

BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UM 1654

In the Matter of)
)
NORTHWEST NATURAL GAS COMPANY)
dba NW NATURAL) CUB'S SECOND HEARING LIST OF
) EXHIBITS TO BE ENTERED INTO
Investigation of Interstate Storage and) THE RECORD
Optimization Sharing.)

During the January 2014 hearing CUB submitted the following exhibits into the record and they were accepted into the record by the ALJ.

CUB January 2014 Pre-Filed Exhibits

CUB 100 Series

Exhibit No.	Document	Admitted Yes/No
Exhibit CUB/100	UM 1654 CUB/100 Opening Testimony of the Citizens' Utility Board of Oregon	YES
Exhibit CUB/101	UM 1654 CUB/101 Witness Qualification Statement	YES
Exhibit CUB/102	UM 1654 CUB/102 Confidential	YES
Exhibit CUB/103	UM 1654 CUB/103 OPUC Workshop – NWN Presentation “Interstate Storage Optimization Sharing (Schedules 185 and 186) May 8, 2013	YES
Exhibit CUB/104	UM 1654-CUB-DR5	YES
Exhibit CUB/105	UM 1654 CUB/105 UM 1654-CUB-DR3	YES
Exhibit CUB/106	UM 1654 CUB/106 NW Natural Office Correspondence to Bonnie Tatume dated	YES

UM 1654 –CUB'S SECOND HEARING LIST OF EXHIBITS TO BE ENTERED INTO THE RECORD

October 25, 1999

Exhibit CUB 107	UM 1654 CUB/107 UM 1654-CUB-DR 6	YES
Exhibit CUB 108	UM 1654 CUB/108 UM 1654-CUB-DR 7	YES
Exhibit CUB 109	UM 1654 CUB/109 UM 1654-CUB-DR 4	YES
Exhibit CUB 110	UM 1654 CUB/110 Public Utility Commission of Oregon Staff Report Public Meeting Date April 25, 2000.	YES

CUB 200 Series

Exhibit CUB/200	Reply Testimony of the Citizens' Utility Board of Oregon	YES
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Requests for the taking of Official Notice pursuant to OAR OAR 860-001-0460(1)(b).¹

¹ **860-001-0460**

Official Notice

(1) The Commission or ALJ may take official notice of the following:

- (a) All matters of which the courts of the State of Oregon take judicial notice;
- (b) Rules, regulations, administrative rulings, and reports of the Commission and other governmental agencies;
- (c) Permits, certificates, and licenses issued by the Commission;
- (d) Documents and records in the files of the Commission that have been made a part of the files in the regular course of performing the Commission's duties;
- (e) General, technical, or scientific facts within the specialized knowledge of the agency;
- (f) The results of the Commission's or ALJ's inspection of property at issue in the proceedings if advance notice of the inspection was provided to the parties.

(2) The Commission or the ALJ must notify the parties when official notice is taken. The notice may be given on the record during the hearing, in an ALJ ruling, or in a Commission order. A party may object to the fact noticed within 15 days of the hearing during which notice was given,

UM 1654 -CUB'S SECOND HEARING LIST OF EXHIBITS TO BE ENTERED INTO THE RECORD

CUB also make the following requests for items for which Administrative Notice was requested.

First Request for taking Administrative Notice

In re Petition of Commission's Staff for an Investigation into Washington Gas Light Company's Asset Management Practices and Cost Recovery of Natural Gas Purchases, MD PSC Case No. 9158, Order No. 85059, 15 (Aug. 16, 2012)

Second Request for taking Administrative Notice

Investigation by the department of Public Utilities on its own motion into the ratemaking treatment of margins generated from interruptible transportation, capacity, release, off-system sales, interruptible sales, portfolio management and optimization agreements, and related transactions, Mass. DPU 10-62-A, 2013 Mass. PUC LEXIS 21; 304 P.U.R. 4th 71 (February 19, 2013)(removing prior threshold for sharing and instead instituting sharing 90% customer 10% utility)

Third Request for taking Administrative Notice

Application of Washington Gas Light Company; For a general increase in rates and charges and to revise its terms and conditions for gas service, Virginia State Corporation Commission Docket No. PUE-2010-00139, 2012 Va. PUC LEXIS 208 (July 2, 2012)(order upholding stipulation which at Section 7 contained provisions stating that "Virginia customers shall receive 100% fo the first \$3.2 million of net asset optimization revenues. Of the next \$3,300,000 of Virginia-allocated net revenues, the sharing shall be 75% to customers and 25% to the Company. Virginia-allocated net revenues in excess of \$6,500,000 shall be shared equally between customers (50%) and the Company (50%).")

