STATEMENT OF BASIS

Air Operating Permit 0000078

WestRock Longview, LLC
PO Box 639
Longview, WA 98632

Permit Issued Date: DRAFT
Permit Effective Date: DRAFT
Permit Expiration Date: DRAFT

Prepared by:

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List of Abbreviations and Acronyms

Btu	British thermal units
BACT	Best Available Control Technology
CAA	Clean Air Act [42 U.S.C. section 7401 et seq.]
CAM	Compliance assurance monitoring
CEMS	Continuous emission monitoring system
CFR	Code of Federal Regulations
CMS	Continuous monitoring system
CO	Carbon Monoxide
COMS	Continuous opacity monitoring system
CO_2	Carbon dioxide
dscf	Dry standard cubic foot
Ecology	Washington State Department of Ecology
EPA	United States Environmental Protection Agency
EU	Emission Unit
gr/dscf	Grains/dry standard cubic foot (7,000 grains = 1 pound)
HAP	Hazardous air pollutant
hr	Hour
IEU	Insignificant emission unit
lb	Pound
MACT	Maximum Achievable Control Technology
mm	One million
NESHAP	National Emission Standards for Hazardous Air Pollutants (40 CFR 61 and 63)
NOC	Notice of Construction
NOx	Oxides of nitrogen
NSPS	New source performance standards
O_2	Oxygen
PM	Particulate matter
PM_{10}	Particulate matter with an aerodynamic diameter $\leq$ 10 microns
ppmdv	Parts per million, on a dry volume basis
PSD	Preventions of Significant Deterioration
PTE	Potential to emit
SCR	Selective catalytic reduction
SO_2	Sulfur dioxide
SOx	Oxides of sulfur
tpy	Tons per year
tBACT	Toxics Best Available Control Technology
VOC	Volatile organic compounds
WAC	Washington Administrative Code

1.0 INTRODUCTION

This document, the Statement of Basis or support document, summarizes the legal and factual basis for the permit conditions in the Air Operating Permit issued by the Washington State Department of Ecology (Ecology) to the source. When Ecology issues a draft Operating Permit, we must provide a statement that sets forth the legal and factual basis for these draft permit conditions, including references to the applicable statutory or regulatory provisions per Washington Administrative Code (WAC) 173-401-700(8).

Unlike the Air Operating Permit, this document is not legally enforceable. This Statement of Basis summarizes the emitting processes at the facility, air emissions, permitting and compliance history, the statutory or regulatory provisions that relate to the facility, and the steps taken to provide opportunities for public review of the permit. The Permittee is obligated to follow the terms of the permit. Any errors or omissions in the summaries provided here do not excuse the Permittee from the requirements of the permit.

2.0 PERMIT AUTHORITY

Title V of the Federal Clean Air Act Amendments requires all states to develop a renewable operating permit program for industrial and commercial sources of air pollution. The Washington State Clean Air Act (Revised Code of Washington (RCW) 70.94) was amended in 1991 and 1993 to provide the Department of Ecology and Local Air Agencies with the necessary authority to implement a statewide operating permit program. The law requires all major sources or any source that is subject to a standard, limitation or other requirement under the Standards of Performance for New Stationary Sources obtain an air operating permit. A major source is defined as one that either directly emits or has the potential to emit 100 tons per year (tpy) or more of a pollutant that is subject to regulation, for example criteria pollutants, 10 tpy or more of a hazardous air pollutant, or 25 tpy or more in the cumulative of hazardous air pollutants. Criteria pollutants include sulfur dioxide (SO_2), nitrogen dioxide (NO_2), particulate matter (PM), carbon monoxide (CO), lead (Pb), and ozone (O_3).

Chapter 173-401 of the WAC, which specifies the requirements of Washington State's Operating Permit Regulation became effective November 4, 1993. EPA granted Washington's program interim approval December 9, 1994. Final approval of Washington's program was granted on August 13, 2001. The current version of the regulation was filed in August 2018 and became effective September 16, 2018.

3.0 FACILITY INFORMATION

Company/Owner	WestRock Longview LLC~~Company~~
Plant or Facility Name	WestRock Longview, LLC
Responsible Official	Stephen J. Devlin General Manager, Longview Mill ~~Work~~
Facility Contact(s)	Roberto Artiga Environmental Services Manager
Facility Location	300 Fibre Way, Longview, WA 98632
Mailing Address	PO Box 639, Longview, WA 98632
Telephone	(360) 575-5901
SIC Code	26 (Pulp and Allied Products)
Attainment Classification	As of May 22, 2020 there are no Washington State counties (or adjacent Oregon counties) in nonattainment for any of the criteria pollutants. (Green Book, EPA)
Basis for Title V applicability	The facility by definition is a major source with a potential emissions of over 100 tons of a regulated air pollutant and 10 tons of HAP per year (See Table 1)

Figure 1 - Location map (Longview, Washington)

A. Source Description

Ownership

WestRock Longview, LLC (WestRock Longview) is a large, integrated pulp and paper mill.

The mill began operation in 1927 under the ownership of the Longview Fibre Company. The mill used wood waste that was otherwise burned in wigwam burners. In 2007 the mill was sold to Brookfield Capital Partners II, L.P., Brookfield Capital Partners II (NR) L.P., and Brookfield Capital Partners II (PC) L.P. (collectively referred to herein as "Brookfield"). In July 2013, Brookfield sold the mill to KapStone Kraft Paper Corporation. Longview Fibre Paper and Packaging, Inc. remained the owner and Permittee but the mill was doing business as (d/b/a) KapStone Kraft Paper Corporation. In 2018, WestRock purchased KapStone Kraft Paper Corporation and obtained the mill in the transaction.

Process

The mill uses three main sources of fiber to make paper. The mill purchases secondary fiber in two forms: bales of Old Corrugated Container (OCC) and bales of Bleached Market Pulp (BMP). WestRock Longview also creates its own virgin pulp from chips. WestRock Longview produces the virgin pulp using the kraft process and the neutral sulfite semi-chemical process.

Production

WestRock Longview produces unbleached kraft pulp and kraft paper/corrugated products for sale. Based on data provided to Ecology from March 2016 through September 2017, the mill produces approximately 1,200 air dried tons per day (ADT/day) of OCC pulp, 2,200 ADT/day of unbleached kraft pulp, 3,300 ADT/day of non-integrated paperboard, and 3,500 ADT/day of kraft paper and corrugated products.

Maximum annual production of unbleached kraft pulp and kraft paper/corrugated are 1.022 million machine dried tons (MDT) and 1.314 million MDT respectively.

Emissions

The potential-to-emit (PTE) for each emission unit is tabulated in Table 1. The PTE values were taken from the 2011 AOP renewal application. Recovery Furnace 18, Smelt Dissolver 18, Power Boiler 12, and Power Boiler 13 were not included in the PTE table because they have been permanently shut down. Actual emissions from the Washington Emissions Reporting System (WEIRS) for the 2019 reporting year are tabulated in Table 2.

Commented [RA1]: 2018 emissions or an average of the 2018-2019 emissions might be more representative of mill operations as there was some market driven production curtailments in 2019

Table 1
Criteria Pollutants and VOC Potential to Emit

Emission Unit	PM&PM$_{10}$ Filterable [tons]	SO_2 [tons]	CO [tons]	NO_x [tons]	TRS [tons]	VOC [tons]
LK 3	34	27	581	238	10	~~0~~
LK 4	35.6	28	605	248	11	~~0~~
LK 5	69	28	282	262	6	~~0~~
RF 19	292	301	2628	753	59	1020
SDT 19	44	16	66	11	114	~~0~~
RF 22	256	1291	1380	735	17	~~0~~
SDT 22	44	31	65	11	6	~~0~~
~~PB 16~~	~~475~~	~~1357~~	~~2300~~	~~1679~~	~~0~~	~~0~~
PB 20	365	946	3942	1183	0	~~0~~
NSSC	0	0	0	0	0	26.4
Total	**1614.6**	**4025**	**11849**	**5120**	**223**	**1046.4**

Commented [RA2]: It needs to be noted that the PM limits reference in this table are filterable only PM emissions

Commented [RA3]: Suggest removing the zeros as the facility has not reported such values

Commented [RA4]: PB16 has been permanently retired from service

Table 2
Criteria and Other Air Pollutants Actual Emissions Summary (2019)

Emission Unit	PM [tons]	SO2 [tons]	CO [tons]	NOx [tons]	VOC [tons]	TRS [tons]
Lime Kiln 3	1.0	0.2	1.1	6.0	0.3	0.5
Lime Kiln 4	9.2	1.1	5.5	100.7	1.7	3.3
Lime Kiln 5	6.9	1.7	11.4	41.6	0.1	1.9
Recovery Furnace 19	48.6	40.4	59.27	240.4	4.0	7.1
Smelt Tank 19	16.8	0.2	0.8	0.6	5.7	1.0
Recovery Furnace 22	34.8	119.2	83.4	377.9	8.6	3.2
Smelt Tank 22	13.8	0.2	0.4	0.0	6.7	1.9
Power Boiler 20	47.0	17.2	550.8	342.3	0.0	--
Kamyr Digester No. 1 Deckers	--	--	--	--	23.6	2.1
Kamyr Digester No. 2 Deckers	--	--	--	--	31.9	2.8
Brown Stock Washer No. 6	--	--	--	--	0.0	0.0
Strong Black Liquor Oxidation	1.0	--	--	--	34.5	0.2
Strong Black Liquor Storage Tanks	--	--	--	--	3.83	2.9
Heavy Black Liquor Storage Tanks	--	--	--	--	0.7	0.5
Lime Slaker No. 2	0.03	--	--	--	0.07	0.0
Lime Slaker No. 4	0.04	--	--	--	0.09	0.01
Lime Slaker No. 5	0.8	--	--	--	2.1	0.1
Lime Slaker No. 6	0.9	--	--	--	2.2	0.1
Lime Mud Oxidizer	--	--	--	--	0.7	--
Effluent Cooling Tower	--	--	--	--	0.26	--
NSSC System	--	--	--	--	11.8	--
Paper Machine 5	0.6	--	--	--	3.6	--
Paper Machine 7	2.9	--	--	--	17.8	--
Paper Machine 10	4.3	--	--	--	26.1	--
Paper Machine 11	2.1	--	--	--	12.5	--
Paper Machine 12	1.8	--	--	--	11.0	--
OCC Fugitive	--	--	--	--	2.8	--
Green Liquor Clarifier	--	--	--	--	5.3	--
Total	**193**	**180**	**712**	**1,110**	**218**	**27.6**

Commented [RA5]: It needs to be clarified that the PM emissions shown in this table include both the filterable and condensable portion. WestRock recommends to only include the filterable portion of the PM emissions reported in the annual emission inventories to avoid confusion by comparing two sets of completely different values and their meaning from a PM emissions perspective.

B. Permitting Summary

WestRock Longview submitted a Title V permit renewal application to Ecology which was received on September 1, 2011. Ecology reviewed the renewal application and determined the application to be complete on December 8, 2011.

This section summarizes the major permitting actions at WestRock Longview.

Table 3
WestRock Longview Permitting History Summary

Date	Order/PSD	Description
11/12/1980 and 4/27/1981	Order DE 80-602 and PSD X81-10	Major mill expansion by 500 tons pulp per day capacity to 2,530. Multi-phase project over 5 - 10 years. Projects include: - New Lime Kiln 5 (approx. 1,100 ADT/d) - New scrubber on LK3 and LK4 - New precipitator on RF14 - New pulp digesting and washing facilities - New paper machine 12 (200 tpd) - New bleach plant (500 tpd) - New Recovery Furnace 22 and SDT22 (1,100 ADT/d) - New Boiler 23 (600,000 lb steam/hr using wood waste, coal, oil, and gas)
5/29/1984	Order DE 84-301	Compliance order requiring precipitator upgrades at RF15, RF18, RF19 to address opacity issues.
5/15/1986	Letter to Ecology	Mill expansion work update. Due to tech improvements and change in product mix, LFPP reached a production rate of 2,700 tpd without need new paper machine. Also with energy conservation programs, no need for PB23. Improved pulping and recovery no need for new RF22.
4/17/1989	Order DE 89-35	Compliance order requiring modification of LK3 primary air fan and installation of dedicated NCG burner.
7/27/1990	REVISED Order DE 80-602 and PSD X81-10	PSD re-review prior to construction of RF22 and SDT22. - Production increase 2,530 tpd to 3,000 tpd - new Kamyr continuous digester/washer - new secondary fiber plant - New RF22 and SDT22; RF 11 shutdown - RF15, 18, 19 modifications - RF15: 3rd level of combustion air, improved combustion control instrumentation (including O2 trim), automatic port cleaning, additional air fan for 2nd and 3rd levels (increase air pressure), additional heat recovery and scrubber system following the ESP. BLS firing rate increase from 2.0 to 2.4 MM lbs of BLS/day. - RF18: combustion air supply improvement (increase air pressure), improved combustion control instrumentation (including O_2 trim), automatic port cleaning, new section added to ESP. BLS firing rate increase from 2.1 to 2.5 MM lbs of BLS/day. - RF19: Additional air fans for 2nd and 3rd levels, increased

Date	Order/PSD	Description
		combustion air pressure, improved combustion control instrumentation, automatic port cleaning. BLS firing rate increase from 3.3 to 4.4 MM lbs BLS/day.
3/30/1994	Order DE 94AQ-I013	GE 7B Gas Turbine HRSG and modification to RF19.
10/25/1995	Order 95AQI068	Replacement of portion of NSSC pulp washer system. Replaces existing secondary pressifiner pulp washers with a new chemi-washer pulp washer. Chemi-washer rated to 400 tpd. Limited by NSSC plant capacity of 250 tpd.
10/3/1996	Order 96AQI076	Improve NSSC plant to increase capacity to 400 tpd.
10/5/1999	Order DE 99AQ-I052	Medical/infections waste incineration limit at PB12, 13, 20. Rescinded by Order 8429.
7/6/2000	PSD-X81-10A	- CO and NOx limits at RF15, RF18, RF19, RF22, and LK5 changed from lb/ADTP to tons/day. - CO and NOx concentration limit at RF15, RF18, RF19, and LK5 removed since no CEMS requirement. - Requirements of PSD and Order separated for regulatory clarity
9/12/2000	Order DE 00AQIS-1627	New press section to PM10. Increase from 550 lb/ft of pressure to 6000 lb/ft. Reduce water content prior to dryer section. Potential to increase paper production capacity since dryer section limits capacity for some grades of paper.
2/16/2001	Order DE 01AQIS-2038	Revised portions of Order DE 00AQIS-704.
4/12/2001	AOP WA000007-8	AOP issued 4/12/2001 and expires 4/12/2006.
7/10/2001	Order DE01AQIS-3076	Pollution control upgrades at SDT18. Upgrade to venturi scrubber/packed tower scrubber units in each stack.
10/18/2001	Order DE 01AQIS-3279	MACT I implementation order.

Date	Order/PSD	Description
12/14/2001 and 12/10/2001	Order DE 01AQIS-3294 and PSD 01-03	Increase primary paper production capacity from 3,000 to 3,600 MDT/day. Kraft pulp production limited at 2800 MDT/d (12-month rolling average). Existing kraft production equipment, OCC production equipment, and paper machines to be operated at a higher rate. - adding presses at PM1, 6, and 10 - replacing drive and adding dryers to PM 7 - automating caps on Batch Digesters 19, 20, and 21 and four other smaller digesters - OCC plant improvements - capacity improvements in purchased bleach pulp system - rebuilding or replacing washer lines 5, 6, and 7 - stack modifications to PB12, 13, and 20 - stack replacements for PB16 and 17 - stack modifications to LK1, 2, 3, 4 - replacing mist eliminators at SDT15 and 18 - using caustic solution in scrubbers at PB12, 13, and 20 - replacement of firebox at RF19 - replacement of economizer at RF18 - various projects for MACT cluster rule compliance - replacing headbox at PM11 - installation of double extraction condensing turbine to used excess heat from plant steam
1/11/2002	Order DE02AQIS-3440	Revision to Order DE 01AQIS-3279 to clarify MACT I inspection language and allow for alternative inspection schedules for areas without safe access.
3/20/2003	PSD 01-03, First Amendment	Descriptive and typographical error corrections.
8/8/2003	Order DE 03AQIS-5687	Improve air pollution control equipment at PB12, 13, and 20 as alternative to meet requirements of PSD 01-03 and Order DE 01AQIS-3294. Wet ESPs to be installed.
9/13/2005	Order 2723-AQ05	Administrative order for clean condensate alternative (CCA).
11/2/2006	PSD 01-03, Second Amendment	Typographical corrections and additional clarifications.
2/21/2007	Order 4115-AQ07	Replace existing wet scrubber (which precedes the wet ESP). Existing scrubber is 30 years old and nearing end of service life. New scrubber will increase PM removal efficiency, reduce energy consumption and better saturate stream to improve wet ESP operation.
2/23/2007	AOP 000007-8	AOP issued 2/23/2007 and expires 3/1/2012.

