

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UG-19_____

DIRECT TESTIMONY OF

JODY MOREHOUSE

REPRESENTING AVISTA CORPORATION

I. INTRODUCTION

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

A. My name is Jody Morehouse and I am employed as Director of Gas Supply for Avista Utilities (Avista or Company). My business address is 1411 East Mission Avenue, Spokane, Washington. In my current role, I am responsible for Avista's natural gas supply and upstream pipeline transportation resources.

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

A. Yes. I graduated from Montana State University with a Bachelor of Science Degree in Mechanical Engineering and hold a professional engineering license in the State of Washington. I joined the Company in 1989 and have held staff and management positions in our natural gas engineering, natural gas operations, natural gas planning, and natural gas measurement departments. Additionally, I held the position of Manager of Pipeline Integrity and Compliance prior to my current role.

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

A. The purpose of my testimony is to describe Avista's natural gas resource planning and procurement process, as well as provide an overview of the Company's 2018 Natural Gas Integrated Resource Plan. A table of contents for my testimony is as follows:

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1 **Q. Are you sponsoring exhibits in this proceeding?**

2 A. Yes. I am sponsoring Exh. JM-2 and Exh. JM-3. Exh. JM-2 is a copy of the
3 Company's 2018 Natural Gas Integrated Resource Plan, which was filed on August 31, 2018
4 and acknowledged by the Commission on February 20, 2019. Exh. JM-3 is a copy of the
5 Company's 2018 Washington Natural Gas Hedge Report and Exhibits.

6 **Q. Is the Company proposing any changes to the cost of natural gas for its**
7 **natural gas customers in this case?**

8 A. No, Avista is not proposing changes in this filing related to the commodity cost
9 of natural gas or upstream pipeline transportation resource costs. Changes in the commodity
10 cost of natural gas and the cost of natural gas pipeline transportation included in customers'
11 rates are addressed in the Company's annual Purchased Gas Cost Adjustment (PGA) filing.
12 The Company expects to file its annual PGA on or before September 15, 2019, with new rates
13 proposed to become effective November 1, 2019.

14

15 **II. PLANNING FOR COMMODITY RESOURCE PROCUREMENT**

16 **Q. Please describe Avista's natural gas portfolio as it relates to the**
17 **procurement of the natural gas commodity for its local distribution company ("LDC")**
18 **customers.**

19 A. Avista manages natural gas procurement and related activities on a system-
20 wide basis with several regional supply options available to serve LDC customers. The
21 Company purchases natural gas for its LDC customers in wholesale markets at multiple
22 supply basins in the western United States and western Canada. Purchased natural gas is
23 transported from these various US or Canadian-sourced supply basins through six inter-

1 connected pipelines within the region and delivered to city gates or put into the Jackson Prairie
 2 Natural Gas Storage Facility (“JP”) for future use. Avista holds firm contractual transportation
 3 rights on all six pipelines, as well as firm withdrawal capability from JP, helping diversify
 4 where supply can be received from to meet customers’ needs among the three jurisdictions.

5 JP is an underground aquifer natural gas storage facility located in Chehalis,
 6 Washington. Through a joint ownership agreement, Avista, Puget Sound Energy, and
 7 Williams Northwest Pipeline each hold one-third equal, undivided interest of JP. At the
 8 present time, Avista owns a total of 8,528,013 dekatherms (Dth) of working gas capacity. This
 9 capacity comes with a withdrawal capability (deliverability) of 398,667 Dth per day.