Fourth Reqeust for taking Administrative Notice

Application of the Sourther Connecticut Gas Company for Approval of a Gas Supply Management Agreement, Conn. Docket No. 00-02-13, 2000 Conn. PUC Lexis 62 (March 15, 2000)(found that 85% to ratepayers and 15% to shareholders was appropriate)

Fifth Reqeust for taking Administrative Notice

the ALJ ruling, or the Commission order. The objecting party may explain or rebut the noticed fact.

Stat. Auth.: ORS 756.040 & 756.060

Stats. Implemented: ORS 183.450, 756.040 & 756.500 – 756.575

Hist.: PUC 5-2010, f. & cert. ef. 10-22-10

UM 1654 –CUB'S SECOND HEARING LIST OF EXHIBITS TO BE ENTERED INTO THE RECORD

In the Matter of the Application Centerpoint Energy Resources Corp., D/B/A Centerpoint Energy Oklahoma Gas, For Approval of an Asset Management Agreement and Revenue-Sharing Mechanism, Oklahoma Corporation Commission, Order No. 591459, 2011 Okla. PUC LEXIS 153 November 30, 2011) (found that when all benefits under the AMA are considered, an 80% customer 20% company sharing arrangement exists)

Administrative Notice was taken of each of the above.

CUB's July 2014 Post Hearing Brief Exhibits

CUB now requests that the following data requests issued in response to the February 3, 2014 Hearing and Transcript and answered in April, 2014, when no more opportunities for testimony existed, be admitted into the record. CUB is numbering these requests as the CUB Exhibit 300 series for ease of review. All of these exhibits will be referenced in CUB's First Post hearing Brief to be filed on July 25, 2014. CUB is submitting this request to the Commission prior to the date for briefing so that any issues pertaining to CUB's utilization of these data requests may be dealt with at the July 10, 2014 hearing.

CUB 300 Series

Exhibit CUB/300	UM 1654-CUB-DR 26.
Exhibit CUB/301	UM 1654-CUB-DR 27.
Exhibit CUB/302	UM 1654-CUB-DR 28.
Exhibit CUB/303	UM 1654-CUB-DR 29.
Exhibit CUB/304	UM 1654-CUB-DR 34.
Exhibit CUB/305	UM 1654-CUB-DR 40.
Exhibit CUB/306	UM 1654-CUB-DR 42.
Exhibit CUB 307	UM 1654-CUB-DR 46.

UM 1654 –CUB'S SECOND HEARING LIST OF EXHIBITS TO BE ENTERED INTO THE RECORD

Exhibit CUB 308	UM 1654-CUB-DR 47.
Exhibit CUB 309	UM 1654-CUB-DR 56.
Exhibit CUB 310	UM 1654-CUB-DR 63.
Exhibit CUB 311	UM 1654-CUB-DR 79.
Exhibit CUB 312	UM 1654-CUB-DR 80.
Exhibit CUB 313	UM 1654-CUB-DR 81.
Exhibit CUB 314	UM 1654-CUB-DR 87.
Exhibit CUB 315	UM 1654-CUB-DR 94.
Exhibit CUB 316	UM 1654-CUB-DR 95.
Exhibit CUB 317	UM 1654-CUB-DR 96.
Exhibit CUB 318	UM 1654-CUB-DR 97.
Exhibit CUB 319	UM 1654-CUB-DR 98.
Exhibit CUB 320	UM 1654-CUB-DR 99.
Exhibit CUB 321	UM 1654-CUB-DR 100.
Exhibit CUB 322	UM 1654-CUB-DR 101.
Exhibit CUB 323	UM 1654-CUB-DR 103.
Exhibit CUB 324	UM 1654-CUB-DR 104.

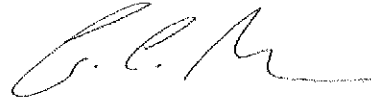
Requests for the taking of Official Notice pursuant to OAR OAR 860-001-0460(1)(b)

In addition CUB is also requesting that the Commission take Official Notice of CUB's Response Testimony in UM 1635 CUB/200 Jenks/2-4 "II. The Fairness Test: A Tale of Two Dockets".

