

ORDER NO.

18 007

ENTERED

JAN 05 2018

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

UM 1808

In the Matter of

NORTHWEST NATURAL GAS
COMPANY, dba NW NATURAL,

Updated Depreciation Study Pursuant to
OAR 860-027-0350.

ORDER

DISPOSITION: STIPULATION ADOPTED

I. INTRODUCTION

On December 20, 2016, Northwest Natural Gas Company, dba NW Natural, filed an updated depreciation study of its gas plant in service as of December 31, 2015, as required by OAR 860-027-0350.¹ The depreciation study showed an annual system depreciation expense of \$76.4 million, which reflected an approximate \$200,000 increase to the company's annual depreciation expense. Because the depreciation rate change was relatively small, NW Natural did not propose to change its depreciation rate in this proceeding.

A prehearing conference was held and a schedule adopted. Parties to the proceeding are NW Natural, Staff of the Public Utility Commission of Oregon, the Oregon Citizens' Utility Board (CUB), and Northwest Industrial Gas Users (NWIGU).

On September 19, 2017, the parties filed a stipulation that settles all issues in this proceeding, together with testimony sponsored by a witness on behalf of each party. The stipulation is attached to this order as Appendix A.

On October 10, 2017, NWIGU filed a motion requesting that the joint testimony and supporting exhibits be received into evidence. We grant the motion.

II. THE STIPULATION AND SUPPORTING TESTIMONY

As noted by the parties, under ORS 757.140 each public utility must carry a proper and adequate depreciation account. We are directed by the statute to determine the proper and adequate rates of depreciation for each of the classes of property owned by the public

¹ OAR 860-027-0350(2) requires that each energy utility must file a new depreciation study with the Commission no less frequently than once every five years.

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utility. Those rates must be sufficient to provide the utility the amounts required over and above expenses of maintenance to keep such property in a state of efficiency. Each utility must conform its depreciation accounts to the rates we determine.

As noted above, we promulgated OAR 860-027-0350 to establish a process to comply with ORS 757.140. The purpose of the depreciation study is to determine the annual depreciation accrual rates and amounts for accounting and ratemaking purposes. In its filing, NW Natural calculated an annual system depreciation expense of \$76.4 million, an increase of about \$200,000.

In their stipulation, the parties agree that the depreciation rates specified in their stipulation will result in an annual depreciation expense of about \$75.1 million, an approximate \$1.3 million decrease from the annual depreciation expense presented by NW Natural's initial filing. The overall composite depreciation rate for total depreciable gas plant is 2.71 percent, compared to the company's originally proposed 2.76 percent. NW Natural agrees to change its depreciation rates on its books and move the depreciation rates into customer rates at the time rates are effective in the company's next general rate case, which NW Natural filed on December 29, 2017, docket UG 344.

In their supporting testimony, the parties state that both Staff and NWIGU conducted an independent review and engaged in discovery to perform their analysis of NW Natural's filing. Staff conducted a field review for asset life assessment, and visited several company locations to discuss projected life and salvage rate of assets.

Depreciation rates are derived from two depreciation parameters: (1) the combination of Survival Curve² and Projection Life, and Net Salvage Rates.³ Staff used the actuarial retirement rate methodology to analyze historical retirement data to help determine Iowa curves and average service lives for each depreciation group. Where Staff's analyses produced differing results from NW Natural, the parties resolved their differences in settlement discussions.

Staff explains how it analyzed curve-lives, using the company's raw data or data from other gas companies. Based on its analysis, Staff recommended changes in the average service life or dispersion curve (or both) for the FERC account categories in the "Other Production Facilities, Underground Storage Plant, Local Storage Plant, Transmission Plant, Distribution Plant, and General Plant."

Staff also describes how it analyzed net salvage rates by examining rates submitted by NW Natural and reviewing the asset retirement activities by comparing year-to-year, three-year, and five-year moving averages, as well as the most recent five- and ten-year averages. Staff also used information gained from its site visits to evaluate asset retirement patterns and estimate net salvage value.

² "Survivor curves" means a curve that shows the number of units or cost of a given group which is surviving in service at given ages. The survivor curves were developed by the Engineering Research Institute of Iowa State University and are frequently referred to as "Iowa Curves."

³ Net salvage is the difference between gross salvage and cost of removal.

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For FERC 300 level accounts, both Staff and NW Natural used the statistical methods of overall averages, and rolling and shrinking band analyses to study historical data to help estimate net salvage characteristics.

Staff made multiple account adjustments as part of its analysis, resulting in depreciation rates increasing for some accounts and decreasing for other as compared with the results in the company's study. Staff's analysis resulted in a \$73.7 million annual depreciation expense (\$2.9 million less than the company's result).