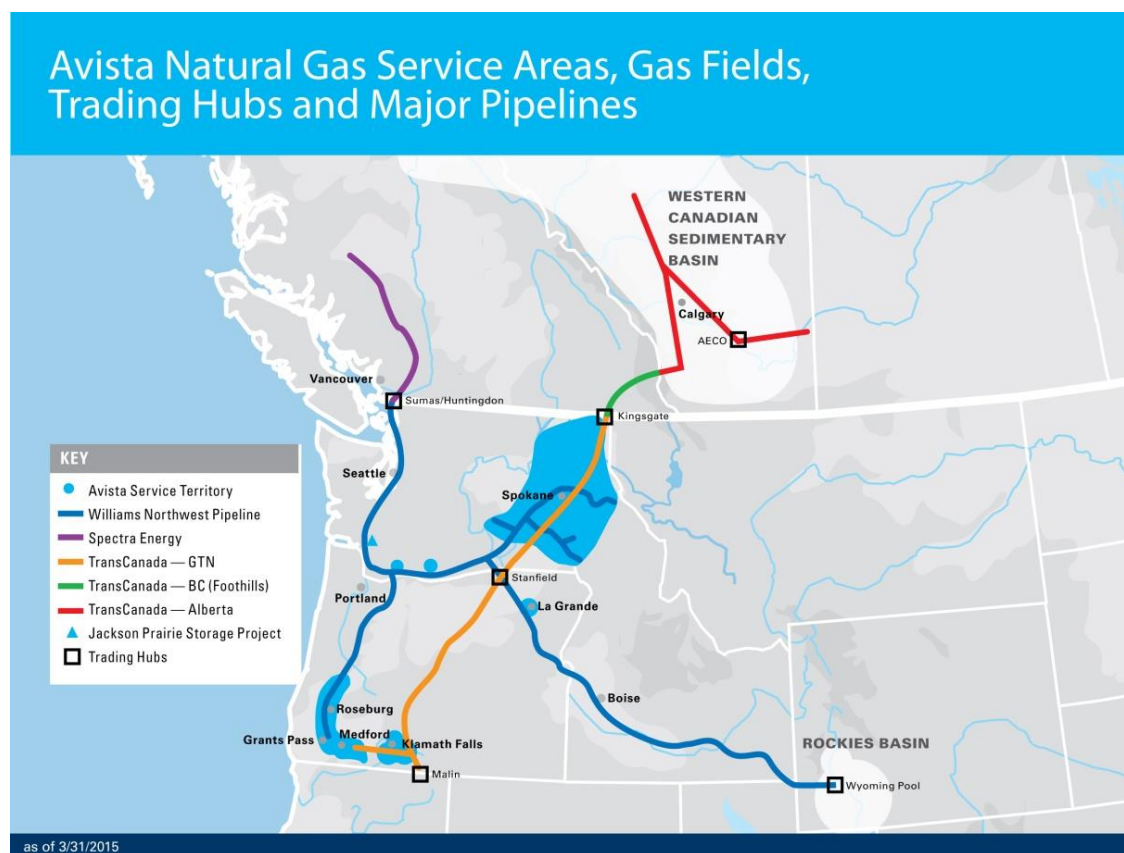
10 Jurisdictionally, this amount is broken out as follows:

Jurisdiction	Working Capacity (Dth/Day)	Withdrawal Capacity (Dth/Day)
Washington/Idaho	7,704,676	346,667
Oregon	823,337	52,000
Total Owned	8,528,013	398,667

14 Access to regionally located storage provides several benefits to Avista customers,
 15 including: improving reliability and flexibility of supply, mitigating daily price volatility and
 16 peak demand price spikes, capturing price spreads between time periods, and numerous other
 17 economic benefits.

18 Illustration No. 1 below is a map showing our service territory, natural gas trading
 19 hubs, interstate pipelines, and the Jackson Prairie Natural Gas Storage Facility.

1 **Illustration No. 1**



14 Wholesale natural gas prices are a fundamental component of both procurement and

15 integrated resource planning. Pacific Northwest natural gas prices can be affected not only by

16 regional factors, but by global energy markets, and supply and demand factors from other

17 regions within the United States and Canada. Price volatility and delivery constraints can have

18 an impact on where our natural gas is sourced. Avista’s diverse portfolio of natural gas supply

19 resources allows the Company to make natural gas procurement decisions based on the

20 reliability and economics that provide the most benefit to our customers.

21 Being that future natural gas prices cannot be accurately predicted, the Company has

22 developed a Natural Gas Procurement Plan (“Plan”) to ensure reliable supply and a level of

23 price certainty in volatile markets. Market conditions, analysis, and experience shape the

1 Plan's overall strategy, which includes hedging, storage utilization, and index purchases. This
2 approach is diversified by transaction time, term, counterparty, and supply basin. A copy of
3 the Company's Plan is included as an exhibit to Avista's Energy Resources Risk Policy (see
4 Confidential Exh. JRT-3C).