Date	Order/PSD	Description
2/23/2007	Order 3462-AQ07	Cleanup of Order DE 01AQIS-3294. Update name, PB17 shutdown, expired interim limits removed. This is now the accompanying order to PSD 01-03.
2/23/2007	Order 3463-AQ07	Rescinds previous orders since AOP has been issued with includes Subpart S requirements and the orders are no longer needed. Also includes language from Order DE 02AQIS-3440 because that order referenced Order DE 01AQIS-3279 which has been rescinded.
2/23/2007	Order 3466-AQ07	Streamlining due to Boiler MACT. Opacity limits and opacity monitoring removed from Order and included in separate Order. Standardizing opacity requirements from Order DE 03AQIS-5687 and Boiler MACT and placing them in a single order. Removed references to PB17 (shutdown).
6/2/2011	Order 8429	Mill infrastructure project. Units shutdown: PB12, PB13, RF18, SDT18, several smaller units. New emission controls: RF19 and PB20 (SNCR) Physical/operational changes: RF19, SDT19, RF22, LK5, Lime Slaker 6, PB20 New emission units: Heavy BLS tank, cooling tower Other changes: different units used to combust NCGs, new steam turbine generating capacity to be added Determination made by AQP that the project does not trigger PSD but may require some revisions to PSD 01-03 (March 15, 2011 Letter).
7/26/2012	Order 9213	Improve performance and efficiency of paper machines. Existing paper machines are PM5, 6, 7, 9 10, 11, and 12. Hourly production increases at five of seven (PM5, 7, 10, 11, and 12). Existing production limits in PSD 01-03 will remain unchanged.
12/31/2013	Order 10373	Voluntary emission limits at RF18 and SDT18 prior to shutting down the units.
6/18/2015	PSD 01-03, Third Amendment	Facility name change, removal of shutdown units (RF15, SDT15, LK1, LK2, CoGen23, PB12, and PB13), and general cleanup.
8/3/2017	Order 13302	Flexo Folder Gluer (FFG) project. New piece of equipment which would allow for increased production of corrugated cardboard boxes.

C. Compliance Summary

This section summarizes the air violations which have occurred the previous five years at WestRock Longview for which there are associated Ecology notices of violation (NOVs).

Table 4
WestRock Longview Exceedances and Violations

Date	Docket Number	Unit	Parameter	Additional Information
8/28/19	NOV 16635	Recovery Furnace 19	Opacity	Excess opacity at Recovery Furnace No. 19 on February 13, 2019. Opacity of 36% (six minute average) was recorded from 19:12 – 19:18.
2/1/19	NOV 16190	Recovery Furnace 19	Opacity	Excess opacity at Recovery Furnace No. 19 on November 12, 2018. Opacity of 36% (six minute average) was recorded from 19:42 – 19:48.
1/3/19	NOV 16166	Recovery Furnace 19	Opacity	Excess opacity at Recovery Furnace No. 19 on October 5, 2018. Opacity of 44% (six minute average) was recorded from 10:00 – 10:06.
12/4/18	NOV 16130	Smelt Dissolver Tank 19	Source Test Frequency	Failure to test as required by permit.
10/29/18	NOV 16076	Lime Kiln 5	SO_2	Sulfur dioxide was 22 ppm (3-hr average) on September 20, 2018; in excess of the 20 ppm limit.
7/6/18	NOV 15876	Power Boiler 20	NO_x	NOx was 0.22 lb/mmBTU on May 25, 2018; in excess of the 0.20 lb/mmBTU limit.
3/28/18	NOV 15805	Recovery Furnace 19	Opacity	Excess opacity at Recovery Furnace No. 19 on March 28, 2018. Opacity of 31% (six minute average) was recorded from 17:06 - 17:12.
3/27/18	NOV 15804	Recovery Furnace 19	Opacity	Excess opacity at Recovery Furnace No. 19 on March 27, 2018. Opacity of 58% (six minute average) was recorded from 17:30 - 17:48.
10/16/17	NOV 15569	Recovery Furnace 19	Opacity	Excess opacity at Recovery Furnace No. 19 on October 16, 2017. Opacity of 33% (six minute average) was recorded from 17:42 - 17:48.
9/15/18	NOV 15478	Recovery Furnace 19	Opacity	Excess opacity at Recovery Furnace No. 19 on September 15, 2017. Opacity of 34% (six minute average) was recorded from 6:48 - 6:54 AM
8/31/17	NOV 15461	Recovery Furnace 19	Opacity	Excess opacity at Recovery Furnace No. 19 on August 31, 2017. Opacity of 36% (six minute average) was recorded from 10:42 - 10:48 AM.
6/14/17	NOV 15317	Recovery Furnace 19	Opacity	Excess opacity at Recovery Furnace No. 19 on June 17, 2017. Opacity of 33% (six minute average) was recorded from 8:18 - 8:24. Excess opacity was caused by failed #5 and 6 transformer/rectifier interface control pads. Opacity is not to exceed 30%.
12/12/16	NOV 14049	Recovery Furnace 19 and Recovery Furnace 22	Opacity and Data Loss	Excess opacity at Recovery Furnace 19 on December 12, 2016. Opacity of 32% (six minute average) was recorded. Opacity is not to exceed 30%. Data loss exceeded 10%.
10/10/16	NOV 13992	Recovery Furnace 22	Opacity	Excess opacity at Recovery Furnace 22. Opacity of 26% was observed. Opacity is not to exceed 20%.

Date	Docket Number	Unit	Parameter	Additional Information
4/7/16 and 4/9/16	NOV 13451	Recovery Furnace 22	Opacity	The opacity limit for Recovery Furnace 22 at the Longview Fibre Paper and Packaging facility was exceeded on 4/7/16 and again on 4/9/16. The limit is an average opacity of 20% for more than 6 consecutive minutes. The average opacity for 12 minutes on 4/7/16 was 26% and for six minutes on 4/9/16 was 30%
3/4/16	NOV 13450	Recovery Furnace 19	Opacity	The opacity limit for Recovery Furnace 19 at the Longview Fibre Paper and Packaging facility was exceeded on 3/4/16. The limit specified by the air operating permit is an average of more than 30% opacity for more than six consecutive minutes and the average opacity for one six minute period on 3/4/16 was 37.8%.
9/14/15	NOV 13005	Lime Kiln 5	Opacity	The opacity limit for Lime Kiln 5 at the Longview Fibre Paper and Packaging, Inc, d/b/a KapStone Kraft Paper Corporation, facility was exceeded on 9/14/15. The limit is specified as an average opacity of no more than 25% for more than 6 consecutive minutes in any 60 minute period. The opacity was 42% for 24 minutes on 9/14/15.
7/10/15	NOV 12874	Recovery Furnace 22	Opacity	The opacity limit for Recovery Furnace 22 at the Longview Fibre Paper and Packaging, Inc, d/b/a KapStone Kraft Paper Corporation, facility was exceeded on 07/10/15. The limit specified by the air operating permit is a 6 minute average of 20% opacity and the average opacity for one six minute period on 7/10/15 was 21%.
3/22/15	NOV 11424	Lime Kiln 5	Opacity	The opacity limit for Lime Kiln 5 at the Longview Fibre Paper and Packaging, Inc, d/b/a KapStone, facility was exceeded on 3/22/15. The limit specified by the air operating permit is a 6 minute average of 25% opacity and the average opacity for twelve minutes on 3/22/15 was 32%.
3/11/15	NOV 11423	Recovery Furnace 19	Opacity	The opacity limit for Recovery Furnace 19 at the Longview Fibre Paper and Packaging, Inc, d/b/a KapStone, facility was exceeded on 3/11/15. The limit specified by the air operating permit is a 6 minute average of 20% opacity and the average opacity for one six minute period on 3/11/15 was 32%.
~~10/25/14~~	~~NOV 11141~~	~~Recovery Furnace 22~~	~~Opacity~~	~~The opacity limit for Recovery Furnace 22 at the Longview Fibre Paper and Packaging, Inc, d/b/a KapStone, facility was exceeded on 10/25/14. The limit specified by the air operating permit is a 6 minute average of 20% opacity and the average opacity for one six minute period on 10/25/14 was 23%.~~
~~8/25/14~~	~~NOV 11000~~	~~Recovery Furnace 19~~	~~Opacity~~	~~The opacity limit for Recovery Furnace 19 at the Longview Fibre Paper and Packaging, Inc, d/b/a KapStone, facility was exceeded on 8/25/14. The limit specified by the air operating permit is a 6 minute average of 30% opacity and the average opacity for two six minute periods on 8/25/14 was 34%~~
~~7/28/14~~	~~NOV 10940~~	~~Recovery Furnace 22~~	~~Opacity~~	~~The opacity limit for Recovery Furnace 22 at the Longview Fibre Paper and Packaging, Inc, d/b/a KapStone, facility was exceeded on 7/28/14. The limit specified by the air operating permit is a 6 minute average of 20% opacity and the average opacity for one six minute period on 7/28/14 was 38%.~~

Commented [RA6]: Section introductory paragraph states that it covers the previous five years so remove these to only include the 2015-2019 5-year period

Date	Docket Number	Unit	Parameter	Additional Information
12/8/13	NOV 15583	Power Boiler 13	Sulfur Dioxide	The sulfur dioxide (SO2) limit for Power Boiler 13 was exceeded on December 8, 2013. The limit specified by the air operating permit is a 3 hour average limit of 100 ppm and one of the 3 hour averages measured on December 8, 2013 was 114 ppm.

4.0 APPLICABLE REQUIREMENTS

A. Federal Air Quality Requirements: NESHAP, NSPS, CAM

National Emission Standards for Hazardous Air Pollutants (NESHAPs): 40 CFR Part 61 Subpart E and 40 CFR Part 63 Subparts A, S, KK, MM, ZZZZ, DDDDD (adopted by reference in WAC 173-400-075).

New Source Performance Standards (NSPS): 40 CFR Part 60 Subparts A, D, Db, BB and IIII (adopted by reference in WAC 173-400-115).

Compliance Assurance Monitoring (CAM): 40 CFR Part 64 (adopted by reference in WAC 173-401-615). See CAM Section for Applicability & Requirements.

Greenhouse Gases: 40 CFR Part 98 (no applicable requirements under Title V operating permit program).

B. State Air Quality Requirements

The Permittee is subject to several state-only requirements, which are not enforceable under the Federal Clean Air Act. These requirements include the total reduced sulfur (TRS) treatment standard applicable to the digester, multi-effect evaporators, and condensate stripper system in WAC 173-405-040(4); the TRS limits at the lime kiln in WAC 173-405-040(3); and the greenhouse gas reporting requirements in Chapter 173-441 WAC~~. and the greenhouse gas performance standards in Chapter 173-407 WAC~~.

Commented [RA7]: This is an incorrect reference as the as standards applicable to power plants

C. Regulatory Orders

As of the date of this renewal, the Permittee is subject to following regulatory orders and modifications.

No. 01-03, Third Amendment of Final Approval of Prevention of Significant Deterioration Application (PSD 01-03);
Order No. 2737-AQ05;
NOC Order No. 3462-AQ07;
Order No. 3463-AQ07;
NOC Order No. 3466-AQ07;
NOC Order No. 8429, Modification 1;
NOC Order No. 9213
Order No. 13302, Modification 1.

5.0 EMISSION UNITS DESCRIPTION

A. RECOVERY FURNACES

Recovery Furnace 11 (Shut Down)

Recovery Furnace 11 was permanently shut down in 1989.

Recovery Furnace 14 (Shut Down)

Recovery Furnace 14 was permanently shut down in 1994.

Recovery Furnace 15 (Shut Down)

Recover Furnace 15 was permanently shut down in March 2006 and abandoned in place per letter to Ecology dated June 6, 2007.

Recovery Furnace 18 (Shut Down)

Recovery Furnace 18 was last operated in June 2012. On May 30, 2018, KapStone submitted to Ecology a letter formalizing the permanent shutdown.

RECOVERY FURNACE 19 (Condition A1)

Recovery Furnace 19 was constructed as part of a Notice of Construction Application submitted to Ecology on December 11, 1972 (*Historical Project Review*, Trinity Consultants, April 2001).

Recovery Furnace 19 is a direct-contact recovery furnace with a 2017 annual throughput of 503,030 tons of black liquor solids. Emissions of PM from Recovery Furnace 19 are controlled using a wet bottom electrostatic precipitator (ESP). The ESP has two chambers (east and west) with four fields each (#1 through 8). Emissions of TRS are minimized through use of the strong black liquor oxidation ($SBLO_X$) process. Emissions of NOx and CO are minimized through proper operation and maintenance of the unit. Controlled emissions from the Recovery Furnace 19 have been redirected from the structurally compromised Recovery Furnace 19 stack to the shutdown Recovery Furnace 15 stack.

The stack is equipped with multiple continuous emissions monitoring system (CEMS) units to measure SO_2, TRS, and oxygen. The stack is equipped with a continuous opacity monitoring system (COMS) unit to measure opacity.

Prevention of Significant Deterioration (PSD) Permit No. 01-03 (issued December 2001) approved a modification to the mill which would increase capacity from 3,000 machine dry tons (MDT) of paper per day to 3,600 MDT of paper per day. The modification included modifications to the paper machines, batch digesters, washer lines, power boilers, recovery furnaces, lime kilns, smelt dissolving tanks, purchased bleach pulp systems, and the OCC plant.

PSD 01-03 was amended in 2003, 2006, and 2015.

Applicable unit specific regulations include: 40 CFR Part 63, Subpart MM (National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-alone Semi-chemical Pulp Mills); 40 CFR Part 64; 173-405 Washington Administrative Code (Kraft Pulping Mills); PSD 01-03, Amendment 3; and Order 3462-AQ07, Modification 1.

Ecology has adopted 40 CFR Part 63 and appendices by reference in WAC 173-400-075.

Condition A1.1 – Particulate Matter: PSD 01-03, Amendment 3, WAC 173-405-040(1)(a) and 40 CFR Part 64

The Permittee monitors PM and PM10 emission limit compliance with monthly/quarterly source tests. Source test frequency may be reduced to quarterly if 6 consecutive months' tests are below 75% of the limitation. The frequency reverts back to monthly if any quarterly test result is more than 75% of the limitation.

The compliance assurance requirements in 40 CFR Part 63, Subpart MM (Condition A1.4) require that opacity be monitored continuously using a COMS and that the Permittee implement corrective action if the average of ten consecutive 6-minute averages result in a measurement greater than 20% opacity. This compliance assurance language has been included in Condition A1.1.

Language has been added requiring the submittal of stack test reports to Ecology.

Mass emissions are calculated using the source test data to assure compliance with the 12 month rolling total mass limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Condition A1.2 – HAP Metals: 40 CFR Part 63, Subpart MM

The National Emission Standards for Hazardous Air Pollutants (NESHAP) for pulp mill combustion sources (40 CFR Part 63, Subpart MM) was originally proposed in 1998 and promulgated in 2001.

40 CFR Part 63, Subpart MM established a particulate matter emission limit of 0.044 grains/dry standard cubic foot (gr/dscf) corrected to 8% oxygen. The particulate matter emission limit is a surrogate used for determining emissions of hazardous air pollutant (HAP) metals.

40 CFR Part 63, Subpart MM required the implementation of maximum achievable control technology (MACT). The Clean Air Act (CCA) requires that EPA periodically review MACT standards to assess whether residual risk remains and if additional standards are need. This Risk and Technology Review (RTR) was completed on October 11, 2017 for the standards in 40 CFR Part 63, Subpart MM. As a result of the RTR, EPA included periodic source test requirements (every 5 years) for recovery boilers to demonstrate compliance with the HAP metals standard. The proposed AOP has been updated to include this updated source test frequency. Language regarding representative conditions, notification, recordkeeping, on-going compliance, and reporting have also been added.