III. RESOLUTION

We adopt the stipulation. The parties have described the thorough review and analysis that supports the stipulation, as well as the process that that resulted in their settlement. We find that the stipulation is fully supported by the record.

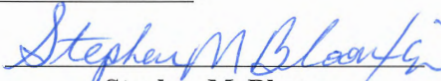
IV. ORDER

IT IS ORDERED that stipulation between Northwest Natural Gas Company, dba NW Natural, Staff of the Public Utility Commission of Oregon, the Oregon Citizens' Utility Board, and the Northwest Industrial Gas Users, attached as Appendix A, is adopted.

Made, entered, and effective on JAN 05 2018.

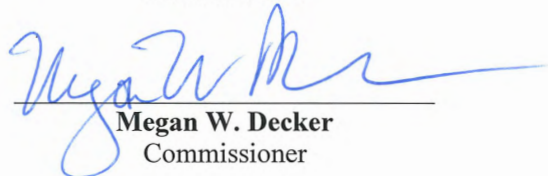


Lisa D. Hardie
Chair



Stephen M. Bloom
Commissioner





Megan W. Decker
Commissioner

A party may request rehearing or reconsideration of this order under ORS 756.561. A request for rehearing or reconsideration must be filed with the Commission within 60 days of the date of service of this order. The request must comply with the requirements in OAR 860-001-0720. A copy of the request must also be served on each party to the proceedings as provided in OAR 860-001-0180(2). A party may appeal this order by filing a petition for review with the Court of Appeals in compliance with ORS 183.480 through 183.484.

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**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

UM 1808

In the Matter of

NORTHWEST NATURAL GAS
COMPANY, dba, NW NATURAL

Updated Depreciation Study Pursuant
to OAR 860-027-0350

STIPULATION

1 This Stipulation resolves all issues among all parties to this docket related to
2 Northwest Natural Gas Company's ("NW Natural" or "Company") Updated Depreciation
3 Study Pursuant to OAR 860-027-0350 ("Depreciation Study") filed with the Commission
4 in Docket UM 1808 on December 20, 2016.

5

6

PARTIES

7 1. The parties to this Stipulation are Staff of the Public Utility Commission of
8 Oregon ("Staff"), the Northwest Industrial Gas Users ("NWIGU"), the Citizens' Utility
9 Board of Oregon ("CUB"), and NW Natural (together, the "Stipulating Parties").

10

11

BACKGROUND

12 2. On December 20, 2016, NW Natural filed with the Oregon Public Utility
13 Commission ("Commission") the updated Depreciation Study of its gas plant in service
14 as of December 31, 2015, pursuant to OAR 860-027-0350, which requires each
15 energy utility to file with the Commission an updated depreciation study at least once
16 every five years. ORS 757.140 requires each public utility to carry a proper and

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1 adequate depreciation account, and to conform its depreciation accounts to the rates
2 so ascertained and determined by the Commission. The Commission may make
3 changes in such rates of depreciation from time to time as the Commission may find
4 necessary. The purpose of the Depreciation Study is to determine the annual
5 depreciation accrual rates and amounts for accounting and ratemaking purposes. The
6 Depreciation Study included descriptions of the methods used in the estimation of
7 depreciation, the summary of annual depreciation accrual rates, the statistical support
8 for the life and net salvage estimates, and the detailed tabulations of annual
9 depreciation ("depreciation rates").

10 3. The Depreciation Study set forth an annual system depreciation expense
11 of \$76.4 million when applied to depreciable plant balances as of December 31, 2015,
12 which reflected an approximate \$200,000 increase to NW Natural's annual
13 depreciation expense.

14 4. On June 5, 2016, NW Natural, Staff, and NWIGU participated in a
15 settlement conference at the Commission's office in Salem, Oregon. The discussions
16 resulted in a settlement among the Stipulating Parties. The Stipulating Parties agree
17 that the depreciation rates agreed to in this Stipulation will result in annual
18 depreciation expense of approximately \$75.1 million, resulting in an approximate \$1.3
19 million decrease from the annual depreciation expense proposed in the Depreciation
20 Study. Attached Stipulation Exhibit "A" Table 1 includes a complete list of all NW
21 Natural depreciation parameters for all utility plant by FERC account.

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TERMS OF STIPULATION

1

2 5. This Stipulation resolves all issues regarding the changes to the
3 Company's depreciation rates proposed in the Depreciation Study.

4 6. The Stipulating Parties agree that the changes shown in Stipulation
5 Exhibit "A" should be made to the depreciation rates in the Depreciation Study.

