.

13   However, the Commission accepted a number of pro forma plant adjustments in this case,

14   so reverting back to test year plant levels would improperly exclude plant amounts that

15   were determined to be used and useful.

16   Therefore, the rate base used to calculate the Attrition Revenue Requirement in

17   Exhibit EMA-6 must be modified such that it reflects the pro forma rate base accepted by

18   the Commission in Order 05. While the revised Exhibit EMA-6 (that now excludes the

19   escalation of plant) produces a rate base amount of $1,308,965, the Commission

20   authorized a pro forma electric rate base of $1,315,891,000.[4]

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[4] Order 05 at p. 96, Table A1.

1   **Q.   How did you adjust the rate base in Exhibit EMA-6 to align with the pro forma rate**

2   **base authorized by the Commission in Order 05?**

3   A.   I populated three cells in a new Column N (Excel column U) on the tab titled "Attrition

4   09.2014 to 2016." tab. On Row 49 (cell U79), I added the pro forma rate base amount of

5    $1,315,891,000. On Row 27 (cell U50), I adjusted the Debt Interest by $65,000 to

6   account for the rate base change. And on Row 31 (cell U54), I adjusted Net Operating

7   Income (NOI) to incorporate the effect of debt interest. The adjustments to Debt Interest

8   and NOI are immaterial, and could be ignored to simplify the analysis.

9   To capture the changes to rate base and NOI, I modified the two formulas in

10   Column (a) (Excel column F) of the "Summary" tab. The cell for rate base (cell F14) now

11   refers to cell U79 of the "Attrition 09.2014 to 2016" tab, correctly reflecting the pro

12   forma rate base amount approved the Commission in Order 05. The cell for NOI (cell

13   F20) now refers to cell U54 of the "Attrition 09.2014 to 2016" tab, reflecting an

14   immaterial change to NOI related to an adjustment to the tax benefit of debt interest.

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17   **II.   NATURAL GAS ATTRITION MODEL**

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20   *A. Updating Exhibit EMA-7 per Order 05*

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22   **Q.   How did you modify the Natural Gas Attrition Model (Exhibit EMA-7) to adjust the**

23   **escalation of O&M expenses, per Order 05?**

1   A.   For O&M Expenses, I changed cell C12 on tab "Op Exp" to 2.42 percent. Since there

2   were two years between the test year and the rate year, the escalation factor is two times

3   2.42 percent, or 4.84 percent, as shown on cell D12 of that same tab. The escalation

4   factor of 4.84 percent is carried forward to cell K20 of tab "Attrition 09.2014 to 2016."

5   Cell K20 is referenced by other cells in column K containing Operating Expenses.

6   With this single change, the Commission's modifications to the Natural Gas

7   attrition methodology, as identified in Order 05, are effectuated.

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9   *B. Updating Exhibit EMA-7 to Remove Rate Base Escalation*

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11   Q.   **How did you modify the Natural Gas Attrition Model (Exhibit EMA-7) to remove**

12   **the escalation of rate base, as required by the Court Remand Decision?**

13   A.   As with the Electric Attrition Model, the Gas Attrition Model (Exhibit EMA-7) effects

14   rate base through the escalation of net plant-in-service. The escalation factor is calculated

15   on the tab titled "Net plant," and uses annual time-series data for net plant after deferred

16   income taxes (DFIT).

17   To remove the escalation of rate base, I changed the annual growth rate to 0

18   percent in cell D29 on the tab titled "Net Plant." The two-year escalation factor was thus

19   modified to 0 percent on cell D30 of that same tab. By reference to cell D30, the 0

20   percent escalation factor is put into effect for the Rate Base items in Column F (Excel

21   column K) of the tab titled "Attrition 09.2014 to 2016."

22   Thus, by changing cell D29 on the "Net Plant" tab to 0 percent, I removed from

23   the "Attrition 09.2014 to 2016" tab the escalation of Net Plant after Deferred Taxes.

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2   **Q.   After zeroing out the escalator for Net Plant after DFIT, does Exhibit EMA-7 rely**

3   **on the proper rate base for calculating the Attrition Revenue Requirement?**

4   A.   Not yet. Again, as with Exhibit EMA-6 it is important to remember that the escalators in

5   Exhibit EMA-7 were applied to <u>test year</u> amounts, and by removing the escalator for net

6   plant, the model calculates Attrition Revenue Requirement using <u>test year</u> net plant-in-

7   service, and nothing beyond. However, the Commission accepted a number of pro forma

8   plant adjustments, so reverting back to test year plant levels would improperly exclude

9   plant amounts that were determined to be used and useful.

10   Therefore, the rate base used to calculate the Attrition Revenue Requirement in

11   Exhibit EMA-7 must be modified such that it reflects the pro forma rate base accepted by

12   the Commission in Order 05. While the revised Exhibit EMA-7 (that now excludes the

13   escalation of plant) produces a rate base amount of $262,360,000, the Commission

14   authorized a pro forma natural gas rate base of $263,655,000.[5]

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16   **Q.   How did you adjust the rate base in Exhibit EMA-7 to align with the pro forma rate**

17   **base authorized by the Commission in Order 05?**

18   A.   I populated three cells in a new Column N (Excel column T) on the tab titled "Attrition

19   09.2014 to 2016." tab. On Row 47 (cell T86), I added the pro forma rate base amount of

20   $263,655,000. On Row 28 (cell T61), I adjusted the Debt Interest by $12,000 to account

21   for the rate base change. And on Row 31 (cell T65), I adjusted Net Operating Income

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[5] Order 05 at p. 97, Table A2.

1   (NOI) to incorporate the effect of debt interest (in cell T61). The adjustments to Debt

2   Interest and NOI are immaterial, and could be ignored to simplify the analysis.

3   To capture the changes to rate base and NOI, I modified two formulas in Column

4   (a) (Excel column F) of the "Summary" tab. The cell for rate base (cell F12) now refers

5   to cell T86 of the "Attrition 09.2014 to 2016" tab, correctly reflecting the pro forma rate

6   base amount approved the Commission in Order 05. The cell for NOI (cell F18) now

7   refers to cell T65 of the "Attrition 09.2014 to 2016" tab, reflecting an immaterial change

8   to NOI related to an adjustment to the tax benefit of debt interest.

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