Condition A1.3a – Opacity: Order 3462-AQ07, Modification 1

This condition has been updated to reflect the modification of Order 3462-AQ07 and the updated requirements for opacity.

Condition A1.3b – Opacity: WAC 173-405-040(6) and 40 CFR Part 64

This condition has been updated to clarify that the reference test method is EPA RM 9 for WAC 173-405-040(6). Opacity is continuously monitored with a COMS. Language referring to "excursions" has been updated to read "exceedance".

Commented [RA8]: See comments in AOP for this limit

Condition A1.4 – HAP Metals (Operating Limit): 40 CFR Part 63, Subpart MM

Continuous compliance with the HAP metals standard is assured through the use of a COMS. As a result of the RTR, EPA revised the violation determination. A violation now occurs when opacity is greater than 35 percent for 2 percent or more of operating time during a semi-annual period when spent pulping liquor is fed; previously the allowance was 6 percent of operating time. Recordkeeping and reporting language has been updated.

The RTR revised the excess emission reporting requirement from quarterly to semi-annual; this change has been reflected in the AOP.

Condition A1.5 – Sulfur Dioxide (SO_2): PSD 01-03, Amendment 3 and WAC 173-405-040(9)(a)

SO_2 limit compliance is monitored continuously with a CEMS that conforms with Performance Specification 5 in 40 CFR Part 60, Appendix B. Mass emissions are calculated with CEMS data to assure compliance with the 12 month rolling total mass limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Condition A1.6 – Total Reduced Sulfur (TRS): PSD 01-03, Amendment 3

TRS limit compliance is continuously monitored with a CEMS. Mass emissions are calculated with CEMS data to assure compliance with the 12 month rolling total mass limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Condition A1.7 – Carbon Monoxide (CO): PSD 01-03, Amendment 3

CO limit compliance is monitored annually/monthly using an EPA Reference Method 10 source test. Source testing frequency may be increased from annually to monthly if a single source test exceeds 75% of the limit.

Language has been added requiring the submittal of stack test reports to Ecology.

The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Condition A1.8 – Nitrogen Oxides (NO_x): PSD 01-03, Amendment 3

NO_x limit compliance is monitored annually/monthly using an EPA Reference Method 7 source test. Source testing frequency may be increased from annually to monthly if a single source test exceeds 75% of the limit.

Language has been added requiring the submittal of stack test reports to Ecology.

The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Condition A1.9 – Oxygen (O_2): Order 3462-AQ07

Order 3462-AQ07 requires that O_2 be monitored continuously with a CEMS that conforms with Performance Specification 3 in 40 CFR Part 60, Appendix B.

Condition A1.10 – Operating Limit: PSD 01-03, Amendment 3

PSD 01-03, Amendment 3, Condition 1.14 limits Recovery Furnace 19 to a throughput of 2000 tons of black liquor solids per day on a monthly average.

Condition A1.11 – Automatic Voltage Control: 40 CFR Part 63, Subpart MM

As a result of the RTR, EPA revised 40 CFR Part 63, Subpart MM to include a requirement that facilities maintain proper operation of the electrostatic precipitator's automatic voltage control (AVC). Language has been added to the AOP to reflect this new requirement.

Condition A1.12 – Volatile Organic Compounds (VOC): PSD 01-03, Amendment 3

PSD 01-03, Amendment 3, Condition 1.20 limits VOC emissions to 1020 tons per year.

Language has been added requiring the submittal of stack test reports to Ecology.

The limit language has been updated to clarify that the compliance value is a 12-month total and not an average. The VOC limit has been updated to indicate that VOC is measured on a carbon basis.

Condition A1.13 – Fuel Oil Burning Limit: Order 3462-AQ07

Annual heat input from fossil fuels is limited to less than 10 percent of the potential annual heat input from all fuels.

Condition A1.14 – Annual Exhaust Flow Correlation Submittal: PSD 01-03, Amendment 3

Condition A1.5 is expressed in pounds per hour. The exhaust flow through the stack is required in order to convert ppm values (provided by the CEMS) to a mass rate for compliance. The Permittee is required to submit an exhaust flow correlation to Ecology for approval on an annual basis. The correlation will develop a relationship between production and exhaust flow. This requirement was not previously included in the body of the AOP; it has been added for clarity.

Condition A1.15 – Total Reduced Sulfur (TRS): WAC 173-405-040(1)(b)

This is a state-only requirement and is not federally enforceable. TRS limit compliance is continuously monitored with a CEMS.

Other Notable Changes

Startup, Shutdown, Malfunction (SSM) exemption and plan language was removed from 40 CFR Part 63, Subpart MM as part of the EPA RTR. The SSM language (Condition A3.11 in the AOP which expired on March 1, 2012) has been removed from the proposed AOP.

RECOVERY FURNACE 22 (Condition A2)

Recovery Furnace 22 is a non-direct contact recovery furnace with a 2017 annual throughput of 544,304 tons of black liquor solids. Emissions of PM from Recovery Furnace 22 are controlled using a dry ESP. The ESP has two chamber with six fields each. ~~Emissions of TRS are minimized through use of the SBLO$_x$ process.~~ Emissions of NOx and CO are minimized through proper operation and maintenance of the unit. The stack is equipped with CEMS units to measure SO_2, TRS, and oxygen. The stack is equipped with a COMS to measure opacity.

Commented [RA9]: There are no SBLOx associated with 22F operations

Recovery Furnace 22 was approved as part of a three-phase mill modernization and expansion project which was to add approximately 500 tons per day of capacity and bring the average daily production to 2,530 air dry tons per day. The project was approved on April 27, 1981 through PSD X81-10 and Order No. DE 80-602 with the condition that emission limits for Recovery Furnace 22 would be re-reviewed no later than 18 months prior to commencement of construction.

Revised PSD-X81-10A and revised Order No. DE 80-602, issued July 27, 1990, was issued to supersede the previous PSD permit (PSD X81-10) and provided a re-analysis for the construction of Recovery Furnace 22 which had not occurred since the issuance of the initial PSD permit.

Prevention of Significant Deterioration (PSD) Permit No. 01-03 (issued December 2001) approved a modification to the mill which would increase capacity from 3,000 machine dry tons (MDT) of paper per day to 3,600 MDT of paper per day. The modification included modifications to the paper machines, batch digesters, washer lines, power boilers, recovery furnaces, lime kilns, smelt dissolving tanks, purchased bleach pulp systems, and the OCC plant.

PSD 01-03 was amended in 2003, 2006, and 2015.

Applicable unit specific regulations include: 40 CFR Part 63, Subpart MM (National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-alone Semi-chemical Pulp Mills); 40 CFR Part 60, Subpart BB (Standards of Performance for Kraft Pulp Mills); 173-405 Washington Administrative Code (Kraft Pulping Mills); PSD 01-03, Amendment 3; and Order 3462-AQ07.

Condition A2.1 – Particulate Matter: PSD 01-03, Amendment 3; 40 CFR Part 60, Subpart BB; 40 CFR Part 64, and WAC 173-405-040(1)(a)

The Permittee monitors PM and PM10 emission limit compliance with monthly/quarterly source tests. Source test frequency may be reduced to quarterly if 6 consecutive months' tests are below 75% of the limitation. The frequency reverts back to monthly if any quarterly test result is more than 75% of the limitation.

Language has been added requiring the submittal of stack test reports to Ecology.

The compliance assurance requirements in 40 CFR Part 63, Subpart MM (Condition A2.5) require that opacity be monitored continuously using a COMS and that the Permittee implement corrective action if the average of ten consecutive 6-minute averages result in a measurement greater than 20% opacity. This compliance assurance language has been included in Condition A2.1.

Language regarding the use of water as a cleanup solvent instead of acetone has been included in the NSPS PM requirement in Condition A2.1c.

Mass emissions are calculated using the source test data to assure compliance with the 12 month rolling total mass limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Condition A2.2 – HAP Metals: 40 CFR Part 63, Subpart MM

The NESHAP for pulp mill combustion sources (40 CFR Part 63, Subpart MM) was originally proposed in 1998 and promulgated in 2001.

40 CFR Part 63, Subpart MM established a particulate matter emission limit of 0.044 grains/dry standard cubic foot (gr/dscf) corrected to 8% oxygen. The particulate matter emission limit is a surrogate used for determining emissions of hazardous air pollutant (HAP) metals.

As discussed above, 40 CFR Part 63, Subpart MM required the implementation of maximum achievable control technology (MACT), which was updated after completion of the RTR that was completed on October 11, 2017. The update included periodic source test requirements (every 5 years) for recovery boilers to demonstrate compliance with the HAP metals standard. The proposed AOP has been updated to include this updated source test frequency.

Language regarding representative conditions, notification, recordkeeping, on-going compliance, and reporting have also been added.

Ecology has moved this requirement to group it with other limits on PM emissions. This will provide for one general location for all PM limits.

Condition A2.3a – Opacity: Order 3462-AQ07, Modification 1

This condition has been updated to reflect the modification of Order 3462-AQ07 and the updated requirements for opacity.

Condition A2.3b – Opacity: WAC 173-405-040(6) and 40 CFR Part 64

Commented [RA10]: See comments in AOP for this limit

This condition has been updated to clarify that the reference test method is EPA RM 9 for WAC 173-405-040(6). Opacity is continuously monitored with a COMS. Language referring to "excursions" has been updated to read "exceedance".

Condition A2.4 – Opacity as a surrogate for PM: 40 CFR Part 60, Subpart BB

This requirement was previously included with the preceding condition for opacity. Ecology has separated it out to clarify that this is a PM limit which uses opacity as a surrogate for compliance.

Condition A2.5 – Opacity as a surrogate for HAP Metals: 40 CFR Part 63, Subpart MM

Continuous compliance with the HAP metals standard is assured through the use of a continuous opacity monitoring system (COMS). As a result of the RTR, EPA revised the violation determination. A violation now occurs when opacity is greater than 35 percent for 2 percent or more of operating time during a semi-annual period when spent pulping liquor is fed; previously the allowance was 6 percent of operating time. Recordkeeping and reporting language has been updated.

The RTR revised the excess emission reporting requirement from quarterly to semi-annual; this change has been reflected in the AOP.

Ecology has moved this condition to group it with other limits on opacity. This will provide for one general location for all opacity limits.

Condition A2.6 – Sulfur Dioxide (SO_2): PSD 01-03, Amendment 3 and WAC 173-405-040(9)(a)

SO_2 limit compliance is monitored continuously with a CEMS that conforms with Performance Specification 5 in 40 CFR Part 60, Appendix B. Mass emissions are calculated with CEMS data to assure compliance with the 12 month rolling total mass limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Condition A2.7 – Total Reduced Sulfur (TRS): PSD 01-03, Amendment 3

TRS limit compliance is continuously monitored with a CEMS. Mass emissions are calculated with CEMS data to assure compliance with the 12 month rolling total mass limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Condition A2.8 – Carbon Monoxide (CO): PSD 01-03, Amendment 3

CO limit compliance is monitored annually/monthly using an EPA Reference Method 10 source test Source testing frequency may be increased from annually to monthly if a single source test exceeds 75% of the limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Language has been added requiring the submittal of stack test reports to Ecology.

Condition A2.9 – Nitrogen Oxides (NO_x): PSD 01-03, Amendment 3

NO_x limit compliance is monitored annually/monthly using an EPA Reference Method 7 source test. Source testing frequency may be increased from annually to monthly if a single source test exceeds 75% of the limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Language has been added requiring the submittal of stack test reports to Ecology.

Condition A2.10 – Oxygen (O_2): Order 3462-AQ07 and 40 CFR Part 60, Subpart BB

Order 3462-AQ07 and 40 CFR Part 60, Subpart BB require that O_2 be monitored continuously with a CEMS that conforms with Performance Specification 3 in 40 CFR Part 60, Appendix B.

Condition A2.11 – Operating Limit: PSD 01-03, Amendment 3

PSD 01-03, Amendment 3, Condition 1.21 limits Recovery Furnace 19 to a throughput of 1950 tons of black liquor solids per day on a monthly average.

Condition A2.12 – Automatic Voltage Control: 40 CFR Part 63, Subpart MM

As a result of the RTR, EPA revised 40 CFR Part 63, Subpart MM to include a requirement that facilities maintain proper operation of the electrostatic precipitator's automatic voltage control (AVC). Language has been added to the AOP to reflect this new requirement.

Condition A2.13 – Fuel Oil Burning Limit: Order 3462-AQ07

Annual heat input from fossil fuels is limited to less than 10 percent of the potential annual heat input from all fuels.

Condition A2.14 – Annual Exhaust Flow Correlation Submittal: PSD 01-03, Amendment 3

Condition A2.6 is expressed in pounds per hour. The exhaust flow through the stack is required in order to convert ppm values (provided by the CEMS) to a mass rate for compliance. The Permittee is required to submit an exhaust flow correlation to Ecology for approval on an annual basis. The correlation will develop a relationship between production and exhaust flow. This requirement was not previously included in the body of the AOP; it has been added for clarity.

Condition A2.15 – Total Reduced Sulfur (TRS): WAC 173-405-040(1)(b)

This is a state-only requirement and is not federally enforceable. TRS limit compliance is continuously monitored with a CEMS.

Other Notable Changes

Startup, Shutdown, Malfunction (SSM) exemption and plan language was removed from 40 CFR Part 63, Subpart MM as part of the EPA RTR. The SSM language (Condition A4.10 in the AOP which expired on March 1, 2012) has been removed from the proposed AOP.

B. SMELT DISSOLVER TANKS

Smelt Dissolver Tank 18 (Shut Down)

Smelt Dissolver Tank 18 permanently shut down as part of NOC Order 8429. Smelt Dissolver Tank 18 was last operated in June 2012. On May 30, 2018, KapStone submitted a letter to Ecology formalizing the permanent shutdown.

SMELT DISSOLVER TANK 19 (Condition B1)

Smelt Dissolver Tank 19 receives smelt from Recovery Furnace 19. Particulate matter emissions from Smelt Dissolver Tank 19 are controlled by a venturi scrubber followed by packed tower and chevron-type mist eliminator. Weak wash is used as a scrubber liquor. Smelt Dissolver Tank 19 exhausts through two stacks. Opacity limits apply to each stack individually. All other limits apply to the total emissions from the combined stacks.

Smelt Dissolver Tank 19 is equipped with continuous parameter monitoring systems (CPMS) to monitor pressure drop (inches H_2O), venturi scrubber flow (gallons per minute), and packed tower flow (gallon per minute).

Applicable unit specific regulations/orders include: 40 CFR Part 63, Subpart MM (National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-alone Semi-chemical Pulp Mills); 40 CFR Part 64 (Compliance Assurance Monitoring); 173-405 Washington Administrative Code (Kraft Pulping Mills); PSD 01-03, Amendment 3; and Order 3462-AQ07.

Ecology has adopted 40 CFR Part 63 and appendices by reference in WAC 173-400-075.

Condition B1.1 – Particulate Matter: PSD 01-03, Amendment 3; WAC 173-405-040(2); Order 3462-AQ07; and 40 CFR Part 64

The Permittee monitors PM and PM_{10} emission limit compliance with monthly/quarterly source tests. Source test frequency may be reduced to quarterly if 6 consecutive months' tests are below 75% of the limitation.

The Permittee is required to reasonably assure compliance with these applicable requirements. The Permittee accomplishes this by monitoring emission control device parameters that have been established in the "Emission Control Compliance Demonstration Plan". The plan was developed as a requirement of Order 3462-AQ07. The Permittee monitors the pressure drop (inches water), venturi scrubber flow (gallons per minute), and packed tower flow (gallons per minute). Any three-hour average deviation from the established operating parameters requires corrective action.

Mass emissions are calculated using the source test data to assure compliance with the 12 month rolling total mass limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Language has been added requiring the submittal of stack test reports to Ecology.

Condition B1.2 – PM as a surrogate for HAP Metals: 40 CFR Part 63, Subpart MM

The National Emission Standards for Hazardous Air Pollutants (NESHAP) for pulp mill combustion sources (40 CFR Part 63, Subpart MM) was originally proposed in 1998 and promulgated in 2001.