6 7. The Stipulating Parties agree that the depreciation rates set forth in
7 Stipulation Exhibit "A" are reasonable and should be adopted.

8 8. NW Natural agrees to use the depreciation rates in Stipulation Exhibit "A",
9 if approved by the Commission, as the basis for its depreciation rates in the Company's
10 next general rate case proceeding. NW Natural will simultaneously update its
11 depreciation rates on its books when new retail rates are effective following its next rate
12 case. In the event that NW Natural does not file a general rate case by February 28,
13 2018, the Stipulating Parties will meet to determine a process for NW Natural to change
14 the depreciation rates on its books and in customer rates based on the depreciation
15 rates in Stipulation Exhibit "A".

16 9. The Stipulating Parties agree to submit this Stipulation to the Commission
17 and request that the Commission approve the Stipulation as presented.

18 10. This Stipulation will be offered into the record of this proceeding as
19 evidence pursuant to OAR 860-001-0350(7). The Stipulating Parties agree to support
20 this Stipulation throughout this proceeding and any appeal, (if necessary) provide
21 witnesses to sponsor this Stipulation at the hearing, and recommend that the
22 Commission issue an order adopting the settlements contained herein.

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1 11. If this Stipulation is challenged, the Stipulating Parties agree that they will
2 continue to support the Commission's adoption of the terms of this Stipulation. The
3 Stipulating Parties agree to cooperate in cross-examination and put on such a case as
4 they deem appropriate to respond fully to the issues presented, which may include
5 raising issues that are incorporated in the settlements embodied in this Stipulation.

6 12. The Stipulating Parties have negotiated this Stipulation as an integrated
7 document. If the Commission rejects all or any material part of this Stipulation, or adds
8 any material condition to any final order that is not consistent with this Stipulation, each
9 Stipulating Party reserves its right, pursuant to OAR 860-001-0350(9), to present
10 evidence and argument on the record in support of the Stipulation or to withdraw from
11 the Stipulation. Stipulating Parties shall be entitled to seek rehearing or reconsideration
12 pursuant to OAR 860-001-0720 in any manner that is consistent with the agreement
13 embodied in this Stipulation.

14 13. By entering into this Stipulation, no Stipulating Party shall be deemed to
15 have approved, admitted, or consented to the facts, principles, methods, or theories
16 employed by any other Stipulating Party in arriving at the terms of this Stipulation, other
17 than those specifically identified in the body of this Stipulation. No Stipulating Party
18 shall be deemed to have agreed that any provision of this Stipulation is appropriate for
19 resolving issues in any other proceeding, except as specifically identified in this
20 Stipulation.

21 14. This Stipulation may be executed in counterparts and each signed
22 counterpart shall constitute an original document.

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1 15. This Stipulation is entered into by each Stipulating Party on the date
2 entered below such Stipulating Party's signature.
3

STAFF

NWIGU

By: _____

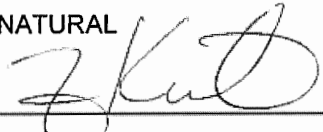
By: _____

Date: _____

Date: _____

NW NATURAL

CITIZENS' UTILITY BOARD OF
OREGON

By:  _____

By: _____

Date: 9-18-17 _____

Date: _____

ORDER NO.

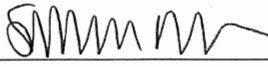
18 007

1 15. This Stipulation is entered into by each Stipulating Party on the date
2 entered below such Stipulating Party's signature.

3

STAFF

NWIGU

By:  _____

By: _____

Date: 9/15/17 _____

Date: _____

NW NATURAL

CITIZENS' UTILITY BOARD OF
OREGON

By: _____

By: _____

Date: _____

Date: _____

ORDER NO.

18 007

1 15. This Stipulation is entered into by each Stipulating Party on the date
2 entered below such Stipulating Party's signature.
3

STAFF

NWIGU

By: _____

By: _____

Date: _____

Date: _____

NW NATURAL

CITIZENS' UTILITY BOARD OF
OREGON

By: _____

By: *Michael P. [Signature]*

Date: _____

Date: 9/19/17

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- 1 15. This Stipulation is entered into by each Stipulating Party on the date
- 2 entered below such Stipulating Party's signature.
- 3

STAFF

By: _____

Date: _____

NWIGU

By:  _____

Date: 9-15-17 _____

NW NATURAL

By:  _____

Date: 9-15-17 _____

CITIZENS' UTILITY BOARD OF OREGON

By: _____

Date: _____

UM 1808 Joint Stipulation
Exhibit A
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NORTHWEST NATURAL GAS COMPANY

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO GAS PLANT AS OF DECEMBER 31, 2015
SETTLEMENT #1

