

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UG-10_____

DIRECT TESTIMONY OF

KEVIN J. CHRISTIE

REPRESENTING AVISTA CORPORATION

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I. INTRODUCTION

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

A. My name is Kevin Christie and I am employed as Director of Gas Supply of Avista Utilities (Avista or Company), at 1411 East Mission Avenue, Spokane, Washington.

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

A. Yes. I graduated from Washington State University with a Bachelors Degree in Business Administration with an accounting emphasis. I have also attended the University of Idaho Utility Executive Course.

I joined the Company in 2005 as the Manager of Natural Gas Planning. In 2007, I was appointed the Director of Gas Supply. Prior to joining Avista, I was employed by Gas Transmission Northwest (GTN). I was employed by GTN from 2001 to 2005 and was the Director of Pipeline Marketing and Development from 2003 to 2005 and the Director of Pricing and Business Analysis from 2001 to 2003. From 2000 to 2001, I was employed by PG&E Corporation (PG&E) as the Manager of Finance and Assistant to the SVP, Treasurer and CFO. Before joining PG&E, I was employed by Pacific Gas Transmission Company (PGT) from 1994 to 2000. While at PGT, I held several positions including Manager, Pricing and Business Analysis, Senior Business Analyst, Senior Pricing Planner, Director of Regulatory Affairs, Project Manager – Rates and Regulatory Affairs, Senior Regulatory Analyst, Regulatory Analyst, and Revenue Accountant. From 1990 to 1994, I was employed by Chevron USA as a Lease Revenue Accountant.

1 **Q. Mr. Christie, what is the purpose of your testimony in this proceeding?**

2 A. The purpose of my testimony is to describe additional Jackson Prairie (JP)
3 natural gas storage that the utility will receive to serve customers beginning May 1, 2011. I
4 will also describe the allocation of this additional storage, and the associated costs, to the three
5 jurisdictions that the Company serves.

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

7 A. Yes. I am sponsoring Exhibit No. ___(KJC-2), a copy of the Company's
8 Jackson Prairie Storage affiliated interest filing, and Exhibit No. ___(KJC-3), which contains
9 cost and pricing information relative to Jackson Prairie Storage. I am also sponsoring Exhibit
10 No. ___ (KJC-4), which is a copy of the Company's 2009 Natural Gas Integrated Resource
11 Plan.

12 **II. HISTORY OF JACKSON PRAIRIE STORAGE FACILITY**

13 **Q. Could you please describe Avista's involvement with the Jackson Prairie**
14 **gas storage facility?**

15 A. Yes. Avista is one of the three original developers of the underground storage
16 facility at Jackson Prairie, which is located near Chehalis, Washington. Although there have
17 been corporate changes due to mergers, acquisitions and name changes, Avista, Puget Sound
18 Energy (PSE) and Northwest Pipeline each hold a one-third share (equal, undivided interest)
19 of this underground gas storage facility through a joint ownership agreement. Development of
20 the facility began in the 1960's and the project first went into service in the early 1970's.

21 **Q. What type of storage facility is Jackson Prairie?**

1 A. Jackson Prairie is an underground aquifer storage facility. Storage and the
2 associated withdrawal and injection capability has been created by a combination of wells,
3 gathering pipelines, compression and dehydration equipment, and the removal and disposal of
4 aquifer water.

5 **Q. Please describe the present level of storage that Avista owns at Jackson**
6 **Prairie.**

7 A. At the present time, the Company holds a total 5,497,112 dekatherms (Dth) of
8 seasonal capacity. This seasonal capacity comes with a withdrawal capability of 294,667 Dth
9 per day (deliverability). As described below, on May 1, 2011, the utility will receive an
10 additional 3,030,887 Dth of seasonal capacity and an additional 104,000 Dth of daily
11 deliverability.

12 **Q. Could you please describe what is meant by “capacity” and**
13 **“deliverability”?**

14 A. Yes. Capacity is the total amount of gas that the facility holds and represents
15 the volume of gas that can be made available for injection and withdrawal by the owner. This
16 capacity is typically referred to as “working” gas. Working gas is different from “cushion”
17 gas which is also stored in the facility. Cushion gas must physically remain in the facility at
18 all times to ensure the deliverability of the working gas and, therefore, cannot be withdrawn
19 on a seasonal basis. Cushion gas provides the field pressure necessary to allow the
20 withdrawal of working gas. Capacity, as used herein, refers to the working gas portion of
21 Jackson Prairie. Deliverability, as used herein, is the maximum amount of gas that can be
22 withdrawn from the facility on a daily basis.