UM 1654 –CUB'S SECOND HEARING LIST OF EXHIBITS TO BE ENTERED INTO THE RECORD

Dated this 9th day of July, 2014.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'G. C. McCracken', written in a cursive style.

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UM 1654 –CUB'S SECOND HEARING LIST OF EXHIBITS TO BE ENTERED INTO THE
RECORD

UM 1654 – CERTIFICATE OF SERVICE

I hereby certify that, on this 9th day of July, 2014, I served the foregoing **CUB’S SECOND HEARING LIST OF EXHIBITS TO BE ENTERED INTO THE RECORD** in docket UM 1654 upon each party listed in the UM 1654 PUC Service List by email and, where paper service is not waived, by U.S. mail, postage prepaid, and upon the Commission by email and by sending one original and one copy by U.S. mail, postage prepaid, to the Commission’s Salem offices.

(W denotes waiver of paper service)

(C denotes service of Confidential material authorized)

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Respectfully submitted,



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Data Request Response

Request No. UM 1654-CUB-DR 26:

Refer to the following web link and the statement contained thereon:

<https://www.nwnatural.com/AboutNWNatural/RatesAndRegulations/RegulatoryActivities/Mist/>

“How is Mist Utilized?”

By 2009, a total of 51 reservoirs had been discovered and 71 billion cubic feet (bcf) of natural gas, or about 667 million therms, had been extracted. This gas, called production gas, continues to flow in NW Natural’s system each day.

Once natural gas was extracted from two of the larger reservoirs, the Flora and Bruer Pools, NW Natural found that it could use them as underground storehouses. Large amounts of natural gas could be injected into these empty reservoirs—which are located in a large body of buried sandstone—and could then be withdrawn as needed.”

With regard to the above, and Mr. White and Mr. Friedman’s testimony on February 3, 2014 in regard to seven (7) reservoirs at MIST, please provide the following information:

- a. In what year did NWN commence extraction of production gas from MIST?
- b. What were the production gas revenues at MIST per year over the course of the life of all MIST production gas wells per well? Please provide name, annual production bcf, annual revenue, annual production cost for each well?
- c. How many BCF of production gas are still in production today?
- d. Were all of the production gas wells paid for with ratepayer dollars?

Response: 04/10/2014

- a. As stated at the same web link cited in the question, gas was discovered at Mist in 1979, and that is when production began.
- b. Volumes: NW Natural objects to this request because providing production gas volumes per year per well over the life of each well would be extremely burdensome.

Costs: NW Natural does not own the production properties, and therefore does not know the production costs for each well.

Despite the above notes, NW Natural can provide the following information in response to the request. The Production Gas Costs listed below represent the

costs paid by NW Natural to the third party (Enerfin) that owns the majority of the production wells, along with the cost of the gas produced by the wells that NW Natural currently owns. NW Natural performs limited field and accounting services for Enerfin and charges them for these services. The Production Gas Revenues listed represent the amount of revenue generated from these services.

	Production Gas Costs	Production Gas Revenues
2008	\$ 4,210,381	\$ 56,984
2009	6,435,931	58,788
2010	7,845,951	127,966
2011	6,717,953	110,310
2012	3,658,267	62,365
2013	3,179,734	74,331
	<u>\$ 32,048,217</u>	<u>\$ 490,744</u>

- c. The Mist field produced approximately 0.6 Bcf in calendar year 2013.
- d. Production gas wells prior to 1995 may have been paid for with some mix of ratepayer and third party dollars, but in 1995, the structure for drilling and producing gas in the Mist field changed due to the bankruptcy of Nahama & Weagant Energy Company, which had been the latest in a series of partners to NW Natural in such activities. Since 1995, all new gas production wells have been drilled by Enerfin Resources, an independent exploration and production company based in Houston. No ratepayer dollars have been used to pay Enerfin's exploration, drilling or development costs. NW Natural only pays for gas that is produced and delivered by Enerfin to NW Natural's system in that area. That gas purchase agreement with Enerfin is included in each year's PGA filing.

UM 1654 CUB/301/Jenks-McGovern/1 is confidential and will be provided to those parties that have been designated to receive confidential information in this proceeding.