5 This Plan provides general guidelines regarding the use, procurement, and execution
6 of transactions as authorized in Avista's Energy Resources Risk Policy. Although the specific
7 provisions of the Plan will change based on ongoing analyses and experience, this Plan utilizes
8 a combination of strategies to reduce the impacts of fluctuating commodity prices. A portion
9 of the hedges are focused on concentration risk by utilizing Dynamic Hedge Windows
10 ("Hedge Windows"), while another portion of hedges target reducing risk in a volatile
11 commodity price environment by utilizing Risk Responsive Hedging methods.

12 Hedge Windows allow the Company to capture, or fix, future natural gas prices for a
13 targeted portion of the portfolio. A Hedge Window is bounded by dates and market
14 parameters, defined as a set-rate, an upper control limit ("UCL"), a lower control limit
15 ("LCL"), and an expiration date. Quantitative mathematics and statistical calculations are
16 used to determine these boundaries. Hedge Windows remain "open" as long as the current
17 commodity price remains between the UCL and the LCL, and the window has not reached its
18 time expiration. Once the current commodity price goes beyond the UCL or the LCL, or the
19 window has reached time expiration, the Hedge Window has been triggered and may be
20 procured. The Plan allows discretion for decision making as market conditions warrant.
21 Management may determine that it is appropriate to take other action, partial action, or no
22 action, with respect to transaction execution and will document accordingly.

23 In addition to the Hedge Windows described above, which guide execution of hedges

1 up to a predetermined minimum hedge ratio, a Risk Responsive Hedging approach was
2 introduced at the beginning of the 2018-2019 natural gas year. Risk Responsive Hedging is
3 utilized to help manage the Value at Risk (“VaR”) of the Company’s LDC natural gas
4 portfolio’s open position on a daily basis. Regional forward natural gas prices are the basis
5 for the VaR analysis. The analysis utilizes a confidence level and historic volatility to calculate
6 a portfolio VaR, and combines it with the current mark-to-market portfolio price to develop a
7 price risk metric. This price risk metric is compared to a predetermined threshold, known as
8 the Operative Boundary, on a daily basis. If the price risk metric exceeds the Operative
9 Boundary, then one or more suggested hedges may be executed to bring the price risk metric
10 back within the Operative Boundary. In any case, hedge volumes should not exceed the
11 predetermined maximum hedge ratio. Similar to the Hedge Windows, the Company always
12 maintains some level of discretion and may choose to take other action, partial action, or no
13 action, with respect to transaction execution and will document accordingly.

14 The Natural Gas Supply Department (“Gas Supply”) continuously monitors the results
15 of the Plan, evolving market conditions, variation in demand profiles, new supply
16 opportunities, and regulatory conditions. Although various windows and targets are
17 established in the initial design phase, the Plan allows discretion for ultimate decision making
18 as market conditions warrant. Material changes to the Plan are communicated to Avista’s
19 Senior Management and Commission Staff.

20 On August 31, 2018, the Company filed its 2018 Washington Natural Gas Hedge
21 Report and Exhibits (UG-180734) in accordance with the requirements of UG-132019, the
22 Commission’s “Policy and Interpretive Statement on Local Distribution Companies’ Natural
23 Gas Hedging Practices”. This report and associated exhibits are provided as Exh. JM-3.

1 **Q. What delivery period does the natural gas Procurement Plan include?**

2 A. The target delivery periods for the Procurement Plan include five to eleven
3 prompt months depending on the current month, as well as seasonal strips (November-March
4 or April-October) for a period of up to 36 months from the current month.

5 **Q. Please describe the components of the Natural Gas Procurement Plan.**

6 A. Each year a comprehensive review of the previous year's Plan is performed.
7 The review includes analysis of historical and forecasted market trends, fundamental market
8 analysis, demand forecasting, and transportation, storage and other resource considerations,
9 with the load forecast being the basis of the Plan. In order to serve load and optimize resources
10 for the benefit of customers, the Company secures/purchases natural gas supply through the
11 transactions and procedures described below:

- 12 1. **Fixed-Price Purchases:** To provide a level of price certainty in volatile
13 natural gas commodity markets, Gas Supply will hedge some of its load with
14 fixed-price transactions, either with fixed-price physical purchases or with
15 financial swaps or financial futures, which will be matched to purchases of
16 index-priced physical products prior to the products settlement. These hedges
17 will be structured to diversify procurement in terms of timing of the transaction
18 and duration of committed supplies.