DEPRECIABLE GROUP		SURVIVOR	NET	ORIGINAL	BOOK	FUTURE	CALCULATED ANNUAL		COMPOSITE
(1)		CURVE	SALVAGE	COST	DEPRECIATION	ACCRUALS	ACCRUAL	ACCRUAL	REMAINING
		(2)	PERCENT	(4)	RESERVE	(6)	AMOUNT	RATE	LIFE
			(3)		(5)		(7)	(8)=(7)/(4)	(9)=(6)/(7)
DEPRECIABLE GAS PLANT									
INTANGIBLE PLANT									
303.1	MISCELLANEOUS INTANGIBLE PLANT - SOFTWARE	15-SQ	0	57,110,816.52	20,771,445	36,339,372	3,871,516	6.78	9.4
303.2	MISCELLANEOUS INTANGIBLE PLANT - CUSTOMER INFORMATION SYST	15-SQ	0	32,409,597.11	32,386,120	23,477	1,878	0.01	12.5
303.3	MISCELLANEOUS INTANGIBLE PLANT - INDUSTRIAL AND COMMERCIAL	10-SQ	0	4,146,951.00	4,146,951	0	0	-	-
303.4	MISCELLANEOUS INTANGIBLE PLANT - CRMS	5-SQ	0	682,892.55	529,083	153,810	74,811	10.96	2.1
TOTAL INTANGIBLE PLANT				94,350,257.18	57,833,599	36,516,659	3,948,205	4.18	9.3
OIL GAS FACILITIES									
305.5	STRUCTURES AND IMPROVEMENTS - OTHER	FULLY ACCRUED		13,156.00	13,814	0	0	-	-
311.7	LIQUEFIED PETROLEUM GAS EQUIPMENT	FULLY ACCRUED		4,033.00	8,066	(4,033)	0	-	-
311.8	LIQUEFIED PETROLEUM GAS EQUIPMENT	FULLY ACCRUED		4,209.00	6,585	(2,376)	0	-	-
TOTAL OIL GAS FACILITIES				21,398.00	28,465	(6,409)	0	-	-
OTHER PRODUCTION FACILITIES									
305.11	STRUCTURES AND IMPROVEMENTS - GAS PRODUCTION	FULLY ACCRUED		8,320.00	8,736	0	0	-	-
305.17	STRUCTURES AND IMPROVEMENTS - MIXING STATION	FULLY ACCRUED		46,587.00	51,246	0	0	-	-
318.3	LIGHT OIL REFINING	FULLY ACCRUED		144,896.00	152,141	0	0	-	-
318.5	TAR PROCESSING	FULLY ACCRUED		243,551.00	255,729	0	0	-	-
319	GAS MIXING EQUIPMENT	FULLY ACCRUED		185,448.00	194,720	0	0	-	-
TOTAL OTHER PRODUCTION FACILITIES				628,802.00	662,572	0	0	-	-
UNDERGROUND STORAGE PLANT									
350.2	LAND RIGHTS	70-R4	0	109,624.94	25,143	84,482	1,567	1.43	53.9
351	STRUCTURES AND IMPROVEMENTS	60-R3	0	7,208,244.63	2,542,655	4,665,590	107,894	1.50	43.2
352	WELLS	55-R2.5	0	36,987,527.47	14,224,099	22,763,428	553,219	1.50	41.1
352.1	STORAGE LEASEHOLDS AND RIGHTS	55-S2	0	3,939,511.52	1,516,997	2,422,515	65,713	1.67	36.9
352.2	RESERVOIRS	55-R2.5	0	10,834,054.54	2,976,187	7,857,868	187,441	1.73	41.9
352.3	NONRECOVERABLE GAS	55-S2.5	0	6,440,889.82	3,198,707	3,242,183	101,043	1.57	32.1
353	LINES	55-S2.5	(15)	8,201,963.89	3,226,474	6,205,784	168,887	2.06	36.7
354.1	COMPRESSOR STATION EQUIPMENT - TURBINE 1	50-R3	(10)	4,154,699.66	2,919,205	1,650,965	62,642	1.51	26.4
354.2	COMPRESSOR STATION EQUIPMENT - TURBINE 2	50-R3	(10)	4,154,699.00	2,992,842	1,577,327	61,470	1.48	25.7
354.3	COMPRESSOR STATION EQUIPMENT - TURBINE 3	50-R3	(10)	19,640,514.36	8,920,990	12,683,576	364,670	1.86	34.8
354.4	COMPRESSOR STATION EQUIPMENT - TURBINE 4	50-R3	(10)	13,667,705.75	5,164,074	9,870,402	264,382	1.93	37.3
354.5	COMPRESSOR STATION EQUIPMENT - TURBINE 5	50-R3	(10)	2,587,036.93	733,310	2,112,431	51,933	2.01	40.7
354.6	COMPRESSOR STATION EQUIPMENT - TURBINE 6	50-R3	(10)	257,302.38	3,732	279,301	5,641	2.19	49.5
355	MEASURING AND REGULATING EQUIPMENT	45-S2	(10)	15,967,871.63	5,996,064	11,568,595	362,161	2.27	31.9
356	PURIFICATION EQUIPMENT	45-S2.5	(5)	297,363.00	217,696	94,535	4,086	1.37	23.1
357	OTHER EQUIPMENT	30-R4	0	1,395,284.93	805,728	589,557	30,288	2.17	19.5
TOTAL UNDERGROUND STORAGE PLANT				135,844,294.45	55,463,903	87,668,539	2,393,037	1.76	36.6