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Data Request Response

Request No. UM 1654-CUB-DR 28:

Mr. White and Mr. Friedman talked a lot in their hearing testimony about incremental costs for MIST storage. They said incremental costs were paid for by storage. Non incremental costs must fall to system. Of the following list of costs please tell CUB which costs would be non incremental or incremental in relation to MIST Storage:

- a. Time NW Natural's Treasurer spent on financing of interstate storage
- b. Each cost of issuing the debt
- c. The FERC filings associated with the FERC tariff for interstate storage and the time it takes to make the FERC filings
- d. Negotiation, drafting and monitoring of the Tenaska contract by the legal department
- e. O & M at MIST

Response: 04/10/2014

- a. Non-Incremental, there have not been any separate financings for interstate storage. The capital requirements for individual expansions have been worked into the overall Company capital budget and associated financing plan.
- b. Debt issue costs are part of the Company's long-term embedded cost of debt rate. The long-term embedded cost of debt rate is used to allocate interest expense to interstate storage. This rate is adjusted in each rate case and as such the cost of issuing debt is allocated to interstate storage but not directly charged.
- c. Incremental, with internal costs covered under the FTE allocation described in the Company's response to UM 1654-CUB-DR 8, and external costs specifically charged to this cost area.
- d. Same as the response to c.
- e. Same as the response to c.



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Data Request Response

Request No. UM 1654-CUB-DR 29:

How many employees (total company) are allocated to:

- a. MIST Storage (please divide by above line and below line)
- b. interstate storage at MIST (please divide by above line and below line)

Please indicate which employees are employees of NW Natural only and which are employees of NW Natural Storage.

Response: 04/10/2014

Except as noted in the footnotes, these are FTE counts, not individual employees. There are no employees of NW Natural Gas Storage, LLC allocated to Mist Storage or Interstate Storage. Any time spent on Interstate storage by NW Natural Gas Storage, LLC is billed directly to NW Natural on an actual basis. NW Natural Gas Storage, LLC does not support Mist Storage.

- a. Mist Storage (above the line): 9.5 [1]
- b. Interstate storage (below the line): 4.5 [2]

- [1] There are 9 employees physically located at the Miller Station at Mist. One FTE from the 9 employees at Miller Station is allocated to Interstate storage. The 0.5 FTE is administrative support.
- [2] Includes the 1 FTE referenced in [1] above. See NWN/200, Friedman/5-7 for a discussion of the remaining 3.5 FTEs.



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Data Request Response

Request No. UM 1654-CUB-DR 34:

What is the depreciable life of a storage investment? How is that depreciable life established? Is there a difference between the depreciable life used in regard to interstate storage and core customers?

Response: 04/10/2014

The average remaining depreciable life of Northwest Natural's underground storage investment is 44 years. It represents an average of the following types of assets.

Type of Asset	Remaining Useful Life
Land Rights	62
Structures and Improvements	58
Wells	48
Storage Leaseholds and Rights	51
Reservoirs	50
Nonrecoverable Gas	53
Lines	58
Compressor Station Equipment	43
Measuring and Regulating Equipment	53
Purification Equipment	40
Other Equipment	44
Average	44

These depreciable lives were based upon a Depreciation Study prepared by Gannett and Fleming that was reviewed and approved by the OPUC Staff. The resulting depreciation rates were effective January 1, 2009.

The depreciation rates for each FERC Plant Account are the same for Non-utility (Interstate Storage) and Utility (Core) assets.



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Data Request Response

Request No. UM 1654-CUB-DR 40:

February 3, 2014 Hearing Transcript at 21 line 10. What are the shared facilities at the site?

Response: 04/10/2014

The shared facilities at the Mist central operations site (referred to as "Miller Station") consist of the three previously installed compressors (1 turbine and 2 reciprocating totaling approximately 8,000 HP), gas processing equipment (primarily for dehydration), and the pipelines and appurtenances (meters, valves, etc.) used to connect them with the gas entering Miller Station from the storage reservoirs, plus the control building (electronic systems used to monitor and control the operations 24/7) and other pre-existing buildings and structures (a shop for maintenance activities, parts storage, security systems, etc.) that are used by the Miller Station staff.



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Data Request Response

Request No. UM 1654-CUB-DR 42:

February 3, 2014 Hearing Transcript at 22 lines 9-25 and at page 23 line 1. CUB was confused by the discussion of the governance of NW Natural Storage. Please explain in detail the relationship between NW Natural Storage and NW Natural. Please also provide a corporate structure chart demonstrating the relationship and the governance structure.