19
20 The fixed-price purchases portion of the Plan, or hedges, are comprised of the
21 following two components, as previously described:

- 22
23 • Dynamic Window Hedges
24 • Risk Responsive Hedge Tool

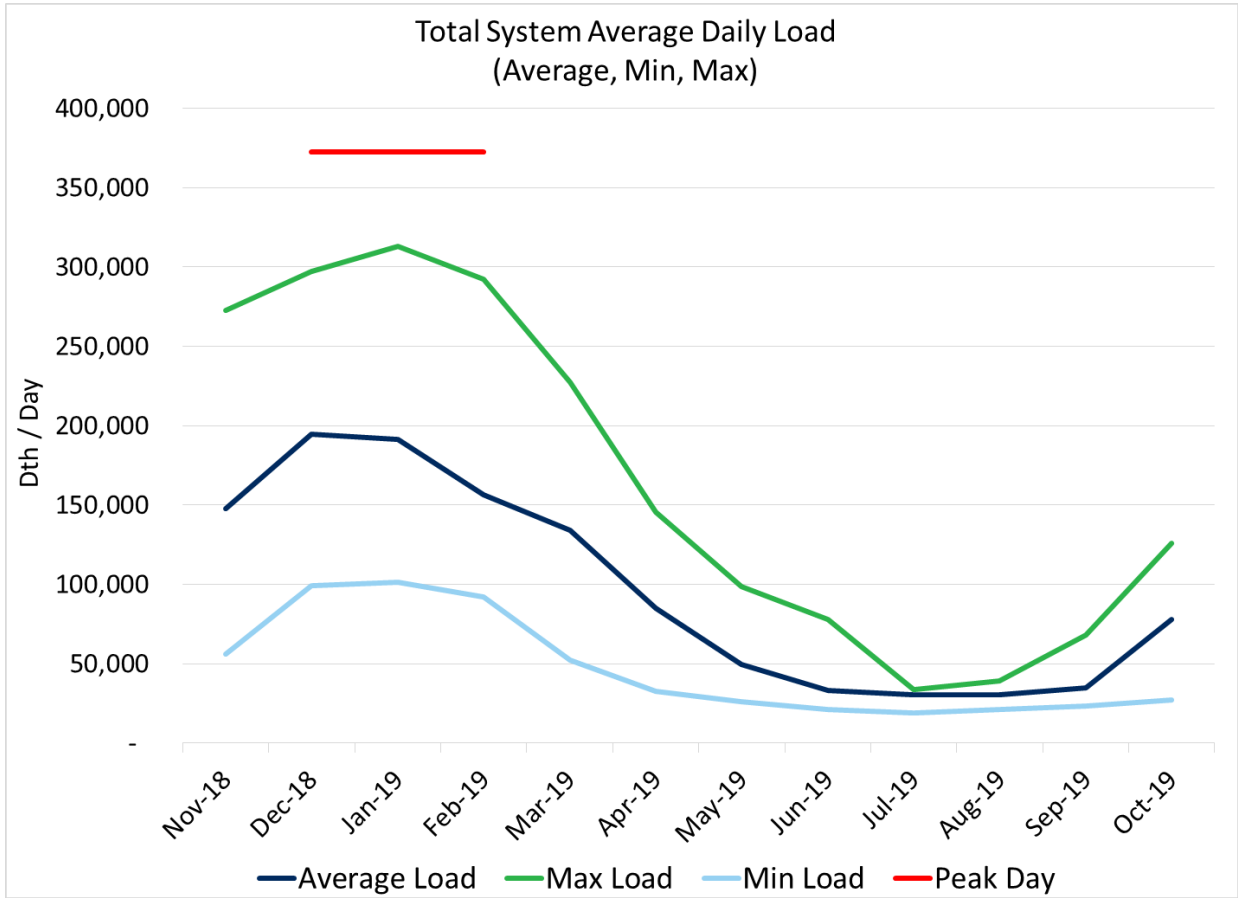
- 25
26 2. **Storage Injections and Withdrawals:** Avista owns and contracts for storage
27 services at Jackson Prairie. Avista has a contractual operational incentive to
28 have its share of Jackson Prairie full by September 30 of each year. Gas Supply
29 retains flexibility in terms of the timing and volume of the injection and
30 withdrawal schedules. Actual storage injections and withdrawals will be
31 executed to optimize the economic value of storage within the reliability
32 constraints of the project and the ability to serve retail customers' peak day
33 needs.