1 **Q. Can cushion gas be withdrawn from the facility?**

2 A. As stated above, cushion gas must remain in the facility in order to withdraw
3 working gas. However, when the field is abandoned, there will be residual cushion gas in the
4 field that will not be recoverable due to economics and physical constraints. Therefore, a
5 portion of cushion gas is estimated to be non-recoverable from the facility and that portion is
6 depreciated over the estimated life of the facility (account 352.3-Nonrecoverable natural gas).
7 The recoverable portion of cushion gas remains at its original cost over the life of the facility
8 (account 117.1-Gas stored-base gas). Both accounts are included in the Company's rate base
9 (Company witness Ms. Andrews discusses the proposed accounting treatment).

10 **Q. Could you please describe Avista's share of the expansions that have**
11 **occurred at the facility since 1999?**

12 A. Yes. In 1999, the owners agreed to both a capacity and deliverability
13 expansion of the facility (FERC Certificate in CP98-250-000). Avista's allocated annual
14 share of the expansion capacity was 1,066,667 Dth and 104,000 Dth per day of deliverability.
15 Based on the Company's Integrated Resource Plan (IRP) at the time, Avista's share of the
16 expansion capacity would have provided storage capacity in excess of what was needed to
17 serve Avista's near-term customer requirements. While additional storage capacity was not
18 called for in the IRP in the near-term, it was determined that the expansion capacity would be
19 needed to meet future growth in later years. In order to better align the expansion costs and
20 the future need for this resource, the increased capacity and deliverability were temporarily
21 assigned to Avista Energy. One alternative was to allow PSE or Northwest Pipeline to pay for
22 the expansion, which would have reduced Avista's one-third ownership share in the facility.

1 However, the Company believed that it was very important to preserve its one-third ownership
2 share, in order to have equal voting rights in all matters related to the facility. Assigning the
3 expansion to Avista Energy allowed the Company to preserve its ownership share long-term,
4 but avoid the cost of the expansion for a number of years. Avista Energy provided the capital
5 necessary to develop the expansion in exchange for the rights to utilize the expanded portion
6 of the storage facility for a minimum period of ten years.

7 Beginning in 2002, another capacity expansion was initiated at the facility (FERC
8 Certificate in CP02-384-000). This capacity expansion was a multi-year expansion that was
9 completed in phases with the last phase placed into service during 2008. Similar to the 1999
10 expansion, this expansion was temporarily assigned to Avista Energy; Avista Energy paid the
11 capital required for this expansion in exchange for the rights to utilize that portion of the
12 facility for a period of time. The temporary assignment to Avista Energy from this expansion
13 was for 1,964,220 Dth of seasonal capacity.

14 Effective July 1, 2007, Avista Energy's business and contracts were sold to Shell
15 Energy North America (Shell). The sale to Shell included the temporary contractual
16 assignment of both expansions for a total of 3,030,887 Dth of seasonal storage expansion
17 capacity and 104,000 Dth of daily deliverability through April 30, 2011. On May 1, 2011, the
18 expansion capacity and deliverability will revert to Avista Utilities at net book value. The net
19 book value of this storage is \$11,628,892¹ (system), as shown on Page 2, line 3 in Exhibit No.

¹ The net book value of the storage transferred from Avista Energy to Avista Utilities is comprised of cushion gas of approximately \$5.9 million and fixed assets/plant of approximately \$5.7 million.

1 ___(KJC-3). Company witness Ms. Andrews discusses further the adjustment included in the
2 Company's filing.

3 Avista Utilities covered the costs associated with the remaining phases (after July 1,
4 2007 through October 31, 2008), of the 2002 capacity expansion, i.e., the utility funded the
5 remaining capital requirements necessary to complete the remaining phases. Upon
6 completion of the expansion, all costs associated with these remaining phases were assigned
7 to the Company's Oregon customers. As a result, Oregon customers received 262,446 Dth of
8 seasonal storage capacity (no daily deliverability).

9 In 2007, under FERC Docket CP06-412-000, a deliverability expansion (no additional
10 capacity) was initiated at the facility and, by late 2008, that expansion was completed.
11 Related to the assignment of capacity to Oregon customers described above, Oregon was
12 allocated 25% of the volumes and costs associated with this deliverability expansion. This
13 proportion was based on forecasted jurisdictional sales volumes for the Nov. 2008 – Oct. 2009
14 period. The Company's Washington and Idaho customers were allocated the remaining 75%
15 of the volumes and costs associated with this expansion, and this Commission approved
16 recovery of those (Washington allocated) costs in Order No. 10 in Docket No. UG-090135.

17 **Q. Has the Company recently made an affiliated interest filing related to this**
18 **assignment of JP storage?**

19 A. Yes. The Company made a filing dated March 2, 2010 that included a
20 "Confirmation Agreement" between Avista Corp. and Avista Energy related to the
21 reconveyance of the JP storage capacity (and deliverability) to the utility on May 1, 2011.