Response: 04/10/2014

NW Natural Gas Storage LLC is a subsidiary of NW Natural. It is responsible for all aspects of Gill Ranch Gas Storage, which is subject to CPUC jurisdiction, and provides certain services related to NW Natural's Interstate/Intrastate Storage Services provided from Mist.

As described at hearing (transcript page 23, lines 3-15), NW Natural Gas Storage provides two services:

1. Marketing of existing capacity.
2. Project development for any expansions.

Any new contracts arising from marketing of existing capacity are subject to approval from Mr. White, who is the "business owner" within NW Natural.

Operations at Mist are managed within NW Natural.

Please see Affiliated Interest Report for corporate structure which can be found on the OPUC website under Docket RG 8 at:

<http://apps.puc.state.or.us/edockets/docket.asp?DocketID=17144>



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Data Request Response

Request No. UM 1654-CUB-DR 46:

February 3, 2014 Hearing Transcript at 35 lines 21- 25. Why does NW Natural not track optimization transactions? Why does NW Natural not know if it is using core capacity or interstate capacity?

Response: 04/10/2014

NW Natural does track optimization transactions. A listing of individual optimization transactions is provided on a monthly basis by Tenaska to NW Natural. The statements for each month in the years 2011 and 2012 were provided in response to data request UM1654-CUB-DR 10, Attachments-1 through 24 CONFIDENTIAL, of which one month was attached to Mr. Friedman's Reply Testimony (NWN/402, Friedman/2-13 REDACTED). Tenaska does not identify the names of the specific counterparties in those spreadsheets to protect the confidentiality of their third party transactions, but the transactions are subject to auditing by NW Natural as allowed per the agreement with Tenaska, which was provided in response to UM 1654-CUB-DR11, Attachment-1 CONFIDENTIAL, and submitted by CUB in its Response Testimony (CUB/102, Jenks-McGovern 1-26 CONFIDENTIAL).

Mist is operated as an integrated facility such that the particular dispatch of reservoirs, compressors and other equipment is not based on Core versus Interstate ownership, but rather, by what is collectively most efficient and cost-effective.



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Data Request Response

Request No. UM 1654-CUB-DR 47:

February 3, 2014 Hearing Transcript at 36 lines 5-6. What did Mr. White mean when he said in 2007 NW Natural had fully built out MIST?

Response: 04/10/2014

With the 2007 expansion, the Company reached the maximum capacity possible from the current supporting infrastructure – specifically, compressor station (Miller Station) and transmission pipeline takeaway (South Mist Pipeline and North Mist Feeder). These are the shared facilities that formed the underlying basis for the 20% sharing with customers.

There are additional reservoirs that can be developed. However, any further development will require a new second compressor station site. Miller Station cannot physically be expanded any further. In addition, new pipeline takeaway capacity would be required. Consequently, any prospective future expansion would require a whole set of new facilities and not be able to make use of shared infrastructure in place.



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Data Request Response

Request No. UM 1654-CUB-DR 56:

February 3, 2014 Hearing Transcript at 112 lines 1-3 and 19 -25. Please provide a detailed description of what the incremental cost is that you state shareholders are paying fully for? Is it the "storage cost component? If so how is that calculated? Does this equate to the \$80,000,000 referenced on February 3, 2014 Hearing Transcript at 113 line 5?

Response: 04/10/2014

Please see Exhibit NWN/303/White/1, which the hearing discussion referenced in the request was regarding.

The incremental capital costs shown in the exhibit are as of December 2012. They are net of accumulated depreciation and cumulative Mist Recall investment.

The initial incremental capital cost is essentially the entire project expansion cost. That is, for expansions since 2001, shareholders pay for 100% of the investment and have use of that capacity to provide Interstate Storage Services. In future years, a pro-rata allocation of this incremental cost then may be tracked into core customer rates in proportion to the capacity being recalled to serve core utility customers.

Incremental costs include both storage and transmission related investment.

- The first line shows the storage cost component. The \$80.4 million is the total investment at Mist; it includes both the \$45.3 million investment included in core customer rates as well as the \$35.1 million investment not in rates that supports Interstate Storage capacity. The Interstate Storage investment is for reservoirs (Reichhold, Busch, Schlicker and Meyer), the second turbine compressor and a third dehydration unit at Miller Station.
- The second and third lines show the transmission related investment. The Interstate Storage \$1.1 million investment related to North Mist Transmission is for a compressor and filtration at the Deer Island gate. The South Mist Transmission \$4.9 million investment is for a compressor at the Molalla gate. Both compressors are to provide the physical ability to inject on to Northwest Pipeline.