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NORTHWEST NATURAL GAS COMPANY

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND
 CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO GAS PLANT AS OF DECEMBER 31, 2015
 SETTLEMENT #1

DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	NET SALVAGE PERCENT (3)	ORIGINAL COST (4)	BOOK DEPRECIATION RESERVE (5)	FUTURE ACCRUALS (6)	CALCULATED ANNUAL ACCRUAL AMOUNT (7)	ACCRUAL RATE (8)=(7)/(4)	COMPOSITE REMAINING LIFE (9)=(6)/(7)
LOCAL STORAGE PLANT								
361 STRUCTURES AND IMPROVEMENTS								
LINNTON	60-R3	0	4,594,791.02	1,929,918	2,664,873	173,977	3.79	15.3
NEWPORT	60-R3	0	4,656,739.38	2,393,826	2,262,913	201,698	4.33	11.2
OTHER	55-S2	0	26,757.00	10,494	16,263	474	1.77	34.3
TOTAL STRUCTURES AND IMPROVEMENTS			9,278,287.40	4,334,238	4,944,049	376,149	4.05	13.1
362 GAS HOLDERS								
LINNTON	60-R3	(20)	2,744,403.58	2,262,406	1,030,878	70,773	2.58	14.6
NEWPORT	60-R3	(20)	5,791,956.36	5,438,575	1,511,773	140,857	2.43	10.7
OTHER	60-R3	(20)	1,600.14	1,172	748	16	1.00	46.8
TOTAL GAS HOLDERS			8,537,960.08	7,702,153	2,543,399	211,646	2.48	12.0
363.1 LIQUEFACTION EQUIPMENT								
LINNTON	50-R1.5	(5)	2,975,510.33	2,549,869	574,417	39,027	1.31	14.7
NEWPORT	50-R1.5	(5)	7,308,110.69	7,127,677	545,839	49,060	0.67	11.1
TOTAL LIQUEFACTION EQUIPMENT			10,283,621.02	9,677,546	1,120,256	88,087	0.86	12.7
363.2 VAPORIZING EQUIPMENT								
LINNTON	50-S2.5	(5)	2,683,660.37	2,624,711	193,132	12,582	0.47	15.3
NEWPORT	50-S2.5	(5)	3,664,362.12	2,612,391	1,235,189	113,272	3.09	10.9
TOTAL VAPORIZING EQUIPMENT			6,348,022.49	5,237,102	1,428,321	125,854	1.98	11.4
363.3 COMPRESSOR EQUIPMENT								
LINNTON	30-R1.5	(5)	180,903.23	206,897	(16,949)	0	-	-
NEWPORT	30-R1.5	(5)	1,390,925.55	312,641	1,147,831	105,495	7.58	10.9
TOTAL COMPRESSOR EQUIPMENT			1,571,828.78	519,538	1,130,882	105,495	6.71	10.7
363.4 MEASURING AND REGULATING EQUIPMENT								
LINNTON	45-R2.5	(5)	1,247,664.71	604,263	705,785	49,779	3.99	14.2
NEWPORT	45-R2.5	(5)	113,414.00	117,469	1,616	151	0.13	10.7
TOTAL MEASURING AND REGULATING EQUIPMENT			1,361,078.71	721,732	707,401	49,930	3.67	14.2
363.5 CNG REFUELING FACILITIES	28-R3	(5)	3,051,295.49	1,328,797	1,875,063	80,014	2.62	23.4
363.6 LNG REFUELING FACILITIES	40-R2.5	(5)	739,473.00	739,473	36,974	1,732	0.23	21.3
TOTAL LOCAL STORAGE PLANT			41,171,566.97	30,260,579	13,786,345	1,038,907	2.52	13.3
TRANSMISSION PLANT								
365.2 LAND RIGHTS	70-R4	0	6,455,176.86	1,764,329	4,690,848	98,229	1.52	47.8
366.3 STRUCTURES AND IMPROVEMENTS	55-R3	0	1,041,984.12	276,967	765,017	18,234	1.75	42.0

