

**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.

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.

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.

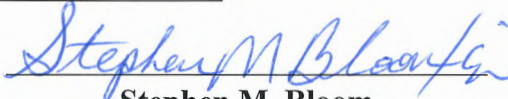
IV. ORDER

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.

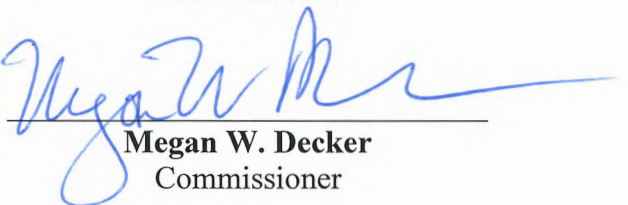


Lisa D. Hardie
Chair



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.

**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.

PARTIES

6
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").

BACKGROUND

11
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

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.

TERMS OF STIPULATION

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

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

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

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

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

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

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.

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: _____

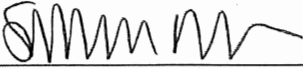
Date: 9-18-17 _____

Date: _____

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: 9/15/17

NWIGU

By: _____

Date: _____

NW NATURAL

By: _____

Date: _____

CITIZENS' UTILITY BOARD OF
OREGON

By: _____

Date: _____

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 R. H. H.

Date: _____

Date: 9/19/17

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: _____

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
		CURVE	SALVAGE	COST	DEPRECIATION	ACCRUALS	ACCRUAL	ACCRUAL	REMAINING
(1)		(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

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)	
LOCAL STORAGE PLANT									
361	STRUCTURES AND IMPROVEMENTS								
	LINNTON	60-R3	*	0	4,594,791.02	1,929,918	2,664,873	173,977	15.3
	NEWPORT	60-R3	*	0	4,656,739.38	2,393,826	2,262,913	201,698	11.2
	OTHER	55-S2		0	26,757.00	10,494	16,263	474	34.3
	TOTAL STRUCTURES AND IMPROVEMENTS				9,278,287.40	4,334,238	4,944,049	376,149	13.1
362	GAS HOLDERS								
	LINNTON	60-R3	*	(20)	2,744,403.58	2,262,406	1,030,878	70,773	14.6
	NEWPORT	60-R3	*	(20)	5,791,956.36	5,438,575	1,511,773	140,857	10.7
	OTHER	60-R3		(20)	1,600.14	1,172	748	16	46.8
	TOTAL GAS HOLDERS				8,537,960.08	7,702,153	2,543,399	211,646	12.0
363.1	LIQUEFACTION EQUIPMENT								
	LINNTON	50-R1.5	*	(5)	2,975,510.33	2,549,869	574,417	39,027	14.7
	NEWPORT	50-R1.5	*	(5)	7,308,110.69	7,127,677	545,839	49,060	11.1
	TOTAL LIQUEFACTION EQUIPMENT				10,283,621.02	9,677,546	1,120,256	88,087	12.7
363.2	VAPORIZING EQUIPMENT								
	LINNTON	50-S2.5	*	(5)	2,683,660.37	2,624,711	193,132	12,582	15.3
	NEWPORT	50-S2.5	*	(5)	3,664,362.12	2,612,391	1,235,189	113,272	10.9
	TOTAL VAPORIZING EQUIPMENT				6,348,022.49	5,237,102	1,428,321	125,854	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	10.9
	TOTAL COMPRESSOR EQUIPMENT				1,571,828.78	519,538	1,130,882	105,495	10.7
363.4	MEASURING AND REGULATING EQUIPMENT								
	LINNTON	45-R2.5	*	(5)	1,247,664.71	604,263	705,785	49,779	14.2
	NEWPORT	45-R2.5	*	(5)	113,414.00	117,469	1,616	151	10.7
	TOTAL MEASURING AND REGULATING EQUIPMENT				1,361,078.71	721,732	707,401	49,930	14.2
363.5	CNG REFUELING FACILITIES	28-R3		(5)	3,051,295.49	1,328,797	1,875,063	80,014	23.4
363.6	LNG REFUELING FACILITIES	40-R2.5		(5)	739,473.00	739,473	36,974	1,732	21.3
TOTAL LOCAL STORAGE PLANT					41,171,566.97	30,260,579	13,786,345	1,038,907	13.3
TRANSMISSION PLANT									
365.2	LAND RIGHTS	70-R4		0	6,455,176.86	1,764,329	4,690,848	98,229	47.8
366.3	STRUCTURES AND IMPROVEMENTS	55-R3		0	1,041,984.12	276,967	765,017	18,234	42.0

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)
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	8.61	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			3,304,510.00	3,304,510	0	0	-	-
AMORTIZED	20-SQ	0	7,123,378.41	2,400,985	4,722,393	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			2,730,228.76	2,730,229	0	0	-	-
AMORTIZED	5-SQ	0	13,288,888.59	5,599,340	7,689,549	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

18-007

ORDER NO.

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)
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								
	FULLY ACCRUED			2,898,854.00	2,898,854	0	0	-	-
	AMORTIZED	25-SQ	0	13,834,597.86	6,839,875	6,994,723	553,326	4.00	12.6
	TOTAL ACCOUNT 394			16,733,451.86	9,738,729	6,994,723	553,326	3.31	12.6
395	LABORATORY EQUIPMENT								
	FULLY ACCRUED			68,016.00	68,016	0	0	-	-
	AMORTIZED	20-SQ	0	277.00	229	48	14	5.00	3.4
	TOTAL ACCOUNT 395			68,293.00	68,245	48	14	0.02	3.4
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								
	FULLY ACCRUED			233,223.04	233,223	0	0	-	-
	AMORTIZED	10-SQ	0	242,398.13	191,200	51,198	24,243	10.00	2.1
	TOTAL ACCOUNT 397.1			475,621.17	424,423	51,198	24,243	5.10	2.1
397.2	COMMUNICATION EQUIPMENT - NON-MOBILE AND TELEMETER								
	FULLY ACCRUED			497,358.00	497,358	0	0	-	-
	AMORTIZED	15-SQ	0	1,193,495.65	1,106,150	87,346	79,659	6.67	1.1
	TOTAL ACCOUNT 397.2			1,690,853.65	1,603,508	87,346	79,659	4.71	1.1
397.3	COMMUNICATION EQUIPMENT - TELEMETER OTHER								
	FULLY ACCRUED			2,567,638.00	2,567,638	0	0	-	-
	AMORTIZED	15-SQ	0	2,121,913.71	765,420	1,356,494	141,569	6.67	9.6
	TOTAL ACCOUNT 397.3			4,689,551.71	3,333,058	1,356,494	141,569	3.02	9.6
397.4	COMMUNICATION EQUIPMENT - TELEMETER MICROWAVE								
	FULLY ACCRUED			497,289.79	497,290	0	0	-	-
	AMORTIZED	15-SQ	0	1,149,505.47	380,830	768,675	76,634	6.67	10.0
	TOTAL ACCOUNT 397.4			1,646,795.26	878,120	768,675	76,634	4.65	10.0
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								
	FULLY ACCRUED			78,890.00	78,890	0	0	-	-
	AMORTIZED	15-SQ	0	4,359.31	1,889	2,470	291	6.67	8.5
	TOTAL ACCOUNT 398.1			83,249.31	80,779	2,470	291	0.35	8.5
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

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 AMOUNT	ACCRAUAL RATE	COMPOSITE REMAINING LIFE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(7)/(4)	(9)=(6)/(7)
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.

ORDER NO. 18 007