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Data Request Response

Request No. UM 1654-CUB-DR 63:

February 3, 2014 Hearing Transcript at 138 lines 1-9. Please provide copies of all Risk Management policies and any amendments thereto for the years 1998 to 2014.

Response: 04/10/2014

The Company's Risk Management Policy 110 originated in 2005. Copies of each version of the policy since 2005 are provided. The Company has not been able to locate any predecessors to this Policy 110 that the Company believes would be responsive to this request.

See attachments:

- UM 1654 CUB DR 63 Attachment-1-2005 CONFIDENTIAL
- UM 1654 CUB DR 63 Attachment-2-2007 CONFIDENTIAL
- UM 1654 CUB DR 63 Attachment-3-2011 CONFIDENTIAL
- UM 1654 CUB DR 63 Attachment-4-2012 CONFIDENTIAL

UM 1654 CUB/310/Jenks-McGovern/2-121 are confidential and will be provided to the Commission and those parties who are designated to receive confidential information in this proceeding.

UM 1654 CUB/311/Jenks-McGovern/1 is confidential and will be provided to those parties that have been designated to receive confidential information in this proceeding.

UM 1654 CUB/312/Jenks-McGovern/1 is confidential and will be provided to those parties that have been designated to receive confidential information in this proceeding.

UM 1654 CUB/313/Jenks-McGovern/1 is confidential and will be provided to those parties that have been designated to receive confidential information in this proceeding.



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Data Request Response

Request No. UM 1654-CUB-DR 87:

February 3, 2014 Hearing Transcript at page 26. Does Mr. White spend time on non-core storage that is incremental to his work for the core utility business? Is this time billed as an incremental cost?

Response: 04/10/2014

Yes, Mr. White spends time on non-core storage. His time spent on Mist Storage Services is not tracked and charged, however, because his position is not an incremental add due to Mist Storage Services.

Mr. White also spends time related to Gill Ranch Storage. His time in this instance is tracked and charged to the Company's NW Natural Gas Storage subsidiary.



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Data Request Response

Request No. UM 1654-CUB-DR 94:

Please provide a list of the assets at Mist and identify what is in rate base and what is not in rate base.

Response: 04/10/2014

See following list of assets categorized by those in rate base and those not in rate base:

In rate base

Bruer Reservoir	Buildings
Flora Reservoir	Fire suppression system
Al's Reservoir	Data lines
Reichhold Reservoir	Power lines
Miller Station (Compression Facility)	Security system
KC 300 reciprocating compressor	Water tanks
KC 400 reciprocating compressor	Fuel storage
GC 500 centrifugal (turbine) compressor	Methanol storage
Dehydration System (in service 1989)	Communications
Cushion Gas	Microwave
North Mist Pipeline - 12" pipeline to	Water treatment
North Coast Feeder	Vehicles
South Mist Feeder - 16"	Spare parts
South Mist Pipeline Extension - 24"	Tools
Gathering pipelines	Computers
Acreage	
Mineral rights	
Monitoring equipment	
Metering equipment	
Processing equipment	
Odorization equipment	
Bunk house	
Standby generation	
Filtration	
Pressure and flow control	

Not in rate base *

Bruer Reservoir I/W Wells
Flora Reservoir I/W Wells
Reichhold Reservoir
Busch Reservoir
Schlicker Reservoir
Meyer Reservoir
Cushion Gas
GC 600 centrifugal (turbine) compressor
Dehydration System (in service 2004)
Molalla Gate compressor
Deer Island Gate compressor
North Coast feeder upgrades

*Please note that there are certain other assets that have not yet been put into use, and that are held for future use, which represent investments of shareholder funds. These include things such as certain 3-D seismic mapping, and legal work on securing storage lease rights.



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Data Request Response

Request No. UM 1654-CUB-DR 95:

How many undeveloped reservoirs are at Mist? Are the undeveloped reservoirs at Mist currently in rate base?

