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March 15, 2017

VIA ELECTRONIC FILING AND US MAIL

Public Utility Commission of Oregon Attn: Filing Center 201 High Street SE, Suite 100 Post Office Box 1088 Salem, OR 97308-1088

RE: UM 1732 - NW Natural's Site Remediation and Recovery Mechanism Schedule 183 2016 Annual Report

In accordance with Rate Schedule 183 and the Commission's Order No. 12-137 in Docket UG 221, implementing NW Natural's Site Remediation and Recovery Mechanism (SRRM), NW Natural provides the following information, including Exhibit A and B, to allow the Commission, Staff, and any parties to review NW Natural's environmental remediation expenses incurred between January 1 of 2016 and December 31 of 2016. Exhibit C, data provided via compact disc, will be physically mailed following the electronic submission of this report.

Please feel free to call if you have any questions.

Sincerely,

/s/ Kyle Walker

Kyle Walker, CPA Rates Analyst

Attachments: Report Narrative

Exhibit A Exhibit B

Exhibit C (CD by U.S. mail)

NW NATURAL

SCHEDULE 183 - 2016 ANNUAL REPORT ENVIRONMENTAL SITE REMEDIATION AND RECOVERY MECHANISM (SRRM)

JANUARY 1, 2016 - DECEMBER 31, 2016

In accordance with Rate Schedule 183 and the Public Utility Commission of Oregon ("Commission") Order No. 12-137 in Docket UG 221, implementing Northwest Natural Gas Company's ("NW Natural" or "Company") Site Remediation and Recovery Mechanism (SRRM), NW Natural provides the following information to allow the Commission, Staff, and any parties to review for prudency NW Natural's environmental remediation expenses incurred between January 1 of 2016 and December 31 of 2016. NW Natural submits this information so that review of the expenses can be conducted before they are included in the SRRM for rates effective November 1, 2017.

A. 2016 Remediation Activities

NW Natural has eight sites at which the Oregon Department of Environmental Quality (DEQ) or the Environmental Protection Agency (EPA) has required clean-up. These include: Portland Harbor, Portland Gas Manufacturing (PGM), Gasco, Siltronic, Central, Eugene Water Electric Board, French American International School, and Oregon Steel. NW Natural also incurred litigation costs related to recovery of insurance proceeds and minor litigation costs related to collections under the settlement agreements.

Total expenditures by site (or activity) for the period of January 1, 2016 through December 31, of 2016, are as follows:

<u>SITE</u>	<u>AMOUNT</u>
Gasco (1)	\$8,590,190
Siltronic	66,788
Harbor	1,427,661
PGM	331,022
Central	73,509
	\$10,489,170

(1) Includes Gasco Uplands, Sediments, and operation of Source Control.

These expenditures are further detailed in Exhibit A and B of this Report. Descriptions of the significant activities at these sites for this period are described below.

B. Portland Harbor

The Portland Harbor site is a stretch of approximately ten miles along the Willamette River that is listed as a Superfund site by the Environmental Protection Agency (EPA). Investigation of the site has been managed by a consortium of potentially responsible entities known as the Lower Willamette Group (LWG), under EPA's oversight. NW Natural is a member of the LWG and is cofunding the work performed with other members of the LWG. In 2016, EPA completed the feasibility study for the site and issued a proposed cleanup plan. EPA issued its final record of decision selecting the cleanup for the Portland Harbor site on January 6, 2017.

NW Natural also participates in the Portland Harbor Natural Resource Damage (NRD) cooperative assessment process. During the period of January through December 2016, the Company worked with the Natural Resource Trustees in the NRD cooperative process on pathways to reach settlement.

C. PGM

The PGM site covers approximately 3.7 upland acres and is located on the Willamette River near the Steel Bridge. The location of the former PGM is now a fully developed part of downtown Portland. NW Natural is managing this site as the PGM Project under DEQ's oversight. During the period of January through December 2016, NW finalized the Feasibility Study and DEQ issued a staff recommendation describing its proposed cleanup plan for the PGM site for public comment.