40 CFR Part 63, Subpart MM established a particulate matter emission limit of 0.20 pounds of PM per ton of black liquor solids fired. The particulate matter emission limit is a surrogate used for determining emissions of HAP metals.

As discussed above, 40 CFR Part 63, Subpart MM required the implementation of MACT which was updated after completion of the RTR that was completed on October 11, 2017. As a result of the RTR, EPA included periodic source test requirements (every 5 years) for smelt dissolver tanks to demonstrate compliance with the HAP metals standard. The proposed AOP has been updated to include this updated source test frequency. Language regarding representative conditions, notification, recordkeeping, on-going compliance, and reporting have also been added.

Ecology has moved this requirement to group it with other limits on PM emissions. This will provide for one general location for all PM limits

Condition B1.3 – Opacity: Order 3462-AQ07; WAC 173-405-040(6); and 40 CFR Part 64

Order 3462-AQ07 requires that the Permittee demonstrate compliance with the opacity limit by maintaining emission control parameter 3-hour average rates at levels specified in the "Emission Control Compliance Demonstration Plan".

The WAC 173-405-040(6) condition has been updated to clarify that the reference test method is EPA RM 9.

Condition B1.4 – Scrubber Operating Limit as surrogate for HAP Metals: 40 CFR Part 63, Subpart MM

Continuous compliance with the HAP metals standard is assured through the use of continuous parameter monitoring systems (CPMS). AOP language has been updated to reflect the language in the federal regulation. Recordkeeping requirements have been included.

Monthly reporting requirements have been added.

The RTR revised the excess emission reporting requirement from quarterly to semi-annual; this change has been reflected in the AOP.

Ecology has moved this condition to group it with other limits on scrubber operation. This will provide for one general location for all such limits.

Condition B1.5 – Sulfur Dioxide (SO_2): PSD 01-03, Amendment 3

SO_2 limit compliance is monitored triennially/monthly using an EPA Reference Method 6C source test. Source testing frequency may be increased from triennially to monthly if a single source test exceeds 75% of the limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

The WAC SO_2 limit was redundant since it was already contained in the facility-wide general requirements. It has been removed from this condition of the AOP.

Condition B1.6 – Total Reduced Sulfur (TRS): PSD 01-03, Amendment 3

TRS limit compliance is monitored triennially/monthly using an EPA Reference Method 16 source test. TRS is to be reported as H_2S. Source testing frequency may be increased from triennially to monthly if a single source test exceeds 75% of the limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Language has been added requiring the submittal of stack test reports to Ecology.

Condition B1.7 – Carbon Monoxide (CO): PSD 01-03, Amendment 3

CO limit compliance is monitored triennially/monthly using an EPA Reference Method 10 source test. Source testing frequency may be increased from triennially to monthly if a single source test exceeds 75% of the limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Language has been added requiring the submittal of stack test reports to Ecology.

Condition B1.8 – Nitrogen Oxides (NO_x): PSD 01-03, Amendment 3

NO_x limit compliance is monitored triennially/monthly using an EPA Reference Method 7 source test. Source testing frequency may be increased from triennially to monthly if a single source test exceeds 75% of the limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Language has been added requiring the submittal of stack test reports to Ecology.

Condition B1.9 – Operating Limit: PSD 01-03, Amendment 3

PSD 01-03, Amendment 3, Condition 1.39 limits recovery furnace throughput (associated with Smelt Dissolver Tank 19) to 2000 tons of black liquor solids per day on a monthly average.

Other Notable Changes

Startup, Shutdown, Malfunction (SSM) exemption and plan language was removed from 40 CFR Part 63, Subpart MM as part of the EPA RTR. The SSM language (Condition B3.9 in the AOP which expired on March 1, 2012) has been removed from the proposed AOP.

SMELT DISSOLVER TANK 22 (Condition B2)

Smelt Dissolver Tank 22 receives smelt from Recovery Furnace 22. Emission from Smelt Dissolver Tank 22 are controlled by a venturi scrubber followed by packed tower. Weak wash is used as a scrubber liquor.

Smelt Dissolver Tank 22 is equipped with continuous parameter monitoring systems (CPMS) to monitor pressure drop (inches H_2O), venturi scrubber flow (gallons per minute), and packed tower flow (gallons per minute).

Applicable unit specific regulations/orders include: 40 CFR Part 63, Subpart MM (National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-alone Semi-chemical Pulp Mills); 40 CFR Part 64 (Compliance Assurance Monitoring); 40 CFR Part 60, Subpart BB (Standards of Performance for Kraft Pulp Mills); 173-405 Washington Administrative Code (Kraft Pulping Mills); PSD 01-03, Amendment 3; and Order 3462-AQ07.

Ecology has adopted 40 CFR Part 63 and appendices by reference in WAC 173-400-075.

Ecology has adopted 40 CFR Part 60 and appendices by reference in WAC 173-400-115.

Condition B2.1 – Particulate Matter; PSD 01-03, Amendment 3: WAC 173-405-040(2); 40 CFR Part 60, Subpart BB; 40 CFR Part 64; and Order 3462-AQ07

The Permittee monitors PM and PM10 emission limit compliance with monthly/quarterly source tests. Source test frequency may be reduced to quarterly if 6 consecutive months' tests are below 75% of the limitation.

The Permittee is required to reasonably assure compliance with these applicable requirements. The Permittee accomplishes this by monitoring emission control device parameters that have been established in the "Emission Control Compliance Demonstration Plan". The plan was developed as a requirement of Order 3462-AQ07. The Permittee monitors the pressure drop (inches water), venturi scrubber flow (gallons per minute), and packed tower flow (gallons per minute). Any three-hour average deviation from the established operating parameters requires corrective action.

Language regarding the sample test methodology, monitoring, and recordkeeping requirements in 40 CFR Part 60, Subpart BB have been added.

Mass emissions are calculated using the source test data to assure compliance with the 12-month rolling total mass limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Condition B2.2 – PM as a surrogate for HAP Metals: 40 CFR Part 63, Subpart MM

The NESHAP for pulp mill combustion sources (40 CFR Part 63, Subpart MM) was originally proposed in 1998 and promulgated in 2001.

40 CFR Part 63, Subpart MM established a particulate matter emission limit of 0.20 pounds of PM per ton of black liquor solids fired. The particulate matter emission limit is a surrogate used for determining emissions of HAP metals.

As discussed above, 40 CFR Part 63, Subpart MM required the implementation of MACT which was updated after completion of the RTR that was completed on October 11, 2017. As a result of the RTR, EPA included periodic source test requirements (every 5 years) for smelt dissolver tanks to demonstrate compliance with the HAP metals standard. The proposed AOP has been updated to include this updated source test frequency. Language regarding representative conditions, notification, recordkeeping, on-going compliance, and reporting have also been added.

Ecology has moved this requirement to group it with other limits on PM emissions. This will provide for one general location for all PM limits

Condition B2.3 – Opacity: Order 3462-AQ07; WAC 173-405-040(6); and 40 CFR Part 64

Order 3462-AQ07 requires that the Permittee demonstrate compliance with the opacity limit by maintaining emission control parameter hourly average rates at levels specified in the "Emission Control Compliance Demonstration Plan".

The WAC 173-405-040(6) condition has been updated to clarify that the reference test method is EPA RM 9.

Condition B2.4 – Scrubber Operating Limit as a surrogate for HAP Metals: 40 CFR Part 63, Subpart MM

Continuous compliance with the HAP metals standard is assured through the use of continuous parameter monitoring systems (CPMS). AOP language has been updated to reflect the language in the federal regulation. Recordkeeping requirements have been included.

Monthly reporting requirements have been added.

The RTR revised the excess emission reporting requirement from quarterly to semi-annual; this change has been reflected in the AOP.

Ecology has moved this condition to group it with other limits on scrubber operation. This will provide for one general location for all such limits.

Condition B2.5 – Sulfur Dioxide (SO_2): WAC 173-405-040(11)(b) and PSD 01-03, Amendment 3

SO_2 limit compliance is monitored triennially/monthly using an EPA Reference Method 6C source test. Source testing frequency must be increased from triennially to monthly if a single source test exceeds 75% of the limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

The WAC SO_2 limit was redundant since it was already contained in the facility-wide general requirements. It has been removed from this condition of the AOP.

Condition B2.6 – Total Reduced Sulfur (TRS): PSD 01-03, Amendment 3 and 40 CFR Part 60, Subpart BB

TRS limit compliance is monitored triennially/monthly using an EPA Reference Method 16 source test. TRS is to be reported as H_2S. Source testing frequency must be increased from triennially to monthly if a single source test exceeds 75% of the limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Language has been added requiring the submittal of stack test reports to Ecology.

Condition B2.7 – Carbon Monoxide (CO): PSD 01-03, Amendment 3

CO limit compliance is monitored triennially/monthly using an EPA Reference Method 10 source test. Source testing frequency must be increased from triennially to monthly if a single source test exceeds 75% of the limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Language has been added requiring the submittal of stack test reports to Ecology.

Condition B2.8 – Nitrogen Oxides (NO_x): PSD 01-03, Amendment 3

NO_x limit compliance is monitored triennially/monthly using an EPA Reference Method 7 source test. Source testing frequency must be increased from triennially to monthly if a single source test exceeds 75% of the limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Language has been added requiring the submittal of stack test reports to Ecology.

Condition B2.9 – Operating Limit: PSD 01-03, Amendment 3

PSD 01-03, Amendment 3, Condition 1.45 limits recovery furnace throughput (associated with Smelt Dissolver Tank 22) to 1950 tons of black liquor solids per day on a monthly average.

Other Notable Changes

The Startup, Shutdown, Malfunction (SSM) exemption and associated plan language was removed from 40 CFR Part 63, Subpart MM as part of the EPA RTR. The SSM language (Condition B4.9 in the AOP which expired on March 1, 2012) has been removed from the proposed AOP.

C. LIME KILNS

Lime Kiln 1 (Shut Down)

Lime Kiln 1 was shut down in March 2006 per letter received by Ecology on October 23, 2008.

Lime Kiln 2 (Shut Down)

Lime Kiln 2 was permanently retired in March 2008 per letter to Ecology on November 1, 2012.

LIME KILN 3 (Condition C1)

Emissions from Lime Kiln 3 are controlled by a Ducon wet venturi scrubber.

Lime Kiln 3 is equipped with CPMS to monitor pressure drop (inches H_2O), scrubber recirculation flow (gallons per minute), and make-up water flow (gallon per minute). Lime Kiln 3 is equipped with CEMS for measurement of total reduced sulfur and oxygen.

Applicable unit specific regulations/orders include: 40 CFR Part 63, Subpart MM (National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-alone Semi-chemical Pulp Mills); 40 CFR Part 64 (Compliance Assurance Monitoring); 173-405 Washington Administrative Code (Kraft Pulping Mills); PSD 01-03, Amendment 3; and Order 3462-AQ07.

Ecology has adopted 40 CFR Part 63 and appendices by reference in WAC 173-400-075.

Ecology has adopted 40 CFR Part 60 and appendices by reference in WAC 173-400-115.

Condition C1.1 – Particulate Matter: PSD 01-03, Amendment 3; WAC 173-405-040(3)(a); and 40 CFR Part 64

The Permittee monitors PM and PM_{10} emission limit compliance with monthly/quarterly source tests. Source test frequency may be reduced to quarterly if 6 consecutive months' tests are below 75% of the limitation.

Language has been added requiring the submittal of stack test reports to Ecology.

The Permittee is required to reasonably assure compliance with these applicable requirements. The Permittee accomplishes this by monitoring emission control device parameters that have been established in the "Emission Control Compliance Demonstration Plan". The plan was developed as a requirement of Order 3462-AQ07. The Permittee monitors the pressure drop (inches water), scrubber recirculation flow (gallons per minute), and make-up water flow (gallons per minute). Any three-hour average deviation from the established operating parameters requires corrective action.

Mass emission are calculated using the source test data to assure compliance with the 12-month rolling total mass limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Condition C1.2 – PM as surrogate for HAP Metals: 40 CFR Part 63, Subpart MM

The NESHAP for pulp mill combustion sources (40 CFR Part 63, Subpart MM) was originally proposed in 1998 and promulgated in 2001.

40 CFR Part 63, Subpart MM established a particulate matter emission limit of 0.064 grains per dry standard cubic feet corrected to 10 percent oxygen. The particulate matter emission limit is a surrogate used for determining emissions of hazardous air pollutant (HAP) metals.

As discussed above, 40 CFR Part 63, Subpart MM required the implementation of MACT which was updated after completion of the RTR that was completed on October 11, 2017.As a result of the RTR, EPA included periodic source test requirements (every 5 years) for lime kilns to demonstrate compliance with the HAP metals standard. The proposed AOP has been updated to include this updated source test frequency. Language regarding representative conditions, notification, recordkeeping, on-going compliance, and reporting have also been added.

Ecology has moved this requirement to group it with other limits on PM emissions. This will provide for one general location for all PM limits.

Condition C1.3 – Opacity: Order 3462-AQ07; WAC 173-405-040(6); and 40 CFR Part 64

Order 3462-AQ07 requires that the Permittee demonstrate compliance with the opacity limit by maintaining emission control parameter hourly average rates at levels specified in the "Emission Control Compliance Demonstration Plan".

The WAC 173-405-040(6) condition has been updated to clarify that the reference test method is EPA RM 9.

Condition C1.4 – Scrubber Operating Limit as a surrogate for HAP Metals: 40 CFR Part 63, Subpart MM

Continuous compliance with the HAP metals standard is assured through the use of CPMS. AOP language has been updated to reflect the language in the federal regulation. Recordkeeping requirements have been included.

Monthly reporting requirements have been added.

The RTR revised the excess emission reporting requirement from quarterly to semi-annual; this change has been reflected in the AOP.

Condition C1.5 – Sulfur Dioxide (SO_2): WAC 173-405-040(11)(a) and PSD 01-03, Amendment 3

SO_2 limit compliance was previously monitored triennially/monthly using an EPA Reference Method 6C source test. The use of a CEMS to demonstrate compliance was approved by Ecology per letter dated September 9, 2008. Periodic source testing is no longer required and has been removed from the AOP and replaced with a requirement for CEMS monitoring.

The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Condition C1.6 – Total Reduced Sulfur (TRS): PSD 01-03, Amendment 3 and 40 CFR Part 60, Subpart BB

TRS limit compliance is determined through the use of CEMS. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Lime Kiln 3 is used to combust non-condensable gases (NCGs). 40 CFR Part 60, Subpart BB requires that a temperature greater or equal to 1200 degrees Fahrenheit be maintained with a retention time of 0.5 seconds in the lime kiln when burning NCGs from affected units.

Condition C1.7 – Carbon Monoxide (CO): PSD 01-03, Amendment 3

CO limit compliance is monitored annually/monthly using an EPA Reference Method 10 source test. Source testing frequency must be increased from annually to monthly if a single source test exceeds 75% of the limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Language has been added requiring the submittal of stack test reports to Ecology.

Condition C1.8 – Nitrogen Oxides (NO_x): PSD 01-03, Amendment 3

NO_x limit compliance is monitored annually/monthly using an EPA Reference Method 7 source test. Source testing frequency must be increased from annually to monthly if a single source test exceeds 75% of the limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Language has been added requiring the submittal of stack test reports to Ecology.

Condition C1.9 – Oxygen (O_2): Order 3462-AQ07

O_2 is to be continuously monitored using a continuous emission monitoring system (CEMS).

Condition C1.10 – Operating Limit: PSD 01-03, Amendment 3

PSD 01-03, Amendment 3, Condition 1.57 limits the production of Lime Kiln 3 to 240 tons of lime per day on a monthly average.

Condition C1.11 – Stack Dimensions: PSD 01-03, Amendment 3 and Order 3462-AQ07

Language regarding stack dimensions has been moved from a footnote and is now included in the requirements table.

Condition C1.12 – Total Reduced Sulfur (TRS): WAC 173-405-050

The TRS emission limits in Condition C1.12 are state-only requirements and are not federally enforceable.

Other Notable Changes

The Startup, Shutdown, Malfunction (SSM) exemption and associated plan language was removed from 40 CFR Part 63, Subpart MM as part of the EPA RTR. The SSM language (Condition C3.11 in the AOP which expired on March 1, 2012) has been removed from the proposed AOP.