Response: 04/10/2014

Approximately 56 underground gas reservoirs have been discovered at Mist, of which 7 have been produced and developed into storage, while another 12 are currently in some stage of being produced. The rest of the reservoirs have been produced to the ends of their respective useful lives. None of the reservoirs are in rate base aside from the 3 storage reservoirs fully used by the Core (Bruer, Flora and Al's Pool) and a portion of a fourth storage reservoir that has been partially recalled (Reichhold).

UM 1654 CUB/317/Jenks-McGovern/1 is confidential and will be provided to those parties that have been designated to receive confidential information in this proceeding.



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Data Request Response

Request No. UM 1654-CUB-DR 97:

On pages 37 and 38 the witness discusses liquids extraction and refers to Enron and other bankrupt companies.

- a. Please identify the role of liquid extraction in the fall of Enron or in the bankruptcy of other energy companies.
- b. Please identify the role of specific asset optimization activities in the fall of Enron or the bankruptcy of other energy companies

Response: 04/10/2014

- a. Mr. Friedman's reference to "trading activities" (Hearing Transcript page 38, line 25) was not intended to be specific to liquids extraction, but rather, to all of the activities involved in the buying and selling of energy in wholesale markets including accounting and corporate governance. For those interested in a lengthy recounting of the rise and fall of Enron, Mr. Friedman found the book *Pipe Dreams*¹ to be particularly interesting, though the book *The Smartest Guys in the Room*² seems to have received far more attention, perhaps because it had a more memorable title and was subsequently made into a documentary film. Of course many shorter articles exist.³

Other energy companies that went through bankruptcy, nearly went bankrupt, closed their trading units or otherwise were harmed by the fallout from the Enron scandal through guilt by association because of their own trading activities included AEP, Aquila, CMS, Dynegy, El Paso, Mirant, Reliant and Williams⁴, not to mention the accounting firm Arthur Andersen.

- b. We are not aware of the specific role that asset optimization activities may have played in the fall of Enron, though Enron certainly was involved in such activities.⁵ NW Natural's own experience is that its asset optimization partner during the time period immediately surrounding the Enron bankruptcy was Aquila, and that Aquila decided to exit the wholesale energy trading business during the "post-Enron shakeout".⁶

¹ <http://www.amazon.com/Pipe-Dreams-Greed-Death-Enron/dp/1586482017>

² <http://www.amazon.com/The-Smartest-Guys-Room-Scandalous/dp/1591840538>

³ See, for example, <http://www.nytimes.com/2006/01/18/business/worldbusiness/18iht-web.0117enron.time.html?pagewanted=all>

⁴ <http://www.naturalgasintel.com/articles/print/60785-with-dynegy-s-exit-from-trading-list-of-former-heavyweights-grows>

⁵ See, for example, <http://www.nytimes.com/1998/02/13/nyregion/brooklyn-gas-to-turn-over-some-business-to-enron.html>

⁶ <http://www.highbeam.com/doc/1G1-90183450.html>



Rates & Regulatory Affairs

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UM 1654

Data Request Response

Request No. UM 1654-CUB-DR 98:

Confidential page 68 refers to the last compressor at Mist and that "we might be using that compressor to help facilitate the movement of gas."

- a. What compressor are you referring to?
- b. When was it placed in service?
- c. Who authorized it?
- d. Please provide a copy of the analysis the company used to support the decision to purchase and install this compressor.
- e. What percentage of gas transactions that involve core gas being placed into Mist or pulled out of Mist use this compressor?

Response: 04/10/2014

- a. "that compressor" refers to the larger of the two turbine compressors at Mist, approximately 7,500 HP, which was the last compressor purchased.
- b. That larger turbine compressor went into service in 2001 at the onset of Interstate Storage services.
- c. The expenditure would have been approved up through NW Natural's Board of Directors.
- d. NW Natural has not been able to locate documents responsive to this request. NW Natural notes that these documents would not still be retained by the Company under NW Natural's record retention policies.
- e. Since Mist is operated as an integrated facility, it would be impossible to track this unit's operation to a specific percentage of core gas being placed into or pulled out of Mist storage.



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Data Request Response

Request No. UM 1654-CUB-DR 99:

On Confidential page 68, Mr. Friedman refers to this compressor as “an example” and as “the one exception” to the optimization assets being purchased on behalf of customers. Please provide a list of all assets that were not financed by core customers that are used for optimization.