D. Gasco

The Gasco site covers approximately 45 acres and is located on the Willamette River between the St. Johns Bridge and the Railroad Bridge. The manufacturing facility is gone, and the site is currently occupied by the Company's Portland liquefied natural gas storage facility and two tenant facilities. Work at this site consists of various projects: the Uplands Project, the Sediments Project, and the Source Control Project. These projects are subject to EPA and DEQ oversight.

The Gasco Upland site is now in the feasibility study phase. In 2016, DEQ and NW Natural agreed to restructure the Gasco Upland and Siltronic (see below) projects to incorporate the adjacent portion of the Siltronic property previously owned by Portland Gas & Coke as part of the Gasco manufactured gas plant into the feasibility study. In 2016, then, NW Natural worked with DEQ to integrate data sets from the two parcels and develop an addendum to the Gasco risk assessment, as well as to complete additional tasks associated with development of the feasibility study. Other primary work activities conducted in 2016 included groundwater monitoring activities.

The Sediments site is still in the Engineering Evaluation/Cost Analysis (EE/CA) phase. In 2016, NW Natural continued to work with EPA on its regulatory requirements for the site. Although revision of the EE/CA has been delayed due to a delay in the release of the EPA Portland Harbor Superfund Site Feasibility Study, NW Natural continued to work with EPA to incorporate the results of the EE/CA into EPA's proposed plan for Portland Harbor. The Company also conducted monthly visual monitoring of the shoreline area in the direct vicinity of the pilot cap area.

Construction of the Source Control wells was completed in October 2013. DEQ-required testing of the source control system was ongoing throughout 2016. The Company will continue to incur costs associated with operating the wells and environmental regulatory oversight.

E. Siltronic

The Siltronic site is adjacent to the Gasco site. The land is now owned by Siltronic Corporation ("Siltronic"), but approximately 38.5 acres of it was previously owned by NW Natural's predecessor company, Portland Gas & Coke (PG&C). Some of the contamination at the site resulted from PG&C's use of approximately 400 feet of the property adjacent to the Gasco site for storage and management of MGP residuals. Subsequent owners of the Siltronic site placed a significant amount of fill on the property and redistributed MGP material across the property. Other contaminants from different sources, including Siltronic's own operations, also exist at the site. The Siltronic site is managed by Siltronic and NW Natural under DEQ's oversight. The Siltronic Project consists of all of NW Natural's work on the site that is not covered by the other two Gasco site projects.

As described above, DEQ restructured this project in 2016. The restructuring requires NW Natural to complete its source control evaluation at Siltronic, but NW Natural no longer has responsibility for investigating portions of the Siltronic property not previously owned by Portland Gas & Coke. Field work for the source control evaluation was completed in 2016, and NW Natural expects to submit the source control evaluation report in 2017.

F. Central

The Central Service Center is the former site for company operations including as a gas holder site and other activities. At the end of 2006, the Central Service Center site was identified by DEQ for cleanup and ranked as a high priority site.

During the period of January 2016 through December 2016, the Company completed the following tasks:

- 1) Submitted final reporting in regard to decommissioning work for all remaining Underground Injection Control (UIC) well locations, and received confirmation from the Oregon DEQ UIC Program that each has been reclassified as "closed" and requires no additional work (this closure is specific to the site UICs and does not apply to the site as a whole).
- 2) Received comments from the Oregon DEQ Cleanup Program in regard to the 2015 Remedial Investigation and Risk Assessment (RI/RA) report submittal. Subsequent to the receipt of these comments a scope of work was developed to address each comment and research/field activities were implemented, including:
 - The completion of an additional round of groundwater monitoring and sampling to further characterized the groundwater conditions below the site.

- The completion of a stormwater discharge determination to address the potential risk pathway associated with off site migration via stormwater.
- Confirming the location of two historical industrial water wells.
- Confirming the construction of one of the historical industrial water wells, and assessing the feasibility issues involved with abandoning the well in accordance with current standards.

G. Major Reports and Communications with Environmental Regulators

To assist the Commission, Staff, and any parties in reviewing NW Natural's costs for the January 1 2016 to December 31 2016 period, the Company is providing the major reports and communications with environmental regulators related to the activities described above, found in Exhibit C. A small number of documents from December 2015 were inadvertently not provided with the Company's 2016 submission and are also included in Exhibit C.