1 Attached as Exhibit No.__(KJC-2) is a copy of the Company's affiliated interest filing, which
2 also includes copies of all previous assignment documents discussed above.

3 **III. COST ALLOCATION AND RECOVERY OF JACKSON PRAIRIE**

4 **Q. How is the Company proposing to allocate the costs, by jurisdiction,**
5 **associated with the additional (JP) capacity and deliverability that it will have available**
6 **on May 1, 2011?**

7 A. The allocation of this capacity and deliverability is proposed to be such that,
8 when all JP expansion volumes and costs (added since 1999) described above are totaled,
9 Washington/Idaho customers will receive 75% of the total and Oregon will receive 25% of the
10 total, based on forecasted jurisdictional sales volumes for the Nov. 2008 – Oct. 2009 period.
11 The allocation of these volumes and costs are shown in Exhibit No. ____(KJC-3).

12 **Q. Has the Company previously discussed this JP expansion allocation plan**
13 **with representatives of the three Commission staffs?**

14 A. Yes. This allocation plan was first discussed in person with Washington, Idaho
15 and Oregon Commission staffs in early 2007, as well as in subsequent meetings. All three
16 staffs indicated support of the allocation plan.

17 **Q. Does the proposed allocation of the expansion costs described above affect**
18 **the allocation of JP volumes and costs the utility held prior to these expansions?**

19 A. No. All JP volumes held by the Company prior to these expansions are
20 dedicated to serve Washington and Idaho customers.

21 **Q. What are the benefits of storage to Avista's customers?**

1 A. Access to regionally located storage provides several benefits to Avista
2 customers. It enables the Company to capture seasonal price spread, improves reliability of
3 supply, increases operational flexibility, mitigates peak demand price spikes and provides
4 numerous other economic benefits. The transfer of the storage back to the Company is
5 reflected in Avista's 2009 Natural Gas Integrated Resource Plan (IRP) attached as Exhibit
6 No. ___ (KJC-4).

7 **Q. Has the value of these benefits increased since the expansion capacity**
8 **described above was first assigned to Avista Energy in 1999?**

9 A. Yes. As further described below, with the increased volatility of natural gas
10 prices and a more complex gas market, the market value of storage has increased markedly
11 since that time.

12 **Q. What is the estimated value of the seasonal price spread?**

13 A. The seasonal price spread, in its simplest terms, is the difference in the price
14 per Dth between what one could purchase gas for in the non-winter months versus what those
15 same volumes would cost if purchased in the winter season. Storage allows for the capture of
16 the potentially lower priced non-winter gas and the ability to use it during the potentially
17 higher priced winter months. Sumas is the market hub that is the likely pricing point for
18 natural gas injections and withdrawals into Northwest area storage. Page 1 of Exhibit No.
19 ___(KJC-3) shows the present monthly forward prices at Sumas over the next three years.
20 These forward prices reflect the purchase price today for gas delivered during that future
21 month. As shown, the average seasonal price spread over the next three years is \$1.79 per
22 Dth.

1 **Q. Have you compared this estimated market value of \$1.79 to an estimated**
2 **annual revenue requirement (cost) associated with this incremental storage capacity?**

3 A. Yes. The estimated revenue requirement cost is \$0.54 per Dth, as shown on
4 Page 2, Line 7 of Exhibit No. ____(KJC-3). Without even considering the other benefits
5 associated with this incremental storage, this annual cost is well below the estimated market
6 value of \$1.79 per Dth.

7 **Q. You also mentioned improved reliability of supply. Please explain.**

8 A. The Company relies on monthly and longer-term seasonal, annual and multi-
9 year contracts for supply to satisfy its projected average daily demand. For daily swings in
10 demand, above and below average, the Company relies on a combination of storage and daily
11 purchases and sales. In today's market, virtually all physical short-term purchases are done at
12 market hubs like Sumas/Huntingdon. While these purchases are generally reliable, there is a
13 risk of delivery failure either in supply availability or counterparty risk. There are a number of
14 reasons why delivery risk can be problematic. First, using the Sumas/Huntingdon Hub as an
15 example, gas may change hands (trade) numerous times between parties. The failure of one
16 party in the chain relying on interruptible transportation or a less than secure supply source
17 can result in supply loss on any given day. A second reason is that it takes just one scheduling
18 error in the supply chain to result in a supply loss. And third, actual physical problems such as
19 well freeze-offs or pipeline force majeure situations along the transportation path can also
20 result in supply loss. As an owner of the facility, Avista controls the Company's nominations
21 both at the facility and on the pipeline. This ensures scheduling transactions without the
22 inclusion of a third party, thus eliminating intermediate steps and the potential for error. This

1 results in a more reliable process during pipeline entitlements. Access to storage provides the
2 Company with more control and, therefore, more reliability of supply during these events.