LIME KILN 4 (Condition C2)

Emissions from Lime Kiln No. 4 are controlled by a modified "hydro-dynamic" scrubber. The scrubber was initially designed to operate with low pressure drop and to rely on a high pressure nozzle to provide the energy for particulate control. The scrubber was retrofitted with a variable position plug which allowed the throat to be controlled more like a traditional venturi scrubber.

Lime Kiln 4 is equipped with CPMS to monitor pressure drop (inches H_2O), scrubber recirculation flow (gallons per minute), and make-up water flow (gallon per minute). Lime Kiln 4 is equipped with CEMS for measurement of total reduced sulfur and oxygen.

Applicable unit specific regulations/orders include: 40 CFR Part 63, Subpart MM (National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-alone Semi-chemical Pulp Mills); 40 CFR Part 64 (Compliance Assurance Monitoring); 173-405 Washington Administrative Code (Kraft Pulping Mills); PSD 01-03, Amendment 3; and Order 3462-AQ07.

Ecology has adopted 40 CFR Part 63 and appendices by reference in WAC 173-400-075.

Ecology has adopted 40 CFR Part 60 and appendices by reference in WAC 173-400-115.

Condition C2.1 – Particulate Matter: PSD 01-03, Amendment 3; WAC 173-405-040(3)(a); and 40 CFR Part 64

The Permittee monitors PM and PM_{10} emission limit compliance with monthly/quarterly source tests. Source test frequency may be reduced to quarterly if 6 consecutive months' tests are below 75% of the limitation.

Language has been added requiring the submittal of stack test reports to Ecology.

The Permittee is required to reasonably assure compliance with these applicable requirements. The Permittee accomplishes this by monitoring emission control device parameters that have been established in the "Emission Control Compliance Demonstration Plan". The plan was developed as a requirement of Order 3462-AQ07. The Permittee monitors the pressure drop (inches water), scrubber recirculation flow (gallons per minute), and make-up water flow (gallons per minute). Any three-hour average deviation from the established operating parameters requires corrective action.

Mass emissions are calculated using the source test data to assure compliance with the 12-month rolling total mass limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Condition C2.2 – PM as a surrogate for HAP Metals: 40 CFR Part 63, Subpart MM

The NESHAP for pulp mill combustion sources (40 CFR Part 63, Subpart MM) was originally proposed in 1998 and promulgated in 2001.

40 CFR Part 63, Subpart MM established a particulate matter emission limit of 0.064 grains per dry standard cubic feet corrected to 10 percent oxygen. The particulate matter emission limit is a surrogate used for determining emissions of HAP metals.

As discussed above, 40 CFR Part 63, Subpart MM required the implementation of MACT which was updated after completion of the RTR that was completed on October 11, 2017.

As a result of the RTR, EPA included periodic source test requirements (every 5 years) for lime kilns to demonstrate compliance with the HAP metals standard. The proposed AOP has been updated to include this updated source test frequency.

Language regarding representative conditions, notification, recordkeeping, on-going compliance, and reporting have also been added.

Condition C2.3 – Opacity: Order 3462-AQ07; WAC 173-405-040(6); and 40 CFR Part 64

Order 3462-AQ07 requires that the Permittee demonstrate compliance with the opacity limit by maintaining emission control parameter hourly average rates at levels specified in the "Emission Control Compliance Demonstration Plan".

The WAC 173-405-040(6) condition has been updated to clarify that the reference test method is EPA RM 9.

Condition C2.4 – Scrubber Operating Limit as a surrogate for HAP Metals: 40 CFR Part 63, Subpart MM

Continuous compliance with the HAP metals standard is assured through the use of CPMS. AOP language has been updated to reflect the language in the federal regulation. Recordkeeping requirements have been included.

Monthly reporting requirements have been added.

The RTR revised the excess emission reporting requirement from quarterly to semi-annual; this change has been reflected in the AOP.

Condition C2.5 – Sulfur Dioxide (SO_2): WAC 173-405-040(11)(a) and PSD 01-03, Amendment 3

SO_2 limit compliance was previously monitored triennially/monthly using an EPA Reference Method 6C source test. The use of a CEMS to demonstrate compliance was approved by Ecology per letter dated September 9, 2008. Periodic source testing is no longer required and has been removed from the AOP and replaced with a requirement for CEMS monitoring.

The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Condition C2.6 – Total Reduced Sulfur (TRS): PSD 01-03, Amendment 3 and 40 CFR Part 60, Subpart BB

TRS limit compliance is determined through the use of a CEMS. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Lime Kiln 4 is used to combust NCGs. 40 CFR Part 60, Subpart BB requires that a temperature greater or equal to 1200 degrees Fahrenheit be maintained with a retention time of 0.5 seconds in the lime kiln when burning NCGs from affected units.

Condition C2.7 – Carbon Monoxide (CO): PSD 01-03, Amendment 3

CO limit compliance is monitored annually/monthly using an EPA Reference Method 10 source test. Source testing frequency must be increased from annually to monthly if a single source test exceeds 75% of the limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Language has been added requiring the submittal of stack test reports to Ecology.

Condition C2.8 – Nitrogen Oxides (NO_x): PSD 01-03, Amendment 3

NO_x limit compliance is monitored annually/monthly using an EPA Reference Method 7 source test.

Source testing frequency must be increased from annually to monthly if a single source test exceeds 75% of the limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Language has been added requiring the submittal of stack test reports to Ecology.

Condition C2.9 – Oxygen (O_2): Order 3462-AQ07

O_2 is to be continuously monitored using a CEMS.

Condition C2.10 – Operating Limit: PSD 01-03, Amendment 3

PSD 01-03, Amendment 3, Condition 1.63 limits the production of Lime Kiln 4 to 250 tons of lime per day on a monthly average.

Condition C2.11 – Stack Dimensions: PSD 01-03, Amendment 3 and Order 3462-AQ07

Language regarding stack dimensions has been moved from a footnote and is now included in the requirements table.

Condition C2.12 – Total Reduced Sulfur (TRS): WAC 173-405-050

The TRS emission limits in Condition C1.12 are state-only requirements and are not federally enforceable.

Other Notable Changes

The Startup, Shutdown, Malfunction (SSM) exemption and associated plan language was removed from 40 CFR Part 63, Subpart MM as part of the EPA RTR. The SSM language (Condition C4.11 in the AOP which expired on March 1, 2012) has been removed from the proposed AOP.

LIME KILN 5 (Condition C3)

Emission from Lime Kiln No. 5 are controlled by two ESPs (north and south) each with two fields. Lime Kiln 5 is equipped with CEMS for total reduced sulfur, carbon monoxide, nitrogen oxides, sulfur dioxide and oxygen on one of the two stacks. Lime Kiln 5 is equipped with two COMS for measurement of opacity in each stack (north and south). Lime Kiln 5 is authorized to treat non-condensable gases (NCGs) by NOC Order No. 8429, Condition 11. Longview Fibre notified Ecology via letter dated December 20, 2013 of its intent to burn strong NCGs in Lime Kiln 5. Longview Fibre initially burned strong NCGs in Lime Kiln 5 on February 25, 2014 per letter to Ecology dated March 4, 2014.

Lime Kiln 5 exhausts from two stacks. Opacity limits apply to each stack individually. All other limits apply to the total emissions from the combined stacks.

Applicable unit specific regulations/orders include: 40 CFR Part 63, Subpart MM (National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-alone Semi-chemical Pulp Mills); 40 CFR Part 60, Subpart BB (Standards of Performance for Kraft Pulp Mills); 40 CFR Part 64 (Compliance Assurance Monitoring); 173-405 Washington Administrative Code (Kraft Pulping Mills); PSD 01-03, Amendment 3; and Order 3462-AQ07.

Ecology has adopted 40 CFR Part 63 and appendices by reference in WAC 173-400-075.

Ecology has adopted 40 CFR Part 60 and appendices by reference in WAC 173-400-115.

Condition C3.1 – Particulate Matter: PSD 01-03, Amendment 3; 40 CFR Part 60, Subpart BB; 40 CFR Part 64, and WAC 173-405-040(3)(a)

The Permittee monitors PM and PM_{10} emission limit compliance with monthly/quarterly source tests. Source test frequency may be reduced to quarterly if 6 consecutive months' tests are below 75% of the limitation.

Language has been added requiring the submittal of stack test reports to Ecology.

The Permittee is required to reasonably assure compliance with these applicable requirements. The Permittee accomplishes this by monitoring opacity using a COMS. Corrective action is required if the average of ten consecutive 6-minute averages result in a measurement greater than 20 percent opacity.

Language has been added to the NSPS requirement to clarify sampling procedures and calculation methodology.

Mass emission are calculated using the source test data to assure compliance with the 12-month rolling total mass limit. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Condition C3.2– PM as a surrogate for HAP Metals: 40 CFR Part 63, Subpart MM

The National Emission Standards for Hazardous Air Pollutants (NESHAP) for pulp mill combustion sources (40 CFR Part 63, Subpart MM) was originally proposed in 1998 and promulgated in 2001.

40 CFR Part 63, Subpart MM established a particulate matter emission limit of 0.064 grains per dry standard cubic feet corrected to 10 percent oxygen. The particulate matter emission limit is a surrogate used for determining emissions of hazardous air pollutant (HAP) metals.

40 CFR Part 63, Subpart MM required the implementation of maximum achievable control technology (MACT). The Clean Air Act (CCA) requires that EPA periodically review following the implementation of MACT standards to assess whether residual risk remains and if additional standards are need. This Risk and Technology Review (RTR) was completed on October 11, 2017 for the standards in 40 CFR Part 63, Subpart MM. As a result of the RTR, EPA included periodic source test requirements (every 5 years) for lime kilns to demonstrate compliance with the HAP metals standard. The proposed AOP has been updated to include this updated source test frequency. Language regarding representative conditions, notification, recordkeeping, on-going compliance, and reporting have also been added.

Condition C3.3 – Opacity: Order 3462-AQ07, Modification 1

This condition has been updated to reflect the modification of Order 3462-AQ07 and the updated requirements for opacity.

Condition C3.3 – Opacity: WAC 173-405-040(6) and 40 CFR Part 64

Commented [RA11]: See comments in AOP for this limit

The WAC 173-405-040(6) condition has been updated to clarify that the reference test method is EPA RM 9. Language referring to "excursions" has been updated to read "exceedance".

Condition C3.4 – Opacity as a surrogate for HAP Metals: 40 CFR Part 63, Subpart MM

Continuous compliance with the HAP metals standard is assured through the use of a COMS. As a result of the RTR, EPA revised the violation determination.

A violation now occurs when opacity is greater than 20 percent for 3 percent or more of operating time during a semi-annual period when lime mud is fed; previously the allowance was 6 percent of operating time. Recordkeeping and reporting language has been updated.

The RTR revised the excess emission reporting requirement from quarterly to semi-annual; this change has been reflected in the AOP.

Condition C3.5 – Sulfur Dioxide (SO_2): WAC 173-405-040(9)(a) and PSD 01-03, Amendment 3

SO_2 limit compliance was previously monitored monthly/quarterly using an EPA Reference Method 6C source test. Order 8429 approved the use of a SO_2 CEMS for compliance with the SO_2 limit. The AOP has been updated to reflect this change. The CEMS was put into service on January 8, 2014 per letter to Ecology dated March 4, 2014.

The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Condition C3.6 – Total Reduced Sulfur (TRS): PSD 01-03, Amendment 3 and 40 CFR Part 60, Subpart BB

TRS limit compliance is determined through the use of a CEMS. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Lime Kiln 5 is used to combust NCGs. ~~40 CFR Part 60, Subpart BB requires that a temperature greater or equal to 1200° F be maintained with a retention time of 0.5 seconds in the lime kiln when burning NCGs from affected units. EPA eliminated temperature monitoring requirements for power boilers, recovery furnaces, and lime kilns on the basis that the flame temperatures and residence times at which these units are expected to operate exceed the 1200° F and ½ second considered necessary for adequate incineration of TRS emissions (see *Kraft Pulp Mills – Background Information for Promulgated Revisions to Standards*; EPA-450/3-82-020). The AOP has been updated to reflect these requirements.~~

Commented [RA12]: Per the draft AOP comments, the temperature and retention time requirements are not applicable to LK5. Note that this is different than saying that monitoring of temperature and retention time is not required.

Condition C3.7 – Carbon Monoxide (CO): PSD 01-03, Amendment 3

CO limit compliance is monitored using a CEMS that conforms to Performance Specification 4, in 40 CFR 60, Appendix B. The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Condition C3.8 – Nitrogen Oxides (NO_x): PSD 01-03, Amendment 3

NO_x limit compliance was previously monitored annually/monthly using an EPA Reference Method 7 source test. Order 8429 approved the use of a NO_x CEMS for compliance with the NO_x limit. The AOP has been updated to reflect this change.

The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Condition C3.9 – Oxygen (O_2): Order 3462-AQ07 and 40 CFR Part 60, Subpart BB

O_2 is to be continuously monitored using a continuous emission monitoring system (CEMS).

Condition C3.10 – Operating Limit: PSD 01-03, Amendment 3

PSD 01-03, Amendment 3, Condition 1.69 limits the production of Lime Kiln 5 to 325 tons of lime per day on a monthly average.

Condition C3.11 – HAPs (Operating Limit): 40 CFR Part 63, Subpart MM

As a result of the RTR, EPA revised 40 CFR Part 63, Subpart MM to include a requirement that facilities maintain proper operation of the electrostatic precipitator's automatic voltage control (AVC). Language has been added to the AOP to reflect this new requirement.

Condition C3.12 – Total Reduced Sulfur (TRS): WAC 173-405-050

The TRS emission limits in Condition C3.12 are state-only requirements and are not federally enforceable.

Other Notable Changes

The Startup, Shutdown, Malfunction (SSM) exemption and associated plan language was removed from 40 CFR Part 63, Subpart MM as part of the EPA RTR. The SSM language (Condition C5.10 in the AOP which expired on March 1, 2012) has been removed from the proposed AOP.

D. NON-CONDENSIBLE GAS AND CONDENSATE SYSTEMS

LOW VOLUME, HIGH CONCENTRATION SYSTEM (Condition D1)

40 CFR Part 63, Subpart S (National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry) requires the capture and control of HAPs from the Low Volume, High Concentration (LVHC) systems at kraft, soda, and semi-chemical pulp and paper mills. LVHC gases are controlled at Lime Kiln 3, Lime Kiln 4, and Lime Kiln 5.

Affected Units

LVHC systems "means the collection of equipment including the digester, turpentine recovery, evaporator, steam stripper systems, and any other equipment serving the same function as those previously listed."

Affected emission units include: #1 Kamyr digester; #2 Kamyr digester; #8 Evaporator System; #9 Evaporator System; #10 Evaporator System; Turpentine System; Steam Stripper System; Spill Tank, and NSSC LVHC system.

The #16, 18, 19, 20, and 21 Batch digester systems (including #3 Blow Tank); #5, 6, 7, 15, 17, 19, 20, and 21 Batch Digester systems (including #7 Blow Tank) were shut down in February 2006 or earlier.

Longview Fibre shut down #5 M&D Digester in March 2001. Longview Fibre shut down # 3 M&D Digester in November 2008 per letter received by Ecology on December 16, 2008. KapStone shut down #5 M&D Digester in March 2001 per letter received by Ecology on October 23, 2008. KapStone shut down #4 M&D Digester on January 9, 2018.

#4, 5, and 6 Evaporator Systems (except #4 and 5 tail water sumps) were shut down per letter from Longview Fibre Company, dated June 6, 2007.

Condition D1.1 through D1.13 – LVHC Collection and Treatment: 40 CFR Part 63, Subpart S

LVHC NCGs are to be collected and treated in accordance with 40 CFR Part 63, Subpart S. This requires the collection and treatment of LVHC NCGs; the inspection and repair/maintenance of the LVHC system; recordkeeping of NCG venting events; and monitoring of thermal oxidizer combustion temperature. LVHC NCG venting for periods in excess of 1% of total operating time are considered violations.

The EPA performed a residual risk and technology review for 40 CFR Part 63, Subpart S. As a result of the review, Subpart S was updated in 2012; the exclusion of startup, shutdown, and maintenance LVHC venting events from the 1% venting allowance previously allowed in 40 CFR 63.443(e) has been removed.

