

**PUBLIC UTILITY COMMISSION OF OREGON
INTEROFFICE CORRESPONDENCE**

DATE: November 10, 2010
TO: Michael Dougherty
FROM: Dustin Ball
SUBJECT: Staff Gas Storage Audit of Avista

Summary

Avista engages in gas storage activities for purposes of ensuring reliable, cost-effective natural gas service for customers during wintertime peaks.

Staff reviewed Avista's gas storage strategy and accounting. The focus of this review was on gas storage activities between the time frame of January 2008 through June 2010. During the audit, Staff sent twenty one data requests and reviewed detailed transaction summaries and invoices related to gas storage activities.

It is important to note that the audit was performed on a sample basis and issues and concerns that were not encountered during the audit process may be discovered during future regulatory actions and proceedings.

General Discussion

The Company manages three storage resources for Oregon customers. These include owned Jackson Prairie capacity, leased Jackson Prairie capacity, and leased Mist capacity. Each of these storage resources have different injection, withdrawal, and total volume capabilities. These resources contribute to the overall storage capacity for Oregon regulated operations.

Avista currently owns a one third (33.3 percent) interest in the Jackson Prairie Natural Gas Storage Facility (Jackson Prairie) in Lewis County, Washington. Jackson Prairie is a series of deep underground reservoirs in thick porous sandstone deposits and consists of 45 wells spread across 3,200 acres. Avista's ownership interest in this facility is allocated between jurisdictions, with 262,446 Dth of capacity allocated to Oregon regulated operations. In addition to the owned capacity, Oregon regulated operations also contract for an additional 95,565 Dth of capacity at Jackson Prairie. This contracted additional capacity will expire during October 2035.

Avista is currently leasing an additional 500,000 Dth of storage capacity at the Mist Natural Gas Storage Facility (Mist) in Columbia County, Oregon. Mist is an underground depleted gas field storage project owned and operated by Northwest Natural. This contract is set to expire April 2011.

The total combined capacity usable for Oregon regulated operations is 858,011 Dth, with 43,654 Dth/day of maximum deliverability.

Avista's gas storage activities for Oregon regulated operations are included as a component of gas costs. These activities are estimated in setting the forward looking commodity cost and trued up in the annual Purchased Gas Adjustment (PGA). When gas storage activities make money, customers benefit through a reduced overall cost of gas. Conversely, if gas storage activities are not profitable, customers will see an increase to the overall cost of gas.

To forecast PGA costs, storage injections are assumed to occur throughout the summer at levels complementing the decreasing system demand requirements and conceding with assumed lower pricing. This schedule for injections is often referred to as a "synthetic" schedule. While this schedule does provide a basis for forward pricing, it may not actually be achieved in practice due to maintenance schedules and variability in facilities.

As part of its active management, Avista takes advantage of economic opportunity beyond the traditional summer/winter storage cycle provided with the synthetic injection and withdrawal schedule.

Avista uses a synthetic injection and withdrawal schedule for forecasting future natural gas supply requirements. The synthetic schedule is designed to provide for summer/winter price benefits and to meet peaking requirements within the operational limits (both daily and seasonal) of the storage facilities and/or contracts. Withdrawal volumes are shaped to provide the greatest economic benefit during higher demand months. For example, the schedule may be set up to defer any withdrawals in November and increase withdrawals during January and February (generally higher priced winter months). Once the Company is in the current gas year, the synthetic schedule is dynamic and will be altered as new operational or pricing information becomes available.

Pricing of Gas Injected for Storage

All gas injected on any given day will be priced using a calculation based on the basin weighted daily price for all natural gas delivered for system supply used and storage injection. The premise is to value all gas at its respective supply basin. For example, if all gas used for Avista's supply and storage injections were sourced the Sumas, then all storage injections for that particular day would be priced at Sumas daily price. However if the gas required for system and storage on a particular day were sourced 50% AECO, 25% Sumas, and 25% Rockies, then the Weighted Average Cost of Gas (WACOG) injected for that day would be weighted by each supply basin's daily price, accordingly.

Each of the three storage resources maintain its own WACOG for the gas stored at the facility. The WACOG for each facility is adjusted daily as injections are made. Withdrawals from storage will all be priced at the facilities WACOG and do not affect the WACOG of the gas remaining at the facility. Over the course of the year, the WACOG at each facility can vary significantly, due to the differing injection, withdrawal, and total volume capabilities of each facility.