UM 1732 - Exhibit A

Deferred Environmental Remediation Costs and Insurance Proceeds

For the period of January 1, 2016 through December 31, 2016

NW Natural

Refer to Exhibit B for the deferred costs for each site broken out by work tasks

Debit (Credit)

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(12,824)(7,157)(20,019)INSURANCE & 3RD PARTY RECOVERY Ξ 1,347,815 908,265 1,256,116 725,409 696,109 601,509 893,109 500,499 990,309 734,378 10,489,170 1,373,450 462,202 REMEDIATION (b) - (b) - (b)SPEND IOIAL 2,549 9,378 24,208 3,002 648 73,509 6,428 6,534 10,734 3,005 CENTRAL \subseteq (13,598)26,319 29,269 69,165 8,189 21,905 78,053 4,464 4,727 23,271 5,827 331,022 FRONT (PGM) (e) 578 5,089 11,247 9,216 3,675 8,735 670 2,062 560 4,064 982,788 SILTRONIC **E** 98,796 64,157 74,035 98,655 87,568 62,836 84,183 93,335 47,408 109,451 61,403 1,427,661 HARBOR <u>ල</u> 762,183 371,567 837,010 609,270 263,025 497,590 ,204,075 863,628 608,339 608,933 400,420 8,590,190 564,151 GASCO (1) 9 May-16 Aug-16 Apr-16 Jun-16 Jul-16 Sep-16 Dec-16 Feb-16 Oct-16 **Nov-16** Jan-16 Mar-16 Month/Year (a) Notes: 10 = 13 14 15 16 17 18 19 20 21 4 ~ 8 6 9

(1) Includes the operating costs of Gasco Source Control.

NW Natural
UM 1732 - Exhibit B
Task Detail - Deferred Environmental Remediation Costs and Insurance Proceeds
For the period of January 1, 2016 through December 31, 2016

Note: Monthly totals by site agree to the amounts presented in the Exhibit A Summary