3 **Q. What operational benefits does storage provide?**

4 A. Operationally, storage provides the flexibility to adjust supply either up or
5 down during the actual day. Normally gas is scheduled one day in advance. Jackson Prairie
6 storage allows Avista the flexibility to increase or decrease the supply several times during the
7 actual gas day. This flexibility is critical to maintaining mandated tolerances on pipelines
8 and allows for active supply management during pipeline entitlements and operational flow
9 orders. This level of management reduces the likelihood of incurring pipeline penalties.

10 **Q. Please explain what you mean by mitigation of peak demand price spikes.**

11 A. As with most local distribution companies in the Northwest, Avista's demand
12 is very temperature-sensitive. The result is that Avista is a "winter-peaking" utility. During
13 severe cold weather events in its service territory or cold events in large market centers
14 outside of the Northwest, natural gas prices may increase dramatically. To the extent that the
15 Company can rely on storage withdrawals, the purchase of potentially higher-priced spot gas
16 may be avoided during these events. As previously mentioned, storage also provides the
17 ability to adjust volumes, even after the original nomination schedule. This eliminates the
18 need to purchase peaking contracts from suppliers. Peaking supply is one of the most
19 expensive resources to acquire. The greater the operational flexibility in a supply contract, the
20 more expensive the product. The avoided cost of procuring a peaking resource with the
21 flexibility characteristics of storage is a significant cost savings/avoidance. This benefit is in
22 addition to the typical seasonal price spread explained earlier. The addition of storage

1 deliverability further increases Avista's ability to manage these price spikes and avoid
2 supplier costs.

3 **Q. Are there other economic benefits related to JP?**

4 A. As previously mentioned, Sumas is the most likely pricing point to Jackson
5 Prairie. Sumas pricing is very volatile during winter weather events. Storage provides an
6 avoided cost of contracting for supply at Sumas, which can be the most expensive supply
7 point available to Northwest utilities. Given the geographical weather diversity across the
8 Northwest, JP storage provides opportunities to benefit from Sumas price spikes during cold
9 events west of the Cascades by selling natural gas into that market when Avista customers
10 may not otherwise be experiencing high supply requirements.

11 **Q. Does Avista have pipeline transportation capacity available to provide
12 delivery of these incremental storage volumes?**

13 A. Yes. Existing transportation contracts from Sumas can be used to redeliver
14 storage volumes. The Company will avoid a portion of winter purchases at Sumas and utilize
15 storage as a substitute for this supply. Therefore, the same transportation contracts that are
16 utilized now for physical supply purchases can be used for the delivery of storage gas.

17 **Q. How much of Avista's annual average demand and average winter
18 demand for its Washington customers can be served by storage after May 1, 2011?**

19 A. Approximately 30% of Avista's average annual demand and 44% of average
20 winter demand can be served by JP storage after May 1, 2011.

1 **Q. Company witness Andrews mentions an adjustment in her testimony**
2 **associated with JP working gas inventory. Can you describe how that adjustment was**
3 **determined?**

4 A. Yes. The adjustment reflects the estimated cost of the average JP working gas
5 inventory during the calendar year ending December 2011, less the actual average inventory
6 cost during the test year (2009). This working gas inventory is considered rate base as there
7 will be an average level of working gas that will exist in the facility for the life of the project,
8 and the revenue requirement reflects the authorized rate of return on that rate base. The
9 average level (working gas volumes) of JP inventory will increase with the additional capacity
10 the Company will receive May 1, 2011. Therefore, the inventory level will reflect an
11 adjustment related to this additional capacity as well as year-over-year changes in the cost of
12 gas injected into storage.

13 The Company uses a “synthetic” or forecasted injection/withdrawal schedule to
14 determine the average inventory level during the year. This synthetic schedule is based on
15 monthly forecasted injection and withdrawal volumes during the year, resulting in an
16 estimated monthly inventory level. Injections into storage are priced at the “forward” gas
17 price for that month, i.e., the price at which gas can be purchased at today for delivery in a
18 future month. In estimating the cost of injections during 2011, the Company used a 60-day
19 average of forward prices from November 5, 2009 to February 1, 2010. An average cost of
20 inventory is calculated at the beginning of each month and withdrawal volumes are priced at
21 the average cost of inventory for that month. Based on the estimated average inventory

1 balance during 2011 compared to the actual average balance during 2009, the increase to rate
2 base is \$8,714,335.

3 **Q. Is this methodology consistent with the JP inventory adjustment used in**
4 **the Company's last general rate case?**

5 A. Yes.

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

7 A. Yes it does.