- 1 3. **Index-Based Physical Purchases:** Gas Supply generally purchases physical
2 index-based natural gas for up to the difference between the average daily load
3 forecast for each month and the sum of the fixed-price purchases and projected
4 storage withdrawals. Gas Supply retains flexibility to modify the components
5 of its purchases in a month due to operational or other reasons. The selected
6 indices may be first-of-month indices or daily-based indices.
7
- 8 4. **Daily Adjustments Due to Load Variability:** To the extent actual loads
9 differ from the average daily load forecast for the month, the difference will be
10 managed through a combination of: a) daily purchases or sales of natural gas,
11 or b) withdrawals from, or injections into, natural gas storage facilities.
12
- 13 5. **Use of Derivative Contracts:** Subject to limitations in the Energy Resources
14 Risk Policy, Gas Supply may enter into derivative-based contracts intended to
15 reduce or manage exposure to rising prices or fluctuating loads.
16
- 17 6. **Resource Optimization:** Gas Supply may enter into transactions that create
18 value for customers using unutilized supply, transportation, or storage assets.
19 Utilization of these resources reduces fixed costs and lowers overall costs to
20 customers.

21 **Q. Please describe how the Procurement Plan manages volatility.**

22 A. The Plan focuses on managing the costs associated with serving varying retail
23 load with supply from a wholesale market with price volatility. In order to manage these
24 seasonal, monthly, and daily volume swings, Avista shapes the components of the Plan by
25 month (i.e., more natural gas is hedged for the winter months than for the summer).
26 Illustration No. 2 below includes a chart that shows the demand volatility.

1 **Illustration No. 2**



15 Price volatility can also vary widely by season, month and day. Illustration No. 3

16 below includes a chart depicting the natural gas price volatility over time.

1 **Illustration No. 3**



14 Avista cannot predict with accuracy what natural gas prices may be. Our experience
15 and intelligence related to market fundamentals guide our procurement decisions. By layering
16 in fixed price purchases over time, setting upper and lower pricing levels on the Hedge
17 Windows, managing the VaR of our LDC natural gas portfolio's open position on a daily
18 basis, and actively managing storage resources, Avista is able to meet our goal of providing a
19 meaningful measure of price stability and certainty, and competitive prices for our customers.

20

21 **III. 2018 NATURAL GAS INTEGRATED RESOURCE PLAN**

22 **Q. Please provide an overview of the Company's development of its 2018**
23 **Natural Gas Integrated Resource Plan.**

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1 A. The 2018 Integrated Resource Plan (“IRP”) was filed with the Commission on
2 August 31, 2018. The IRP includes forecasts of natural gas demand and any supply-side
3 transportation resources and demand-side measures needed for the coming 20-years, which
4 will help Avista continue to reliably provide natural gas to our customers. A copy of the
5 Company’s 2018 Natural Gas Integrated Resource Plan is included as Exh. JM-2.

6 **Q. What are the summary highlights from the 2018 IRP?**

7 A. Highlights from the 2018 IRP are as follows:

- 8 • Marginally higher firm system-wide expected customer growth rates,
9 combined with use per customer continuing to trend lower, kept the long term
10 natural gas demand forecast relatively flat and helped eliminate the need to
11 acquire new resources within the 20-year planning horizon in Washington,
12 Idaho, or Oregon for the Expected Case.
- 13 • With evolving state and federal environmental regulation, the Company broke
14 out carbon costs by jurisdiction and thus, separated Washington and Idaho
15 (previously combined) in the Sendout model; and
- 16 • Higher carbon price adders for Washington and Oregon relative to the 2016
17 IRP, coupled with the expected price curve, resulted in higher avoided costs
18 increasing overall potential for energy efficiency.
- 19
- 20

21 **Q. Has the Company’s 2018 Natural Gas IRP been acknowledged by this**
22 **Commission?**

23 A. Yes. On February 20, 2019, the Company’s 2018 IRP was acknowledged by
24 the Commission.

25 **Q. When will the Company file its next natural gas IRP?**

26 A. The Company will file its next natural gas IRP on or before August 31, 2020.
27 A courtesy work plan will be filed in August 2019 detailing Avista’s IRP planning process as
28 well as tentative dates and content for meetings with the Technical Advisory Group (TAC).

1 TAC meetings are currently scheduled to begin in the fourth quarter of 2019.

2 **Q. Does this complete your pre-filed direct testimony?**

3 A. Yes, it does.