Condition D1.7 through D1.10 – LVHC Collection and Treatment: Order 3463-AQ07

Order No. 3463-AQ07 modified certain LVHC inspection and monitoring requirements. EPA delegated to Ecology the authority to approved minor alternatives to monitoring required by National Emission Standards for Hazardous Air Pollutants (66 FR 35115 and 67 FR 11417).

Ecology approved an alternative frequency (Conditions D1.9 and D1.10) for leak checks for certain areas which posed worker safety concerns related to access, confined space, or other factors.

Ecology also approved a modification which allows for the visual inspections required by Condition D1.7 and D1.8 to occur once each calendar month instead of once every 30 days. EPA has approved similar modifications to Smurfit-Stone Container Corporation, International Paper (Terre Haute Mill), and P.H. Glatfelter Company (Spring Grove Mill).

PULPING PROCESS CONDENSATES (Condition D2)

40 CFR Part 63, Subpart S (National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry) requires the collection and control of HAPs from kraft pulping process condensates.

Affected Units

Pulping process condensates, "means any HAP-containing liquid that results from contact of water with organic compounds in the pulping process. Examples of process condensates include digester system condensates, turpentine recovery system condensates, evaporator system condensates, LVHC system condensates, HVLC system condensates, and any other condensates from equipment serving the same function as those previously listed. Liquid streams that are intended for byproduct recovery are not considered process condensate streams."

Affected emission units include: #1 Kamyr Digester System Foul Condensates; #2 Kamyr Digester System Foul Condensates; #8 Evaporator Surface Condenser, Vacuum System & Vapor Condensates off a Primary Feed Effect; #9 Evaporator Surface Condenser, Vacuum System & Vapor Condensates off a Primary Feed Effect; #10 Evaporator Surface Condenser, Vacuum System & Vapor Condensates off a Primary Feed Effect; Turpentine System; Decanter Underflow Foul Condensates~~#1 Kamyr Digester System Foul Condensates; #2 Kamyr Digester System Foul Condensates; #4 Evaporator Surface Condenser, Vacuum System & Vapor Condensates off a Primary Feed Effect; #5 Evaporator Surface Condenser, Vacuum System & Vapor Condensates off a Primary Feed Effect; #6 Evaporator Surface Condenser, Vacuum System & Vapor Condensates off a Primary Feed Effect; #7 Evaporator Surface Condenser, Vacuum System & Vapor Condensates off a Primary Feed Effect; #8 Evaporator Surface Condenser, Vacuum System & Vapor Condensates off a Primary Feed Effect; #9 Evaporator Surface Condenser, Vacuum System & Vapor Condensates off a Primary Feed Effect; #10 Evaporator Surface Condenser, Vacuum System & Vapor Condensates off a Primary Feed Effect; Turpentine System; Decanter Underflow Foul Condensates; #3 Blow Heat Recovery Accumulator Foul Condensate; Batch Digester Systems Black Liquor Separators; and #6 Blow tank Condenser and After Condenser Condensates~~.

Commented [RA13]: A number of these units have been permanently retired from service. This list is now consistent with the one in the draft AOP Condition D2.

Condition D2.1 through D2.8 – Condensate Collection and Treatment: 40 CFR Part 63,

Subpart S

WestRock Longview collects condensate from the kraft pulping process which are sent to a closed column feed tank. The closed column feed tank sends the condensates to an odor control steam stripping column for removal of some of the terpenes and total reduced sulfur compounds.

The off gasses from the steam stripper are re-condensed into the turpentine recovery system or sent to the LVHC NCG system for incineration. The steam stripper is not designed to remove significant amounts of HAPs. The liquid discharge stream from the steam stripper is collected through a closed collection system and treated. Conditions D2.1 through D2.8 require the inspection/repair/maintenance of the condensate collection system and proper operation and maintenance. Kraft pulping process condensates are destroyed in a UNOX reactor which uses pure oxygen and activated sludge. Daily inlet and outlet DCD samples are collected using 24-hour composite samplers and analyzed for methanol. A daily grab sample of the Return Activated Sludge (RAS) is also collected and analyzed for methanol. The Permittee must demonstrate 6.6 lb/ODTP destruction of total HAPs. Although the DCD/UNOX reactor are not considered "open biological systems," WestRock Longview has chosen to perform quarterly performance tests as specified in 40 CFR 63.453(j)(3). Mass removal is determined according to the requirements in 40 CFR 63.457(l)(2). Ecology has added language to specify the quarterly performance tests.

Ecology has added language to Condition D2.6 stating that the inspection frequency is once per calendar month as approved through Order 3463-AQ07.

HIGH VOLUME, LOW CONCENTRATION SYSTEM (Condition D3)

High Volume, Low Concentration (HVLC) system is defined in 40 CFR Part 63, Subpart S as "the collection of equipment including the pulp washing, knotter, screen, decker, and oxygen delignification systems, and any other equipment serving the same function as those previously listed."

40 CFR Part 63, Subpart S requires the control of HAP emissions from specific: knotters/screen systems, pulp washing systems, and deckers. HVLC gases are controlled by Lime Kiln 3, Lime Kiln 4, and Power Boiler 20.

Affected Units

The Permittee has two Kamyr Digesters (#1 and 2) each with three refiners, two two-stage diffusion washers, diffusion wash filtrate tank, washed pulp intermediate high density storage tank, four low-consistency reject screens, and two deckers.

As discussed previously, the Permittee shutdown the batch digesters and Messing and Durkee continuous sawdust digesters.

HVLC Compliance Determination

The Permittee submitted a compliance determination, "MACT 1, Phase 2 High Volume, Low Concentration and Clean Condensate Alternative Proposal for Longview Fibre Company" dated December 27, 2007. Longview Fibre Company identified systems affected by the 40 CFR Part 63, Subpart S HVLC requirements. The Permittee determined that the diffusion washers for the Kamyr Digesters are capped by a layer of washed pulp therefore do not require additional controls.

Per 40 CFR 63.443(a)(1)(iv), Kamyr decker systems are exempt from the requirement for HVLC collection if they use process water with a total HAP concentration less than or equal to 400 parts per million by weight. At this facility, process water used in the Kamyr digester system deckers is a combination of evaporator combined condensate and/or fresh water. The Permittee provided extensive records demonstrating that the evaporator combined condensate contains less than 400 parts per million by weight of total HAPs and are therefore exempt from the HAP collection requirements.

Clean Condensate Alternative

As an alternative to the collection and treatment requirements for the HVLC system, 40 CFR Part 63, Subpart S allows for alternative collection and treatment of HAPs found in process condensates. This option is call the "clean condensate alternative".

In the "MACT 1, Phase 2 High Volume, Low Concentration and Clean Condensate Alternative Proposal for Longview Fibre Company" dated December 27, 2007, Longview Fibre Company proposed alternative condensate collection and treatment options.

The pulp generated through the batch digestion and continuous sawdust digesters was washed in the No. 6 and 7 washer lines. The Permittee determined that the collection of HVLC gases from these sources was cost prohibitive and therefore the Permittee has chosen to comply with the HVLC collection and treatment requirements through the use of the Clean Condensate Alternative (CCA) provisions in 40 CFR 63.447. The CCA allows for facilities to not collect and destroy HAPs from all or portions of HVLC systems if an equal or greater amount of HAPs are controlled through the use of CCA technologies. On September 13, 2005, Ecology issued Order 2737-AQ05 which mandated enforceable conditions to assure applicable HAP collection requirements are met using the CCA (Conditions D3.1 through D3.4). The Permittee chose to collect additional HAPs from the #9 and 10 evaporators.

Other changes

The SSM Plan requirements were removed by the 40 CFR Part 63, Subpart S amendments published in the Federal Register on September 11, 2012.

Commented [RA14]: WestRock requests to document that washer lines No. 5, 6 and 7 for which these additional collection and destruction requirements were established have been permanently retired from service.

E. NEUTRAL SULFITE SEMI-CHEMICAL PLANT

In the Neutral Sulfite Semi-Chemical (NSSC) process, hardwood chips are impregnated with sulfite and carbonate at a neutral pH, cooked, and then fiberized/refined into pulp.

The NSSC Plant at WestRock Longview was modified as approved by Order No. 95AQI068 in 1995. The project replaced existing secondary pressifiner pulp washers with a new chemi-washer.

The throughput capacity of the new chemi-washer is 400 oven dried tons per day (ODTPD) but the NSSC Plant capacity is limited by the NSSC digester system throughput capacity of 250 ODTPD.

The NSSC Plant was modified in 1996 as approved by Order No. DE 96AQI076 which superseded Order No. 95AQI068. The old process included chip washing, cooking/softening, chemical extraction/pressing, and fiberizing/refining. The improved process included chip washing/separation, cooking/softening, refining, and pulp washing. The improved NSSC plant increased digester system throughput capacity from 250 ODTPD to 400 ODTPD. This order established the VOC emission limit (26.4 tons per year) and other requirements.

Order No. DE 01AQIS-3294 incorporated the NSSC plant requirements from Order No. DE 96AQI076. Order No. DE01AQIS-3294 was then rescinded and replaced by Order No. 3462-AQ07 in 2007.

Condition E1.1 – Volatile Organic Compounds (VOC): Order No. 3462-AQ07

VOC emissions are to be measured on an "as carbon" basis. Emission are limited to 26.4 tons per year. The reporting requirements have been added to Condition E1.1 for clarity. These requirements were previously included in the footnote.

Condition E1.2 – NCG Collection and Treatment: Order 3462-AQ07

The Permittee is required to collect and burn NCGs from the NSSC system.

Condition E1.3 – NSPS Subpart BB Applicability: Order 3462-AQ07

The Permittee must submit information to Ecology and EPA for a NSPS Subpart BB determination prior to changing any material from the kraft process into the NSSC system.

Condition E1.4 – Operations and Maintenance Manual: Order 3462-AQ07

The Permittee is required to follow and maintain an Operations and Maintenance Manual for the NSSC system.

F. DIGESTERS, MULTI-EFFECT EVAPORATORS, BROWNSTOCK WASHERS, AND CONDENSATE STRIPPER SYSTEMS

The requirements in Condition F1 capture requirements at the digester, multi-effect evaporators, brownstock washers, and condensate stripper systems.

Applicable unit specific regulations/orders include: 40 CFR Part 60, Subpart BB (Standards of Performance for Kraft Pulp Mills); 173-405 Washington Administrative Code (Kraft Pulping Mills); PSD 01-03, Amendment 3; Order 3462-AQ07; and Order 9213.

Ecology has adopted 40 CFR Part 60 and appendices by reference in WAC 173-400-115.

Condition F1.1 – Total Reduced Sulfur: 40 CFR Part 60, Subpart BB

Multi-effect Evaporator Set 10, No. 1 Kamyr Digester, and No. 2 Kamyr Digester are NSPS (40 CFR Part 60, Subpart BB) affected units. The NSPS applicability of these units is first documented in Order No. DE 01AQIS-3294 issued December 14, 2001 which was later superseded by Order 3462-AQ07.

Condition F1.2 – NCG Collection and Treatment: WAC 173-405-040 and Order 3462-AQ07

The Permittee must collect and treat NCGs from digesters, evaporators, and condensate stripper systems.

Condition F1.3 – NCG Collection and Treatment: WAC 173-405-040

The Permittee must treat NCGs by thermal oxidation in a lime kiln or equivalent and install a backup system.

Condition F1.4 – Methanol: Order No. 9213

Order No. 9213 establishes a 12-month rolling average methanol limit for the final stage of brownstock washer shower water.

G. POWER BOILERS

Power Boiler 12 (Shut Down)

Power Boiler 12 retired from service December 31, 2012 per letter received by Ecology on January 7, 2013. Retired as part of Order 8429.

Power Boiler 13 (Shut Down)

Power Boiler 13 shutdown as part of Order 8429 on February 7, 2015 per letter to Ecology dated February 13, 2015. The physical connections to Power Boiler 13 were disconnected on April 30, 2015.

Power Boiler 14 (Shut Down)

Power Boiler 15 (Shut Down)

Power Boiler 17 (Shut Down)

Power Boiler 17 was shut down in November 2002 according to Order 3462-AQ07 and correspondence received from Longview Fibre dated October 20, 2008.

POWER BOILER 16 (Shut Down)

Power Boiler 16 was a natural gas fired boiler with no additional controls. Power Boiler 16 was last operated in 2009 and was formally decommissioned during the 2018 cold mill outage. WestRock Longview submitted to Ecology a letter serving as notice of permanent retirement dated September 6, 2019.

POWER BOILER 20 (Condition G1)

Power Boiler 20 (PB 20) was installed at the facility in 1976. PB 20 burns wood fuels (hog fuel, forest biomass, urban wood), oil (including reprocessed fuel oil), paper recycling residuals, primary/secondary sludge from the process wastewater treatment plant, and natural gas. The boiler is a hybrid suspension grate boiler designed to fire wet biomass as defined in 40 CFR Part 63, Subpart DDDDD. PB 20 exhausts from two stacks and~~.~~ is equipped with CEMS for total carbon monoxide, nitrogen oxides, sulfur dioxide and oxygen on one of the two stacks. Opacity limits apply to each stack individually. All other limits apply to the total emissions from the combined stacks.

Emissions from PB20 are controlled using multiclones, four wet scrubbers operating in parallel (replacing original Joy scrubbing system, approved in 2007 under NOC Order 4115-AQ07 and determined to meet RACT), and two wet electrostatic precipitators (installed in 2004). The Power Boiler also uses a selective non-catalytic reduction (SNCR) system to reduce the NOx emissions which was installed as part of Order 8429 which allowed for higher solid fuel firing rate. The modified Power Boiler 20 was placed into operation on October 11, 2014 per a letter from the facility on October 16, 2014.

Applicable unit specific regulations/orders include: 40 CFR Part 60, Subpart D (Standards of Performance for Fossil-Fuel –Fired Steam Generators); 40 CFR Part 60, Subpart Db (Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units); 40 CFR Part 63, Subpart DDDDD (National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters); 40 CFR Part 64; 173-405 Washington Administrative Code (Kraft Pulping Mills); PSD 01-03, Amendment 3; and Orders 3462-AQ07, 3466-AQ07, and 8429.

Ecology has adopted 40 CFR Part 63 and appendices by reference in WAC 173-400-075.

Ecology has adopted 40 CFR Part 60 and appendices by reference in WAC 173-400-115.

Condition G1.1 – Particulate Matter: Order 3466-AQ07; PSD 01-03, Amendment 3; Order 8429; 40 CFR Part 60, Subpart Db; 40 CFR Part 64; Order 3462-AQ07; and WAC 173-405-040(5)(a)

The Permittee monitors PM and PM_{10} emission limit compliance with monthly/quarterly source tests. Source testing frequency must be increased from quarterly to monthly if a single source test exceeds 75% of the limit.

Order 8429 has updated source testing frequency which allows for M/Q/A testing. Ecology has chosen to use the streamlining provisions in 40 CFR 70.6(a)(3) to apply the source testing frequency in PSD 01-03 for the requirements in Order 8429 until PSD 01-03 has updated source testing frequency language.

Language has been added requiring the submittal of stack test reports to Ecology.

The project approved through Order 8429 resulted in a pounds per hour increase in emissions of particulate matter. This emissions increase triggered the definition of modification in 40 CFR 60.14 and resulted in PB 20 being subject to the requirements of 40 CFR Part 60 Subpart Db for particulate matter and opacity. The AOP has been updated to include these requirements.

The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Condition G1.2 – PM as a Surrogate for HAP Metals: 40 CFR Part 63, Subpart DDDDD

Power Boiler 20 is considered a hybrid suspension grate boiler designed wet biomass per Boiler MACT. The Permittee must demonstrate HAP metals compliance by an annual source test using EPA RM 5.

Condition G1.3 – Opacity: Order 3462-AQ07; WAC 173-405-040(6); 40 CFR Part 60, Subpart D; 40 CFR Part 60, Subpart Db; 40 CFR Part 64; and WAC 173-405-040(6)

The Permittee must demonstrate compliance with the opacity limit by ~~using a COMS~~meeting the ECCDP limits.