Sum of Amount C	Column Labels												Grand Total
Row Labels	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	
Central													
Study	7,024	6,428	6,534	10,734	2,549	3,002	648	3,005		9,378		24,208	73,509
Central Total	7,024	6,428	6,534	10,734	2,549	3,002	648	3,005		9,378		24,208	73,509
Gasco Sediments													
DEQ		933											933
EE/CA and Data Report	36,729		29,756	21,565	7,723	8,329		85,713	46,040	13,246	12,870		261,971
Legal - PLG - Gasco Sediments Remedy	15,736	5,591	1,050	4,800	5,250	2,550	3,480	(3,242)	7,978	4,400	009	75	48,267
Meetings, Budget, Schedule	2,168		5,230	811	1,108	168		1,814	488	260	3,480		15,828
Trustees				4,229									4,229
Gasco Sediments Total	54,633	6,524	36,036	31,404	14,081	11,047	3,480	84,285	54,507	18,205	16,950	75	331,228
Gasco Source Control													
Groundwater Pilot Study	27	27	27	27		26	26	26	26	27	28	28	295
NWN Direct Costs	15,790	8,687	11,086	11,121	10,168	33,542	7,098	8,981	6,153	16,311	9,265	10,939	149,142
Legal - PLG - Gasco Source Controls	2,020	4,058	3,827	6,493	13,110	7,095	983	4,470	4,205	3,498	(22)	9,040	58,742
Optimization of Water Treatment Plant	215,066	523,216	166,635	785,274	183,703	361,774	359,830	291,722	488,297	400,451	272,971	250,577	4,299,516
Gasco Source Control Total	232,904	535,988	181,575	802,915	206,981	402,437	367,937	305,198	498,681	420,286	282,209	270,584	4,507,695
Gasco Uplands													
DEQ	70,432	22,969		58,647	24,499		14,478	61,186		65,473		33,458	351,142
Final RI	4,992	3,598	53,295	91,491	16,245	111,516		273,010	59,253	98,799	61,585	23,186	796,970
Finalize Risk Assessment			17,830	14,674	7,364	4,590		25,659	22,719	42,272	24,695		159,802
Gasco Other										5,000			2,000
Interim Action Maintenance	1,405	1,211	3,188	2,459	6,840	1,495		4,679	813	2,636	24		24,751
Legal - PLG - Gasco Site Remedy	4,230	32,792	10,684	22,517	16,880	13,941	12,922	11,039	12,500	17,905	18,326	36,243	209,976
Restoration Evaluation	7,756												7,756
Sediments - LWG Related	7,734												7,734
Site Wide FS	118,090	4,964	119,158	129,031	71,215	61,981		124,981	72,658	23,043	39,745	1,735	766,600
Technical Coordination	105,398	(163)	113,702	60,495	49,816	54,624	1,603	107,728	54,933	95,142	86,883	4,385	734,546
Insurance Recovery Costs	1,359.57	1,387.20	1,717.80	1,313.55	250.20				1,043.50				7,071.82
Technical Support for Allocation Process			26,964.40	48,079.67	83,418.12	95,077.77		177,741.62	40,394.41	39,755.27	48,967.61		560,398.87
Site-Wide Technical Services	100 700	C.F.	001	201.004	101 010	5,474.39	200.00	28,568.17	19,508.93	35,111.63	28,955.26	1,901.25	119,519.63
Gasco Opiands Total	165,125	00,738	346,540	478,700	770,077	346,096	700'67	814,592	779,507	455,137	303,180	100,909	3,731,207
nation Property Pr	377 20	27 707	24 113	24.220	97 085	05 262	69 662	50 211	79 393	55.055	777 07	12 700	769 196
Legal FLO	450.002	101,10	04,112	74,430	000,10	505,56	200,60	117,60	000'07	18.212	40,247	10.946	479.160
Remedial Allocation Process	•		24 000							15,500			39,500
Legal - PLG NRD	98	12,915	(12,915)	31,208	(31,208)	225	150	•	375	1,275	3,481	34,976	40,567
Legal - Crowell and Mooring		31,387.50	13,756.25	8,718.75	7,258.00	2,331.25	17,956.25	3,625.08	5,425.00	3,293.75	3,681.25	1,781.25	99,214.33
Consulting - CES			498.00			736.14	(200.00)	•					1,034.14
Harbor Total	545,834	98,796	109,451	64,157	74,035	98,655	82,568	62,836	84,183	93,335	47,408	61,403	1,427,661
PGM													
DEQ	8,965	5,002		12,595	1,105		7,926	662'6		12,585		3,527	61,504
Legal - PLG	(206)	825	3,505	(009)	1,688	1	263	24,802	(22,214)	825	(113)	938	9,712
Sediment Investigation 2nd Ph Work Plan			378	7,316	19,844	27,879		33,019	7,086	4,592	72,817		172,930
Upland Investigation 2nd Ph Work Plan	4,138		845	7,008	635	510		1,545	1,531	3,903	3,456		23,571
Feasibility Study	60,533												60,533
Permitting						880.50					1,316.25		2,196.75

Sum of Amount	Column Labels												
	2016											_	Grand Total
Row Labels	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	
Design											576.25		576.25
PGM Total	73,431	5,827	4,727	26,319	23,271	59,269	8,189	69,165	(13,598)	21,905	78,053	4,464	331,022
Siltronic													
DEQ	3,192	280		9,216	4,064		3,675	8,735		2,732		260	32,454
Meetings, Budget, Schedule	2,646	1,739	48										4,433
RI Investigations/Reporting	3,183	3,070	2,363										8,615
Risk Assessment	11,936		8,836										20,772
Legal - PLG - Gasco Siltronic MGP RI/FS	(63)	,							670	(670)	578		515
Siltronic Total	20,894	5,089	11,247	9,216	4,064		3,675	8,735	670	2,062	578	260	66,788
Grand Total	1,256,116	725,409	696,109	696,109 1,373,450	601,509	893,109	500,499	1,347,815	908,265	608'066	734,378	462,202	10,489,170