Fixed and Variable Costs Associated with Gas Storage

The costs associated with gas storage activities vary for each of the facilities. Specifically, for the owned capacity at Jackson Prairie, Puget Sound Energy operates the facility on behalf of the partners and invoices Avista for its share of the actual variable operating and maintenance costs associated with its available capacity and appropriate deliverability.

For the leased portion of Jackson Prairie, the Company pays the Northwest Pipeline (NWP) SGS-2F tariff rate of 1.85 percent plus the applicable tariff fuel rate of 0.26 percent, for a total of 2.11 percent. These charges are calculated as a percentage of the transaction, are “in-kind” charges, and affect the overall storage WACOG. If the Company injects 10,000 Dth into the leased portion of Jackson Prairie, and the price of gas was \$4.00/Dth, then the WACOG would be \$4.0862/Dth as calculated below:

Quantity	10,000 Dth
Price	\$4.00/Dth
Total Cost	\$40,000
“in-kind” Fees (10,000 X 2.11%)	211 Dth
Quantity Net of Fee (10,000 – 211)	9,789 Dth
WACOG (\$40,000 / 9,789 Dth)	\$4.0862/Dth

For the leased storage capacity at Mist, the Company pays a fixed annual lease amount (which was filed as confidential) then pays a fuel rate for injections. The current fuel rate for Mist is 2.0 percent. As opposed to the leased Jackson Prairie facility where all costs of the facility were included in the WAGOG, only the fuel rate is included and the fixed annual lease payments are not.

Review of Transactions

During the review Staff identified several transactions in which the maximum daily limits for individual facilities were exceeded (both injection and withdrawal) as well as wash transactions (injections and withdrawals being made on the same day).

Avista explained that the daily limits for each facility are not necessarily firm limits, and exceptions may be granted on an “as-available basis.” According to the Company, when withdrawals are in excess of maximum limits, it is usually attributed to a

forecasted short term cold weather event where storage is a better economic supply than spot market purchases. Injections in excess of maximum, are often attributed to taking advantage of economics by increasing volumes during lower priced events.

For Jackson Prairie there are no additional fees/charges for exceeding the injection/withdrawal limits. Fees may be incurred for excess injections/withdrawals at Mist. However, Avista has avoided such additional charges by requesting additional rights prior to scheduling injections.

According to Avista, gas is injected and withdrawn on the same day as a mechanism to achieve storage optimization without incurring additional transportation charges. The Company actively manages its storage and looks for opportunities to lock in known values which can occur between months.

If gas on a given day is trading at \$6.00 and the forward price for two months in the future is \$8.00, Avista can utilize storage and purchase the \$6.00 gas, inject it in storage, hold it for two months, withdraw the gas and sell it for \$8.00. As long as the costs are less than \$2.00, ratepayers benefit from this opportunity. During the withdrawal (sale) month, the company may also have gas scheduled for injection. In that instance actually withdrawing and injecting new gas would incur significant fuel and transportation fees. In these instances, the Company books these transactions as if they would have occurred, without physically moving the gas in and out of storage. Thus saving the fuel and transportation fees.

While generally speaking, gas storage activities benefit Oregon ratepayers, there does appear to be a period when ratepayers did not benefit from storage. This occurred during early 2009. During the summer/fall of 2008 when Avista was storing gas for the upcoming heating period, gas prices were quite high by today's standards. Between the period of time when the gas was stored (injected) and when it was used (withdrawn) gas prices fell significantly. This caused the WACOG gas in storage to be more expensive than market purchases when it was withdrawn. In this isolated instance (the 2008/2009 heating period) ratepayers paid a higher cost of gas as a result of gas storage.

Regarding the Mist storage capacity, while the actual lease payments were filed as confidential, the lease payments are substantial. Considering that the 2.0 percent fuel charge is layered on top of these lease payments, Avista needs to recognize a significant benefit from storage activities at Mist in order for Oregon ratepayers to see a cost benefit. That being said, ratepayers do appear to have benefited during the 2009/2010 heating period from Mist storage. However, with the Lease expiring in April 2011, Staff strongly encourages Avista to perform a thorough cost benefit analysis, considering the risks involved, with Mist storage.

Other

During the Audit, Staff was made aware of an issue in the allocation of property taxes related to the owned Jackson Prairie storage capacity. It appears that during 2009, Oregon was not allocated any of the \$29,139 in Lewis County property taxes. Oregon should have been charged 13.69 percent or \$3,989. Avista has corrected this mistake.

Staff appreciates the promptness and thoroughness of Avista in responding to Data Requests during the audit process.

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