Response: 04/10/2014

In addition to the compressor, these assets would include the deliverability associated with the wells and reservoirs added for Interstate Storage (Schlicker, Busch, Meyer and the portion of Reichhold that has not yet been recalled), the additional equipment added for gas processing (specifically the third dehydration tower), and the piping and related appurtenances that tie these assets into the rest of the facility. There is also compression and related piping and equipment installed at the Molalla and Deer Island gate stations that were either purchased or leased for use in providing Interstate Storage services.



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Data Request Response

Request No. UM 1654-CUB-DR 100:

100. February 3, 2014 Hearing Transcript at page 85, Mr. White is discussing the \$65 million shareholder investment in Mist. Please provide a list of the investment that add up to this amount. For each investment please provide the following:

- a. What was the year the investment was placed in service?
- b. Who authorized the investment?
- c. Please provide all memos and supporting documents that were used to evaluate this investment and were part of the approval process.

Response: 04/10/2014

- a. See UM 1654 CUB DR 100 Attachment 1 CONFIDENTIAL for details of the \$65 million shareholder investment in Mist and the dates it was placed in service.
- b. The investments were approved by NW Natural's Board of Directors as part of the capital budget.
- c. Because the investments are approved as part of the overall capital budget, there is no documentation specific to these investments.

UM 1654 CUB/321/Jenks-McGovern/2 is confidential and will be provided to those parties that have been designated to receive confidential information in this proceeding.



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Data Request Response

Request No. UM 1654-CUB-DR 101:

Please identify all elements of Mist that have been recalled, including:

- a. the year of the recall.
- b. the level of investment remaining on the asset.
- c. the increase in rate base associated with the recall
- d. who authorized the recall
- e. Please provide all memos and supporting documents that were used to evaluate this investment and were part of the approval process.

Response: 04/10/2014

- a. See NW Natural's response to UM 1654 CUB DR 45.
- b. See attached excel file UM 1654 CUB DR 101 Attachment-1-CONFIDENTIAL
- c. See attached excel file UM 1654 CUB DR 101 Attachment-1-CONFIDENTIAL
- d. See NW Natural's response to UM 1654 CUB DR 45
- e. See NW Natural's response to UM 1654 CUB DR 45

UM 1654 CUB/322/Jenks-McGovern/2-6 is confidential and will be provided to those parties that have been designated to receive confidential information in this proceeding.



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Data Request Response

Request No. UM 1654-CUB-DR 103:

February 3, 2014 Hearing Transcript at page 122, Mr. Friedman states "but you can just look at the ration of the compression provided by that last compressor station, and the ratio right now between interstate and core is in that – is that 57-43."

- a. Please provide workpapers that demonstrate that the compressor station leads to a ratio of 57-43.
- b. Does this refer to the ratio of core versus non-core gas that is utilized by the compressor station or is it a ratio of something else? If it is something else, please explain.

Response: 04/10/2014

Please note that the Transcript cite to the 57-43 ratio occurred at page 122, line 8, but Mr. Friedman immediately corrected that figure to 47-53 on line 11, and it is the 47/53 ratio that is subsequently cited in the Transcript, for example, on page 123, line 5 and on page 125, line 12.

- a. Referring to Mr. Friedman's Direct Testimony (NWN/200, Friedman/5, lines 16-17), he states that the "portion of Mist now reserved for core customers totals 275,000 Dth/day out of the current total Mist peak day deliverability of 520,000 Dth/day." Dividing 275,000 by 520,000 equals 52.88%, or 53% rounded. The remainder for Interstate is then 47%. Regarding the compressor station, Mr. Friedman elaborates starting at Transcript page 133, line 16, that it is more than just the compressors that create deliverability and the resulting 53/47 ratio. And whether the ratio is expressed as 53/47 or 47/53, the 53 refers to the percentage of Mist deliverability currently reserved for Core, while the 47 refers to the percentage of Mist deliverability currently available for Interstate Storage services.
- b. The ratio reflects the relative deliverability rates made possible by Core versus Interstate Storage investments.



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Data Request Response

Request No. UM 1654-CUB-DR 104:

Did NW Natural identify this compressor as the source of the sharing percentage between core and non-core in previous testimony in this case? If so please identify.

Response: 04/10/2014

The Company has identified its shareholder investment in over \$65 million in non-rate base assets as the source of the new capacity (see, e.g., NWN/100, White/5, lines 14-17). The major items funded by the over \$65 million in non-rate base assets would include compression, reservoirs, injection/withdrawal wells, connecting pipelines and gas processing equipment.