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EDWARD JEWELL
DEPUTY ATTORNEY GENERAL
IDAHO PUBLIC UTILITIES COMMISSION
PO BOX 83720
BOISE, IDAHO 83720-0074
(208) 334-0314
IDAHO BAR NO. 10446

Street Address for Express Mail:
11331 W CHINDEN BLVD, BLDG 8, SUITE 201-A
BOISE, ID 83714

Attorney for the Commission Staff

# BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

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| **IN THE MATTER OF AVISTA'S 2020 ELECTRIC INTEGRATED RESOURCE PLAN** | ) | **CASE NO. AVU-E-19-01** |
| | ) | **SECOND PRODUCTION REQUEST OF THE COMMISSION STAFF TO AVISTA CORPORATION** |

The Staff of the Idaho Public Utilities Commission, by and through its attorney of record, Edward Jewell, Deputy Attorney General, request that Avista Corporation (Company) provide the following documents and information as soon as possible, or by **FRIDAY, MAY 8, 2020.**

This Production Request is continuing, and the Company is requested to provide, by way of supplementary responses, additional documents that it or any person acting on its behalf may later obtain that will augment the documents produced.

Please provide answers to each question, supporting workpapers that provide detail or are the source of information used in calculations. The Company is reminded that responses pursuant to Commission Rules of Procedure must include the name and phone number of the person preparing the document, and the name, location and phone number of the record holder and if different the witness who can sponsor the answer at hearing if need be. Reference IDAPA 31.01.01.228.

In addition to the written copies provided as response to the questions, please provide all Excel and electronic files on CD with formulas activated.

**REQUEST NO. 10:** Please explain how changing from a 20-year IRP time frame to a 25-year time frame affects the portfolio cost and resource selections.

**REQUEST NO. 11:** In reference to: "Moving to 25 years led to removing some of the cost estimates for resources beyond 20 years." IRP at 2-12. Please provide the cost estimates that were removed and explain the effect of removing these costs.

**REQUEST NO. 12:** In reference to: "Avista assigned peak credits to renewable and storage resources depending on their ability to meet peak loads using its Avista Reliability Assessment Model (ARAM)." IRP at 2-11. Please explain how the ARAM model assigns peak credits and how this method is different than past IRPs.

**REQUEST NO. 13:** Please provide the workpapers used to create Peak Credit table 9.11 in Excel format with formulas enabled.

**REQUEST NO. 14:** Please describe how ARAM validates resource adequacy and resource peak contributions.

**REQUEST NO. 15:** Related to reliability analysis, please respond to the following:

a. Please explain why 2030 was chosen as the year to test reliability.
b. Please explain why the Company did not perform its reliability analysis over multiple years. Please explain the difficulties, benefits, and costs to perform of performing this type of analysis over multiple years.
c. Please explain why the Company did not perform its reliability analysis on multiple or all resource portfolios. Please explain the difficulties, benefits, and costs to perform this analysis on all or multiple resource portfolios.
d. In Audit Request Response No. 16, the Company stated, "Future IRPs may contain broader reliability analysis." Please provide additional detail on the

Company's plan for a broader reliability analysis, which includes details on the purpose, objectives, and scope for the plan.

e. In Audit Request Response No. 16, the Company stated, "Avista used the same peak credit and planning margin on all portfolios in the IRP." Please explain the risk of some portfolio scenarios over or under building resources and exceeding or failing reliability tests due to the use of a single planning margin for all portfolios. Please include an explanation on the effect of the total cost of the portfolios and all issues with comparing the portfolios to each other.

**REQUEST NO. 16:** Please explain why the Company believes it is reasonable to replace use per customer elasticity estimates with "academic assumptions and estimates". IRP at 3-8.

**REQUEST NO. 17:** The Use Per Customer Regression Equation (Eq. 3.2) contains no autoregressive term; however, the accompanying text discusses inclusion of the Autoregressive Integrated Moving Average (ARIMA) terms in the model. Please provide the revised version of Equation 3.2 that was actually used to model Usage Per Customer. Please answer the following questions regarding the model that was actually used to model Usage Per Customer:

a. What is the highest order autoregressive term used in this model?

b. Were the autoregressive predictors lagged values of Usage Per Customer, or were they lagged values of the prediction error?

**REQUEST NO. 18:** On page 3-11, the Company states that it made its forecast for Residential Schedule 1 customer growth using an ARIMA time series model. The Company also states that, if the growth rates generated from this approach differ from forecasted population growth, the forecasts are adjusted to match forecasted population growth. Please answer the following questions:

a. Why is an ARIMA model justified, and what is the meaning of the ARIMA terms in the model?

b. What is the highest order autoregressive term in the model?

c. Given that the Company adjusts the forecast to match the forecast of population growth, why was population growth not used directly?

**REQUEST NO. 19:** The Company's Residential Long-Run Forecast Relationship is expressed in Equation 3.3. Please confirm that $l_y$, $c_y$, and $u_y$ are expressed in terms of percentage growth.

**REQUEST NO. 20:** In the discussion of Monthly Peak Load Forecast Methodology (IRP at 3-18 through 3-23), the equation numbers and text references do not appear to match.

a. Please confirm that the textual reference to Equation 3.9 is referring to Equation 3.4.
b. Please confirm that the textual references to Equations 3.10 and 3.11 are referring to Equations 3.7 and 3.8.
c. Please provide corrections to any other textual references that may be in error.