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NORTHWEST NATURAL GAS COMPANY

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO GAS PLANT AS OF DECEMBER 31, 2015 SETTLEMENT #1

DEPRECIABLE GROUP		SURVIVOR CURVE	NET SALVAGE PERCENT	ORIGINAL COST	BOOK DEPRECIATION RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL		COMPOSITE REMAINING LIFE
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)=(7)/(4)	(9)=(6)/(7)
367	MAINS	65-R3	(30)	146,337,788.55	23,351,961	166,887,164	2,756,613	1.88	60.5
367.21	MAINS - NORTH MIST	65-R3	(30)	1,994,582.39	1,029,831	1,563,126	34,256	1.72	45.6
367.22	MAINS - SOUTH MIST	65-R3	(30)	14,949,264.00	9,933,703	9,500,340	236,996	1.59	40.1
367.23	MAINS - SOUTH MIST	65-R3	(30)	34,881,341.36	11,826,299	33,519,445	677,448	1.94	49.5
367.24	MAINS - 11.7M S MIST	65-R3	(30)	17,466,181.89	4,819,695	17,886,341	338,244	1.94	52.9
367.25	MAINS - 12M NORTH S MIST	65-R3	(30)	18,613,651.15	4,821,672	19,376,074	363,412	1.95	53.3
367.26	MAINS - 38M NORTH S MIST	65-R3	(30)	68,232,675.58	17,873,936	70,828,542	1,328,855	1.95	53.3
368	COMPRESSOR STATION EQUIPMENT	45-R3	(5)	7,723,454.21	1,848,512	6,261,115	166,033	2.15	37.7
369	MEASURING AND REGULATING EQUIPMENT	45-R2.5	(8)	3,969,550.28	1,338,603	2,948,511	84,653	2.13	34.8
TOTAL TRANSMISSION PLANT				321,665,650.39	78,885,508	334,226,523	6,102,973	1.90	54.8
DISTRIBUTION PLANT									
374.2	LAND RIGHTS	70-R3	0	1,883,762.30	1,279,056	604,706	10,532	0.56	57.4
375	STRUCTURES AND IMPROVEMENTS	35-R0.5	0	80,217.00	80,217	0	0	-	-
376.11	MAINS - HP 4" AND LESS	65-R2.5	(75)	550,689,047.46	299,268,830	664,437,003	13,961,139	2.54	47.6
376.12	MAINS - HP 4" AND OVER	65-R2.5	(56)	505,679,049.03	200,807,579	588,051,737	11,707,993	2.32	50.2
377	COMPRESSOR STATION EQUIPMENT	35-S2	(5)	818,380.00	611,329	247,970	10,843	1.32	22.9
378	MEASURING AND REGULATING STATION EQUIPMENT - GENERAL	50-R2.5	(20)	31,676,138.08	10,827,326	27,184,040	691,959	2.18	39.3
379	MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE	45-R2	(20)	5,738,811.13	1,784,838	5,101,735	121,789	2.12	41.9
380	SERVICES	58-R2	(80)	710,138,948.30	376,515,207	901,734,900	20,348,276	2.87	44.3
381	METERS	43-S0	0	83,691,721.21	21,166,102	62,525,619	1,866,437	2.23	33.5
381.1	METERS - ELECTRIC	15-R4	0	1,541,674.51	984,268	557,407	44,491	2.89	12.5
381.2	METERS - ERT	16-R2.5	0	40,477,375.90	16,571,371	23,906,005	2,368,813	5.85	10.1
382	METER INSTALLATIONS	32-S0.5	0	59,749,260.42	8,829,443	50,919,817	2,890,225	4.84	17.6
382.1	METER INSTALLATIONS - ELECTRIC	14-R3	0	481,019.77	40,534	440,486	41,438	8.81	10.6
382.2	METER INSTALLATIONS - ERT	20-R2	0	9,473,169.55	4,397,814	5,075,356	369,587	3.90	13.7
383	HOUSE REGULATORS	35-S2	0	1,484,677.80	170,017	1,314,661	43,339	2.92	30.3
387.1	OTHER EQUIPMENT - CATHODIC PROTECTION TESTING	30-S3	0	173,858.98	140,475	33,384	1,433	0.82	23.3
387.2	OTHER EQUIPMENT - CALORIMETERS AT GATE STATION	23-S0.5	0	96,424.00	96,424	0	0	-	-
387.3	OTHER EQUIPMENT - METER TESTING EQUIPMENT	25-S4	0	72,671.00	72,671	0	0	-	-
TOTAL DISTRIBUTION PLANT				2,003,946,206.44	943,643,501	2,332,134,826	54,478,294	2.72	42.8
GENERAL PLANT									
390	STRUCTURES AND IMPROVEMENTS	45-S0	(4)	58,597,461.86	8,332,868	52,608,492	1,332,861	2.27	39.5
390.1	STRUCTURES AND IMPROVEMENTS - SOURCE CONTROL PLANT	45-S0	(4)	18,590,294.85	2,291,003	17,042,904	399,318	2.15	42.7
391.1	OFFICE FURNITURE AND EQUIPMENT FULLY ACCRUED AMORTIZED	20-SQ	0	3,304,510.00 7,123,378.41	3,304,510 2,400,985	0 4,722,393	0 356,208	- 5.00	- 13.3
TOTAL ACCOUNT 391.1				10,427,888.41	5,705,495	4,722,393	356,208	3.42	13.3
391.2	OFFICE FURNITURE AND EQUIPMENT - COMPUTERS FULLY ACCRUED AMORTIZED	5-SQ	0	2,730,228.76 13,288,888.59	2,730,229 5,599,340	0 7,689,549	0 2,657,726	- 20.00	- 2.9
TOTAL ACCOUNT 391.2				16,019,117.35	8,329,569	7,689,549	2,657,726	16.59	2.9