40 CFR Part 60, Subpart Db was triggered by the modification approved in Order 8429. The updated opacity requirement has been included.

Commented [RA15]: WestRock requests to document the PM performance test waiver granted by EPA for NSPS Subpart Db

Commented [RA16]: WestRock requests to document the opacity alternative monitoring approval by EPA for NSPS Subpart Db

The WAC 173-405-040(6) condition has been updated to clarify that the reference test method is EPA RM 9.

Condition G1.4 – Sulfur Dioxide (SO_2): PSD 01-03, Amendment 3; WAC 173-405-040(9)(b); and 40 CFR Part 60, Subpart D

SO_2 limit compliance is monitored using a CEMS that conforms to Performance Specification 2, in 40 CFR Part 60, Appendix B.

The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Condition G1.5 – Total Reduced Sulfur (TRS): PSD 01-03, Amendment 3; and 40 CFR Part 60, Subpart BB

Power Boiler 20 is used to combust NCGs. 40 CFR Part 60, Subpart BB requires that a temperature greater or equal to 1200 °F be maintained with a retention time of 0.5 seconds in PB20 when burning NCGs from affected units. EPA eliminated temperature monitoring requirements for power boilers, recovery furnaces, and lime kilns on the basis that the flame temperatures and residence times at which these units are expected to operate exceed the 1200° F and ½ second considered necessary for adequate incineration of TRS emissions (see *Kraft Pulp Mills – Background Information for Promulgated Revisions to Standards*; EPA-450/3-82-020). The AOP has been updated to reflect this requirement.

Condition G1.6 – Carbon Monoxide (CO): PSD 01-03, Amendment 3 and 40 CFR Part 63, Subpart DDDDD

CO lb/hr limit compliance is monitored annually/monthly using an EPA Reference Method 10 source test. Source testing frequency must be increased from annually to monthly if a single source test exceeds 75% of the limit.

Language has been added requiring the submittal of stack test reports to Ecology.

CO ppm limit compliance (Boiler MACT) requires annual stack testing using EPA Reference Method 10. Oxygen must be monitored continuously using a CEMS and the 30-day rolling average oxygen content must be at or above the lowest hourly average oxygen concentration measured during the annual CO performance test.

The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

Condition G1.7 – Nitrogen Oxides (NO_x): PSD 01-03, Amendment 3 and 40 CFR Part 60, Subpart D

NO_x limit compliance is monitored continuously using a CEMS that conforms with Performance Specification 2 in 40 CFR Part 60, Appendix B.

The tons per year limit language has been updated to clarify that the compliance value is a 12-month total and not an average.

The AOP has been updated to clarify that NO_x is to be expressed as NO_2 as prescribed in EPA RM 7 which the reference method cited in the PSD permit and specified in 40 CFR 60.44(a).

Condition G1.8 – Ammonia: Order 8429

The Permittee installed a selective non-catalytic reduction (SNCR) system as part of the project approved by Order 8429. Proper operation of the SNCR system to control NH_3 emissions to ≤25 ppmv at 7% O_2 was determined to be RACT.

Sampling for NH3 is to be conducted annually/monthly using Bay Area Air Quality Management District (BAAQMD) Source Test Procedure ST-1B or alternative approved by Ecology. Source testing frequency must be increased from annually to monthly if a single source test exceeds 75% of the limit.

Language has been added requiring the submittal of stack test reports to Ecology.

Condition G1.9 – Oxygen (O_2): Order 3462-AQ07 and 40 CFR Part 60, Subpart BB

O_2 is to be continuously monitored using a CEMS.

Condition G1.10 – Operating Limit: PSD 01-03, Amendment 3

PSD 01-03, Amendment 3, Condition 1.85 limits the fuel application rate to 900 MMBtu per hour.

Condition G1.11 – Stack Dimensions: Order 3462-AQ07

Language regarding stack dimensions had been moved from a footnote and is now included in the requirements table.

Condition G1.12 through G1.14 – HAP Metals and Mercury: 40 CFR Part 63, Subpart DDDDD

Continuous HAP metals and mercury Boiler MACT compliance is demonstrated by establishing 30-day rolling average operating parameters at the emission control devices during the required HAP metals (PM) and mercury source tests. Established operating parameters must be maintained to demonstrate Boiler MACT compliance. The operating parameters are: electrostatic precipitator total secondary power input, scrubber pressure drop, and scrubber liquid flow rate.

Monthly operating limit reporting requirements have been added.

Condition G1.15– Hydrogen Chloride: 40 CFR Part 63, Subpart DDDDD

The Permittee must demonstrate hydrogen chloride (HCl) compliance by an annual source test using EPA RM 26 or 26A. Continuous compliance demonstrated by keeping monthly fuel records in Condition G1.17.

Condition G1.16 and G1.17 – Mercury: 40 CFR Part 63, Subpart DDDDD

The Permittee must demonstrate compliance with the mercury limit by an annual source test using EPA RM 29, 30A, 30B, or alternate method listed in 40 CFR Part 63, Subpart DDDDD Table 5, Item 4e. Continuous mercury and HCl compliance is demonstrated by keeping monthly fuel use records to ensure equal or lower fuel input of chlorine and mercury than the maximum values calculated during the most recent performance test.

Condition G1.18 – Operating Load: 40 CFR Part 63, Subpart DDDDD

The Permittee must maintain a 30-day rolling average operating load below 110% of the highest hourly average operating load recorded during the most recent performance test.

Monthly reporting requirements have been added.

Condition G1.190 –Work Practice Standards: 40 CFR Part 63, Subpart DDDDD

The Permittee is required perform an annual tune-up and one-time energy assessment.

Condition G1.20 and G1.21 – Startup/Shutdown Work Practice Standards: 40 CFR Part 63, Subpart DDDDD

The Permittee is required follow specific work practice standards during startup and shutdown. The requirements are included in the permit.

Condition G1.22 – Startup/Shutdown Recordkeeping: 40 CFR Part 63, Subpart DDDDD

Boiler MACT startup/shutdown recordkeeping requirements have been included in the permit.

Condition G1.23 – Good Operations and Maintenance: 40 CFR Part 63, Subpart DDDDD

Boiler MACT O&M requirements have been included in the permit.

Condition G1.24 – Boiler MACT Monitoring Data Collection: 40 CFR Part 63, Subpart DDDDD

Boiler MACT monitoring data collection requirements have been included in the permit.

Condition G1.25 – Allowable Fuels: Order 8429

A list of allowable and prohibited fuels has been added to the permit.

Condition G1.26 – Urban Wood Acceptance Program: Order 8429

All urban wood purchased for use in PB20 must meet an acceptance program. Ecology toured the OCC recycle facility on July 17, 2012. After observing the OCC process and the rejects stream, Ecology agreed that the quaternary reject stream met the "processed to remove plastics and metal" criteria in Order 8429. The quaternary reject stream when completely isolated from the other reject streams is allowable for use as PB 20 fuel. This determination was communicated to the Permittee via letter dated July 24, 2012.

Condition G1.27 – Operations and Maintenance Manual: Order 8429

An operations and maintenance manual must be followed for the equipment installed as part of Order 8429.

H. PAPER MACHINES

#1 Paper Machine was shut down in August 2001.

#2 Paper Machine was shut down in November 2007.

#3 Paper Machine was shut down in November 2001.

#4 Paper Machine was shut down in August 2005.

#8 Paper Machine was shut down in January 2008.

The requirements in Condition H1 capture the applicable requirements for the remaining paper machines (#5, 7, 10, 11, and 12). Applicable unit specific regulations/orders include: PSD 01-03, Amendment 3 and Order 9213.

Condition H1.1 – Paper Machine Additives: PSD 01-03, Amendment 3

Ecology originally issued PSD 01-03 to the Longview Fibre Company in December 2001. The PSD permit approved an increase in paper machine primary capacity from approximately 3,000 machine dry tons of paper (MDTP) per day to approximately 3,600 MDTP per day on an annual average basis. BACT for the paper machines was determined to be the use of low-VOC additives.

Condition H1.2 – Paper Machine Additives: PSD 01-03, Amendment 3

Ecology issued Notice of Construction Approval Order 9213 in July 2012. The order approved a project to improve the performance and efficiency of Paper Machines 5, 7, 10, 11, and 12. The approval order limited daily production at the Paper Machines 5, 7, 10, 11, and 12.

I. BOX PLANT PRODUCTION LINES

The requirements in Condition I1 capture requirements associated with the box plant production lines.

Applicable unit specific regulations/orders include: 40 CFR Part 63, Subpart KK (National Emission Standards for the Printing and Publishing Industry) and Order No. 13302.

Ecology has adopted 40 CFR Part 63 and appendices by reference in WAC 173-400-075.

Condition I1.1 – Hazardous Air Pollutants: 40 CFR Part 63, Subpart KK

The box plant production lines are affected units with regards to 40 CFR Part 63, Subpart KK. The standards for "product and packaging rotogravure and web-wide flexographic printing" in 40 CFR 63.825 apply. The mass of HAPs allowed to be applied is limited to 4% of the mass of inks, coatings, varnishes, adhesives, primers, solvents, reducers, thinners, and other materials applied.

Condition I1.2 through I1.8 – Flexo Folder Gluer: Order No. 13302

Ecology approved the addition of a Flexo Folder Gluer (FFG) under Order No. 13302 in September 2016. The project provided additional capacity for the facility to convert sheets of corrugated cardboard into boxes and print labels on them. The specific model approved was the Martin Model 924 with a maximum throughput of 252,692 mean square feet per year.

Ecology modified Order No. 13302 in August 2017 to change the FFG model to a Ward GGX 11500 which has a maximum throughput of 561,725 mean square feet per year.

The Flexo Folder Gluer commenced operation the week of February 26, 2018 per letter to Ecology dated March 15, 2018.

Limits were established for acrylic acid, propylene glycol, and VOCs. Recordkeeping, reporting, and O&M requirements were also included.

J. RECIPROCATING INTERNAL COMBUSTION ENGINES (RICE)

The Permittee has reciprocating internal combustion engines (RICE) which are subject to regulation under 40 CFR Part 60, Subpart IIII and 40 CFR Part 63, Subpart ZZZZ. The requirements for these units have been included in Condition J of the AOP renewal.

The Permittee has four emergency RICE subject to 40 CFR Part 63, Subpart ZZZZ: MWC Fire Pump, OCC Fire Pump, Turbine Room, and IT Server Backup. These requirements are specified under J1.

The Permittee has three emergency RICE subject to 40 CFR Part 60, Subpart IIII: MWC Fire Pump, OCC Fire Pump, and IT Server Backup. These requirements are specified under J2.

The Permittee has three non-emergency RICE subject to 40 CFR Part 63, Subpart ZZZZ: 3 Kiln Auxiliary Drive System Engine, 4 Kiln Auxiliary Drive System Engine, and 5 Kiln Auxiliary Drive System Engine. These requirements are specified under J3.

Table 5. RICE Engine Summary

Engine Name	IT Server Backup	Turbine Room	OCC Fire Pump	MWC Fire Pump	3 Kiln Auxiliary System Engine	4 Kiln Auxiliary System Engine	5 Kiln Auxiliary System Engine
Engine Type (E or N)	Emergency	Emergency	Emergency	Emergency	Non-emergency	Non-emergency	Non-emergency
Engine Size/Rating	150 kW	60 kW	224 HP	305 HP	9~~45~~ BHP	94 BHP	94 BHP
Engine Type (CI or SI)	CI	CI	CI	CI	SI	SI	SI
Fuel Type	ULSD	ULSD	ULSD	ULSD	Propane~~ULSD~~	Propane	Propane
Manufacture Date	2015	2004	2009	2018	Before 1998	Before 1998	Before 1998
Construction/Installation Date	2015	2005	2010	2018	Before 1998	Before 1998	Before 1998

K. MILL WIDE EMISSION LIMITS

Condition K1 captures requirements in PSD 01-03, Amendment 3 and Order 8429 which do not apply to a specific emission unit but apply to the facility as a whole. Notification requirements which were previously included in the 2007 issuance but have since been completed were removed from the AOP. These include requirements from Order 8429, Conditions 12n, 12p, and 13.

Notification regarding the permanent retirement of the #5 Washer Line, Lime Slaker No. 3, and Lime Kiln 3 was received via letter to Ecology dated November 1, 2012.

L. GREENHOUSE GAS (GHG) REPORTING

The Permittee is subject to the Washington GHG reporting requirements (Chapter 173-441 WAC) and the federal GHG reporting requirements (40 CFR Part 98), because GHG emissions from the source operations are above 10,000 metric tons per year (Washington State threshold) and 25,000 metric tons per year (federal threshold). The federal GHG reporting requirements are not "applicable requirements" for the purposes of Title V permits.

The applicable requirements of Chapter 173-441 WAC, a state-only-enforceable requirement, have been incorporated into the permit renewal. For compliance with the state-only Washington GHG reporting regulations, Conditions L1.1 through L1.4 impose requirements under which the GHGs are reported, including emissions calculations, reporting schedule/contents, and recordkeeping.

M. COMPLIANCE ASSURANCE MONITORING (CAM)

To satisfy the Title V and Title VII monitoring requirements for the Clean Air Act (CAA), the U.S. Environmental Protection Agency (EPA) promulgated the Compliance Assurance Monitoring (CAM) rule with an effective date of November 21, 1995. The CAM rule requires facilities to monitor compliance indicators for emission units to provide reasonable assurance for compliance with regulatory emission limitations. When monitoring indicates the occurrence of a parameter excursion or exceedance, the facility is required to take corrective action to restore the monitoring parameter to the value range established as part of a source compliance or performance test. The facility is also required to document/report corrective actions, maintain monitoring records, and provide an annual certification of compliance to the delegated authority that administers the Title V operating permit program.

In accordance with 40 CFR 64.2, the CAM rule applies to Pollutant Specific Emission Units (PSEUs) at major sources that are required to obtain a Part 70 or 71 permit ***and*** that meet ***all*** of the following criteria:

1. The PSEU is subject to an emission limitation or standard for the applicable regulated air pollutant (or surrogate);
2. The PSEU uses a control device to achieve compliance with the emission limit or standard; and
3. The PSEU has potential pre-control device emissions (of the applicable regulated pollutant) equal to or above the major source threshold.

In accordance with 40 CFR 64.2(b), the following are ***exempt*** from the CAM rule:

1. Emission limitation or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 and 112 of the Clean Air Act; and
2. Emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method.

Plan Content

Pursuant to 40 CFR 64.3, EPA requires the following elements in a facility's CAM Plan:

- Applicability determination for pollutant-specific emission units;
- Monitoring plan, including basis for selection of monitoring parameters and establishment of parameter values and averaging periods, and performance criteria for monitoring systems;

- CAM reporting and recordkeeping requirements.

Monitoring requirements for emission units exempt from the CAM rule are located in the facility's existing Title V operating permit or in federal NSPS or NESHAP requirements proposed since November 15, 1990.

Ecology reviewed the WestRock Longview CAM evaluation submitted as part of the permit renewal application. Emission limitations were reviewed to identify whether the CAM rule applied to individual emission units on a pollutant-by-pollutant basis.

Tables 4 through Table 11 below summarizes the findings of applicability/non-applicability for 40 CFR Part 64. CAM was found to be applicable for Recovery Furnace 19 (PM, opacity), Recovery Furnace 22 (PM, opacity), Smelt Dissolver Tank 19 (PM, opacity), Smelt Dissolver Tank 22 (PM, opacity), Lime Kiln 3 (PM, opacity), Lime Kiln 4 (PM, opacity), Lime Kiln 5 (PM, opacity), and Power Boiler 20 (PM, SO2, opacity). The CAM Plan for each of these CAM applicable PSEUs that did not met one of the exemption criteria was prepared by WestRock Longview and is included in Appendix A.