**REQUEST NO. 21:** In Peak Load Regression Model Equation 3.4, please explain the following:

a. The notation $e_{d,g,y}$ for t,y=June 2004↑.
b. Please explain why June 2004 was used as a start date for the data series.

**REQUEST NO. 22:** On pages 3-18 and 3-19, the Company states that "...a series of peak forecasts from the current year, $y_c$ , are generated out N years by using forecasted levels of GDP as shown in Equation 3.3." Staff notes that Equation 3.3 includes no term representing a forecasted level of GDP. Please explain how GDP forecasts were incorporated into Equation 3.3.

**REQUEST NO. 23:** The text on page 3-21 states that Table 3.5 shows estimated peak load growth rates with and without the two large industrial customers; however, Table 3.5 includes only forecasts including large industrial customers. Please provide the forecast without the two large industrial customers.

**REQUEST NO. 24:** Table 1-2 of the Company's 2016-2017 Idaho Electric Energy Efficiency report states that Gross Verified Savings were 42,223,004 kWh, or approximately 4.82 aMW. Please provide workpapers, with electronic links intact, showing how the Company obtained the 155 aMW savings value shown on page 5-1 of the Company's 2019 IRP.

**REQUEST NO. 25:** Please provide the analysis and workpapers that Avista used to determine estimated savings for feeder upgrades in 2020 as 269 MWh, and 152 MWh in 2021. IRP at 5-5.

**REQUEST NO. 26:** Please describe how Avista determined that Energy Efficiency will meet 71% of future load growth. If Demand Response is a factor in the estimate, please break out the contributions from Energy Efficiency and Demand Response potential separately.

**REQUEST NO. 27:** As part of an aggressive plan to meet future load growth, please describe the Company plan for Demand Response Rates. IRP at 6-4.

**REQUEST NO. 28:** Regarding Liquid Air Storage, the Company states on pages 9-14 that round-trip efficiencies can be improved using the waste heat from existing natural gas-fired turbines. Given the clean energy goals enumerated by the Company on page 1-6, what thermal resources will be available to boost energy efficiency? Please provide an estimate of the heat that will be available when Liquid Air Storage systems are producing electricity.

**REQUEST NO. 29:** On pages 9-24 and 9-25, the Company describes analyses that it conducted in order to determine the intermittent generation costs of wind and solar resources. These costs include a $5 per MWH for wind, $1.80 for solar, and a 10% capacity value adder determined by Avista's ELCC studies. Please provide the studies, including a description of study methodology, that were used to determine these values.

**REQUEST NO. 30:** Please explain why the Company did not test multiple closure dates for Colstrip besides both units closing in 2025, both units closing in 2035, and unit #3 closing in 2025 while unit #4 closing in 2035.

**REQUEST NO. 31:** With the current coal supply agreement set to expire Dec. 31, 2025, is Colstrip fuel expense after 2025 modeled in any portfolio? Please explain why or why not.

**REQUEST NO. 32:** Please explain how Avista will calculate the additional cost associated with assigning a new capacity deficiency date, in part driven by the Company's decision to eliminate Colstrip capacity to meet Washington legislative initiatives and Avista's clean energy goals.

**REQUEST NO. 33:** Please provide the capacity shortfall and related costs associated with an early Colstrip retirement in 2025. Please include an analysis of financial impacts to Idaho customers. Audit Request Response Nos. 4 and 5.

**REQUEST NO. 34:** Is Avista considering the sale of Colstrip ownership shares in exchange for Power Purchase Agreement(s) for renewable energy? Please explain Audit Request Response No. 6

**REQUEST NO. 35:** Please provide an economic analysis that demonstrates when it is no longer economically beneficial to operate Colstrip. Please allow the retirement date to float based on the economics of the resource as opposed to adjusting retirement dates to 2025 or 2035 and provide all workpapers with formulas enabled.

**REQUEST NO. 36:** In reference to the state-specific study mentioned on page 12-5 in the IRP, please provide the workpapers (with formulas enabled) used to calculate the increase in Idaho rates.

**REQUEST NO. 37:** Please explain why portfolios scenarios without CETA (Scenarios #2 and #7) show new resource additions prior to the 2026 deficit year identified in the IRP.

**REQUEST NO. 38:** Please describe how the Company will define, separate, and track Idaho and Washington financial obligations for Colstrip and CETA costs. Audit Request Response No. 4.

Dated at Boise, Idaho, this 17th day of April 2020.

Edward Jewell
Deputy Attorney General

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# CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT I HAVE THIS 17th DAY OF APRIL 2020, SERVED THE FOREGOING **SECOND PRODUCTION REQUEST OF THE COMMISSION STAFF TO AVISTA CORPORATION,** IN CASE NO. AVU-E-19-01, BY E-MAILING A COPY THEREOF, TO THE FOLLOWING:

LINDA GERVAIS
MGR REGULATORY POLICY
AVISTA CORPORATION
PO BOX 3727
SPOKANE WA 99220-3727
E-MAIL: linda.gervais@avistacorp.com
avistadockets@avistacorp.com

DAVID J MEYER
VP & CHIEF COUNSEL
AVISTA CORPORATION
PO BOX 3727
SPOKANE WA 99220-3727
E-MAIL: david.meyer@avistacorp.com

/s/ Reyna Quintero
SECRETARY