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NORTHWEST NATURAL GAS COMPANY

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO GAS PLANT AS OF DECEMBER 31, 2015 SETTLEMENT #1

DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	NET SALVAGE PERCENT (3)	ORIGINAL COST (4)	BOOK DEPRECIATION RESERVE (5)	FUTURE ACCRUALS (6)	CALCULATED ANNUAL ACCRUAL AMOUNT (7)	ACCURUAL RATE (8)=(7)/(4)	COMPOSITE REMAINING LIFE (9)=(6)/(7)
392 TRANSPORTATION EQUIPMENT	13-L1.5	10	34,498,851.10	9,599,643	21,449,323	2,367,924	6.86	9.1
393 STORES EQUIPMENT	FULLY ACCRUED		119,406.00	119,406	0	0	-	-
394 TOOLS, SHOP AND GARAGE EQUIPMENT			2,898,854.00	2,898,854	0	0	-	-
FULLY ACCRUED			13,834,597.86	6,839,875	6,994,723	553,326	4.00	12.6
AMORTIZED	25-SQ	0	16,733,451.86	9,738,729	6,994,723	553,326	3.31	12.6
TOTAL ACCOUNT 394								
395 LABORATORY EQUIPMENT			68,016.00	68,016	0	0	-	-
FULLY ACCRUED			277.00	229	48	14	5.00	3.4
AMORTIZED	20-SQ	0	68,293.00	68,245	48	14	0.02	3.4
TOTAL ACCOUNT 395								
396 POWER OPERATED EQUIPMENT	17-S0.5	20	9,170,317.89	3,277,525	4,058,729	312,193	3.40	13.0
397 COMMUNICATION EQUIPMENT	15-SQ	0	88,322.23	38,805	49,517	5,889	6.67	8.4
397.1 COMMUNICATION EQUIPMENT - MOBILE			233,223.04	233,223	0	0	-	-
FULLY ACCRUED			242,398.13	191,200	51,198	24,243	10.00	2.1
AMORTIZED	10-SQ	0	475,621.17	424,423	51,198	24,243	5.10	2.1
TOTAL ACCOUNT 397.1								
397.2 COMMUNICATION EQUIPMENT - NON-MOBILE AND TELEMETER			497,358.00	497,358	0	0	-	-
FULLY ACCRUED			1,193,495.65	1,106,150	87,346	79,659	6.67	1.1
AMORTIZED	15-SQ	0	1,690,853.65	1,603,508	87,346	79,659	4.71	1.1
TOTAL ACCOUNT 397.2								
397.3 COMMUNICATION EQUIPMENT - TELEMETER OTHER			2,567,638.00	2,567,638	0	0	-	-
FULLY ACCRUED			2,121,913.71	765,420	1,356,494	141,569	6.67	9.6
AMORTIZED	15-SQ	0	4,689,551.71	3,333,058	1,356,494	141,569	3.02	9.6
TOTAL ACCOUNT 397.3								
397.4 COMMUNICATION EQUIPMENT - TELEMETER MICROWAVE			497,289.79	497,290	0	0	-	-
FULLY ACCRUED			1,149,505.47	380,830	768,675	76,634	6.67	10.0
AMORTIZED	15-SQ	0	1,646,795.26	878,120	768,675	76,634	4.65	10.0
TOTAL ACCOUNT 397.4								
397.5 COMMUNICATION EQUIPMENT - TELEPHONE	10-SQ	0	490,741.79	94,545	396,197	49,074	10.00	8.1
398.1 MISCELLANEOUS EQUIPMENT - PRINT SHOP			78,890.00	78,890	0	0	-	-
FULLY ACCRUED			4,359.31	1,889	2,470	291	6.67	8.5
AMORTIZED	15-SQ	0	83,249.31	80,779	2,470	291	0.35	8.5
TOTAL ACCOUNT 398.1								
398.2 MISCELLANEOUS EQUIPMENT - KITCHEN	15-SQ	0	12,812.44	4,700	8,112	854	6.67	9.5
398.3 MISCELLANEOUS EQUIPMENT - JANITORIAL	FULLY ACCRUED		14,873.00	14,873	0	0	-	-
398.4 MISCELLANEOUS EQUIPMENT - LEASED BUILDINGS	FULLY ACCRUED		10,120.00	10,120	0	0	-	-
398.5 MISCELLANEOUS EQUIPMENT - OTHER	FULLY ACCRUED		66,739.00	66,739	0	0	-	-
TOTAL GENERAL PLANT			173,494,761.88	54,012,153	117,286,170	8,357,783	4.82	14.0

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NORTHWEST NATURAL GAS COMPANY

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO GAS PLANT AS OF DECEMBER 31, 2015
SETTLEMENT #1

DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	NET SALVAGE PERCENT (3)	ORIGINAL COST (4)	BOOK DEPRECIATION RESERVE (5)	FUTURE ACCRUALS (6)	CALCULATED ANNUAL		COMPOSITE REMAINING LIFE (9)=(6)/(7)
						ACCRUAL AMOUNT (7)	ACCRUAL RATE (8)=(7)/(4)	
RESERVE ADJUSTMENT FOR AMORTIZATION								
391.1	OFFICE FURNITURE AND EQUIPMENT			771,790		(154,358)	**	
391.2	OFFICE FURNITURE AND EQUIPMENT - COMPUTERS			5,011,650		(1,002,330)	**	
394.0	TOOLS, SHOP AND GARAGE EQUIPMENT			575,603		(115,121)	**	
395.0	LABORATORY EQUIPMENT			48		(10)	**	
397.0	COMMUNICATION EQUIPMENT			(11,695)		2,339	**	
397.1	COMMUNICATION EQUIPMENT - MOBILE			(20,033)		4,007	**	
397.2	COMMUNICATION EQUIPMENT - NON-MOBILE AND TELEMETER			87,346		(17,469)	**	
397.3	COMMUNICATION EQUIPMENT - TELEMETER OTHER			(341,606)		68,321	**	
397.4	COMMUNICATION EQUIPMENT - TELEMETER MICROWAVE			55,013		(11,003)	**	
397.5	COMMUNICATION EQUIPMENT - TELEPHONE			77,953		(15,591)	**	
398.1	MISCELLANEOUS EQUIPMENT - PRINT SHOP			2,470		(494)	**	
398.2	MISCELLANEOUS EQUIPMENT - KITCHEN			(1,614)		323	**	
TOTAL RESERVE ADJUSTMENT FOR AMORTIZATION				6,206,925		(1,241,386)		
TOTAL DEPRECIABLE GAS PLANT			2,771,122,937.31	1,226,997,205	2,921,612,653	75,077,813	2.71	38.9
NONDEPRECIABLE GAS PLANT								
301	ORGANIZATION		1,174.00					
302	FRANCHISES AND CONSENTS		83,621.00					
304.1	LAND		24,998.00					
350.1	LAND		106,549.00					
360.11	LAND - LNG LINNTON		83,598.00					
360.12	LAND - LNG NEWPORT		536,675.00					
360.2	LAND - OTHER		106,557.00					
365.1	LAND		89,772.00					
374.1	LAND		86,775.00					
389	LAND		11,633,851.00	437,351				
TOTAL NONDEPRECIABLE GAS PLANT			12,753,570.00	437,351				
TOTAL GAS PLANT IN SERVICE			2,783,876,507.31	1,227,434,556	2,921,612,653	75,077,813		

* INDICATES INTERIM SURVIVOR CURVE. EACH UNIT HAS A UNIQUE TERMINAL DATE.
** 5 YEAR AMORTIZATION OF RESERVE RELATED TO AMORTIZATION ACCOUNTING.

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