Table 6. Recovery Furnace 19 CAM Applicability

Pollutant[a]	**Applicable Emission Limit or Standard**[b]	**Federally Enforceable?**	**Use control device to comply w/ limit or standard?**	**Pre-controlled emissions ≥ Major source threshold (tpy)?**	**CAM Applicable?**	**Exemption:** Limit[c] proposed after 11/15/90	**Exemption:** Permit specifies continuous compliance determination method[d]	**CAM required?**
PM	0.040 gr/dscf @ 8% O2	YES	YES	YES	YES	NO	NO	YES
PM	0.044 gr/dscf @8%O2	YES	YES	YES	YES	YES	YES	NO
PM	0.10 gr/dscf @ 8% O2	YES	YES	YES	YES	NO	NO	YES
PM	292 TPY	YES	YES	YES	YES	NO	NO	YES
PM (as opacity)[e]	30%	YES	YES	YES	YES	-	YES	NO
PM (as opacity)[e]	35% (WAC)	YES	YES	YES	YES	NO	NO	YES
SO_2	149 lb/hr & 301 TPY	YES	NO	YES	NO	-	-	NO
SO_2	500 ppm @ 8% O2/hr	YES	NO	YES	NO	-	-	NO
NO_x	95 ppm @ 8% O2/24-hr & 753 TPY	YES	NO	YES	NO	-	-	NO
CO	600 lb/hr & 2,628 TPY	YES	NO	YES	NO	-	-	NO
TRS as H_2S	10.0 ppm @ 8% O2/24-hr & 59 TPY	YES	NO	YES	NO	-	-	NO

(a) For pollutants with multiple limits/standards, CAM is analyzed for each limits/standards. If a pollutant does not have a limit or standard, it is not included in the table because it is not subject to CAM.
(b) Federally-enforceable limits or standards.
(c) Limit proposed by EPA pursuant to section 111 (NSPS) and section 112 (NESHAPs). This exemption does not necessarily apply to limits set by WACs, NOCs, or PSDs.
(d) If the CEMS/COMS are specified compliance methods (demonstration of compliance), the exemption applies. If the CEMS/COMS are considered "indicators of compliance," this exemption does not apply.
(e) EPA maintained that opacity limits are subject CAM evaluation. This position was communicated to Ecology in the renewal process of Boise Wallula air permit in 2018.

Commented [RA17]: Margins on some of the pages with these tables need to be fixed so the full table fits

Table 7. Recovery Furnace 22 CAM Applicability

Pollutant[a]	**Applicable Emission Limit or Standard**[b]	**Federally Enforceable?**	**Use control device to comply w/ limit or standard?**	**Pre-controlled emissions ≥ Major source threshold (tpy)?**	**CAM Applicable?**	**Exemption:** Limit[c] proposed after 11/15/90	**Exemption:** Permit specifies continuous compliance determination method[d]	**CAM required?**
PM	0.027 gr/dscf @ 8% O2	YES	YES	YES	YES	NO	NO	YES
PM	0.044 gr/dscf @8%O2	YES	YES	YES	YES	NO	NO	YES
PM	0.10 gr/dscf @ 8% O2	YES	YES	YES	YES	NO	NO	YES
PM	256 TPY	YES	YES	YES	YES	NO	NO	YES
PM (as opacity)[e]	20% and 35% (NSPS)	YES	YES	YES	YES	YES	-	NO
PM (as opacity)[e]	35% (WAC)	YES	YES	YES	YES	NO	NO	YES
SO_2	295 lb/hr & 1,291 TPY	YES	NO	YES	NO	-	-	NO
SO_2	500 ppm @ 8% O2/hr	YES	NO	YES	NO	-	-	NO
NO_x	95 ppm @ 8% O2/24-hr & 735 TPY	YES	NO	YES	NO	-	-	NO
CO	300 ppm @ 8% O2/8-hr & 1,380 TPY	YES	NO	YES	NO	-	-	NO
TRS as H_2S	3.0 ppm & 5 ppm @ 8% O2/12-hr & 17 TPY	YES	NO	YES	NO	-	-	NO

(a) For pollutants with multiple limits/standards, CAM is analyzed for each limits/standards. If a pollutant does not have a limit or standard, it is not included in the table because it is not subject to CAM.
(b) Federally-enforceable limits or standards.
(c) Limit proposed by EPA pursuant to section 111 (NSPS) and section 112 (NESHAPs). This exemption does not necessarily apply to limits set by WACs, NOCs, or PSDs.
(d) If the CEMS/COMS are specified compliance methods (demonstration of compliance), the exemption applies. If the CEMS/COMS are considered "indicators of compliance," this exemption does not apply.
(e) EPA maintained that opacity limits are subject CAM evaluation. This position was communicated to Ecology in the renewal process of Boise Wallula air permit in 2018.

Table 8. Smelt Dissolver Tank 19 CAM Applicability

Pollutant[a]	Applicable Emission Limit or Standard[b]	Federally Enforceable?	Use control device to comply w/ limit or standard?	Pre-controlled emissions ≥ Major source threshold (tpy)?	CAM Applicable?	Exemption: Limit[c] proposed after 11/15/90	Exemption: Permit specifies continuous compliance determination method[d]	CAM required?
PM	0.12 lb/TBLS	YES	YES	YES	YES	NO	NO	YES
PM	0.30 lb/TBLS	YES	YES	YES	YES	NO	NO	YES
PM	0.20 lb/TBLS	YES	YES	YES	YES	YES	YES	NO
PM	44 TPY	YES	YES	YES	YES	NO	NO	YES
PM (as opacity)[e]	20%	YES	YES	YES	YES	-	NO	YES
PM (as opacity)[e]	35%	YES	YES	YES	YES	NO	NO	YES
SO_2	16 TPY	YES	NO	YES	NO	-	-	NO
SO_2	1,000 ppm/hr	YES	NO	YES	NO	-	-	NO
NO_x	11 TPY	YES	NO	NO	NO	-	-	NO
CO	66 TPY	YES	NO	NO	NO	-	-	NO
TRS as H_2S	114 TPY	YES	NO	YES	NO	-	-	NO

(a) For pollutants with multiple limits/standards, CAM is analyzed for each limits/standards. If a pollutant does not have a limit or standard, it is not included in the table because it is not subject to CAM.
(b) Federally-enforceable limits or standards.
(c) Limit proposed by EPA pursuant to section 111 (NSPS) and section 112 (NESHAPs). This exemption does not necessarily apply to limits set by WACs, NOCs, or PSDs.
(d) If the CEMS/COMS are specified compliance methods (demonstration of compliance), the exemption applies. If the CEMS/COMS are considered "indicators of compliance," this exemption does not apply.
(e) EPA maintained that opacity limits are subject CAM evaluation. This position was communicated to Ecology in the renewal process of Boise Wallula air permit in 2018.
NOTE: Acid gases prior to the scrubber of the smelt dissolving tank are dependent of a variety of factors. In addition, the scrubber efficiencies are quite high for particulate and are relatively low for acid gases. Some of this is related to the effectiveness of the scrubber and some is related to the relatively low inlet concentrations. NCASI TB 895 provides details on the effectiveness of scrubbers on acid gases such as TRS.

The origin of the permit limitation for H2S from 19 SDT is unknown. Test results for TRS from this unit are well below 10 TPY. For this analysis, measured emission rates are used for the calculation of uncontrolled emissions.

Table 5.5 in NCASI TB 895 provides scrubber efficiencies of between 40 and 67% for H2S. This is a reasonable assumption for SO2 due to the relatively low oxidation of sulfur in the smelt. From this the following, pre-controlled emissions have been calculated assuming a scrubber efficiency of 53.5% (average of the efficiencies from TB895). As uncontrolled emissions are less than the major NSR threshold, CAM is not applicable for these compounds.

SO2 (controlled) = 16 TPY SO2 (uncontrolled) = 16/ (1 -0.535) = 34.4 TPY
TRS (controlled) = 10 TPY H2S (uncontrolled) = 10 / (1-0.535) = 21.5 TPY

Table 9. Smelt Dissolver Tank 22 CAM Applicability

Pollutant[a]	Applicable Emission Limit or Standard[b]	Federally Enforceable ?	Use control device to comply w/ limit or standard?	Pre-controlled emissions ≥ Major source threshold (tpy)?	CAM Applicable?	Exemption: Limit[c] proposed after 11/15/90	Exemption: Permit specifies continuous compliance determination method[d]	CAM required?
PM	0.12 lb/TBLS & 0.2 lb/TBLS	YES	YES	YES	YES	NO	NO	YES
PM	0.20 lb/TBLS	YES	YES	YES	YES	YES	YES	NO
PM	0.30 lb/TBLS	YES	YES	YES	YES	NO	NO	YES
PM	44 TPY	YES	YES	YES	YES	NO	NO	YES
PM (as opacity)[e]	20%	YES	YES	YES	YES	-	NO	YES
PM (as opacity)[e]	35%	YES	YES	YES	YES	NO	NO	YES
SO_2	31 TPY	YES	NO	YES	NO	-	-	NO
SO_2	1,000 ppm/hr	YES	NO	YES	NO	-	-	NO
NO_x	11 TPY	YES	NO	NO	NO	-	-	NO
CO	65 TPY	YES	NO	NO	NO	-	-	NO
TRS as H_2S	0.0168 and 0.033 lb/TBLS & 6 TPY	YES	NO	YES	NO	-	-	NO

(a) For pollutants with multiple limits/standards, CAM is analyzed for each limits/standards. If a pollutant does not have a limit or standard, it is not included in the table because it is not subject to CAM.
(b) Federally-enforceable limits or standards.
(c) Limit proposed by EPA pursuant to section 111 (NSPS) and section 112 (NESHAPs). This exemption does not necessarily apply to limits set by WACs, NOCs, or PSDs.
(d) If the CEMS/COMS are specified compliance methods (demonstration of compliance), the exemption applies. If the CEMS/COMS are considered "indicators of compliance," this exemption does not apply.
(e) EPA maintained that opacity limits are subject CAM evaluation. This position was communicated to Ecology in the renewal process of Boise Wallula air permit in 2018.

NOTE: Acid gases prior to the scrubber of the smelt dissolving tank are dependent of a variety of factors. In addition, the scrubber efficiencies are quite high for particulate and are relatively low for acid gases. Some of this is related to the effectiveness of the scrubber and some is related to the relatively low inlet concentrations. NCASI TB 895 provides details on the effectiveness of scrubbers on acid gases such as TRS.

Table 5.5 in NCASI TB 895 provides scrubber efficiencies of between 40 and 67% for H2S. This is a reasonable assumption for SO2 due to the relatively low oxidation of sulfur in the smelt. From this the following, pre-controlled emissions have been calculated assuming a scrubber efficiency of 53.5% (average of the efficiencies from TB895). As uncontrolled emissions are less than the major NSR threshold, CAM is not applicable for these compounds.

SO2 (controlled) = 31 TPY SO2 (uncontrolled) = 31/ (1 -0.535) = 66.7 TPY
TRS (controlled) = 6 TPY H2S (uncontrolled) = 6 / (1-0.535) = 12.9 TPY

Table 10. Lime Kiln 3 CAM Applicability

Pollutant[a]	Applicable Emission Limit or Standard[b]	Federally Enforceable?	Use control device to comply w/ limit or standard?	Pre-controlled emissions ≥ Major source threshold (tpy)?	CAM Applicable?	Exemption: Limit[c] proposed after 11/15/90	Exemption: Permit specifies continuous compliance determination method[d]	CAM required?
PM	0.030 gr/dscf @ 10% O2	YES	YES	YES	YES	NO	NO	YES
PM	0.064 gr/dscf @ 10% O1	YES	YES	YES	YES	YES	NO	NO
PM	0.13 gr/dscf @ 10% O2	YES	YES	YES	YES	NO	NO	YES
PM	34 TPY	YES	YES	YES	YES	NO	NO	YES
PM (as opacity)[e]	25%	YES	YES	YES	YES	NO	NO	YES
PM (as opacity)[e]	35%	YES	YES	YES	YES	NO	NO	YES
SO_2	27 TPY	YES	YES	-	NO	-	YES	NO
SO_2	20 ppm @ 10% O2/3-hr & 500 ppm @ 10% O2/hr	YES	NO	YES	NO	-	-	NO
NO_x	340 ppm @ 10% O2/24-hr & 238 TPY	YES	NO	YES	NO	-	-	NO
CO	133 lb/hr & 581 TPY	YES	NO	YES	NO	-	-	NO
TRS as H_2S	20.0 ppm @ 10% O2/24-hr & 10 TPY	YES	YES	-	NO	-	YES	NO

(a) For pollutants with multiple limits/standards, CAM is analyzed for each limits/standards. If a pollutant does not have a limit or standard, it is not included in the table because it is not subject to CAM.
(b) Federally-enforceable limits or standards.
(c) Limit proposed by EPA pursuant to section 111 (NSPS) and section 112 (NESHAPs). This exemption does not necessarily apply to limits set by WACs, NOCs, or PSDs.
(d) If the CEMS/COMS are specified compliance methods (demonstration of compliance), the exemption applies. If the CEMS/COMS are considered "indicators of compliance," this exemption does not apply.
(e) EPA maintained that opacity limits are subject CAM evaluation. This position was communicated to Ecology in the renewal process of Boise Wallula air permit in 2018.

NOTE: Scrubber efficiencies and uncontrolled emissions of H2S and SO2 from lime kiln scrubbers are highly variable due to the amount of sulfur, degree of mud washing efficiency and sulfur content of scrubbing solution. In addition, the kiln is equipped with TRS and SO2 CEMS so regardless of the level of uncontrolled emissions, these units are exempt from CAM for these pollutants due to the presence of CEMs.

Table 11. Lime Kiln 4 CAM Applicability

Pollutant[a]	Applicable Emission Limit or Standard[b]	Federally Enforceable?	Use control device to comply w/ limit or standard?	Pre-controlled emissions ≥ Major source threshold (tpy)?	CAM Applicable?	Exemption: Limit[c] proposed after 11/15/90	Exemption: Permit specifies continuous compliance determination method[d]	CAM required?
PM	0.030 gr/dscf @ 10% O2	YES	YES	YES	YES	NO	NO	YES
PM	0.064 gr/dscf @ 10% O2	YES	YES	YES	YES	YES	NO	NO
PM	0.13 gr/dscf @ 10% O2	YES	YES	YES	YES	NO	NO	YES
PM	35.6 TPY	YES	YES	YES	YES	NO	NO	YES
PM (as opacity)[e]	25%	YES	YES	YES	YES	NO	NO	YES
PM (as opacity)[e]	35%	YES	YES	YES	YES	NO	NO	YES
SO_2	28 TPY	YES	YES	-	NO	-	YES	NO
SO_2	20 ppm @ 10% O2/3-hr & 500 ppm @ 10% O2/hr	YES	NO	YES	NO	-	-	NO
NO_x	340 ppm @ 10% O2/24-hr & 238 TPY	YES	NO	YES	NO	-	-	NO
CO	138 lb/hr & 605 TPY	YES	NO	YES	NO	-	-	NO
TRS as H_2S	20.0 ppm @ 10% O2/24-hr & 11 TPY	YES	YES	-	NO	-	YES	NO

(a) For pollutants with multiple limits/standards, CAM is analyzed for each limits/standards. If a pollutant does not have a limit or standard, it is not included in the table because it is not subject to CAM.
(b) Federally-enforceable limits or standards.
(c) Limit proposed by EPA pursuant to section 111 (NSPS) and section 112 (NESHAPs). This exemption does not necessarily apply to limits set by WACs, NOCs, or PSDs.
(d) If the CEMS/COMS are specified compliance methods (demonstration of compliance), the exemption applies. If the CEMS/COMS are considered "indicators of compliance," this exemption does not apply.
(e) EPA maintained that opacity limits are subject CAM evaluation. This position was communicated to Ecology in the renewal process of Boise Wallula air permit in 2018.

NOTE: Scrubber efficiencies and uncontrolled emissions of H2S and SO2 from lime kiln scrubbers are highly variable due to the amount of sulfur, degree of mud washing efficiency and sulfur content of scrubbing solution. In addition, the kiln is equipped with TRS and SO2 CEMS so regardless of the level of uncontrolled emissions, these units are exempt from CAM for these pollutants due to the presence of CEMs.

Table 12. Lime Kiln 5 CAM Applicability

Pollutant[a]	**Applicable Emission Limit or Standard[b]**	**Federally Enforceable?**	**Use control device to comply w/ limit or standard?**	**Pre-controlled emissions ≥ Major source threshold (tpy)?**	**CAM Applicable?**	**Exemption:** Limit[c] proposed after 11/15/90	**Exemption:** Permit specifies continuous compliance determination method[d]	**CAM required?**
PM	0.035 gr/dscf @ 10% O2 & 0.060 gr/dscf @ 10% O2	YES	YES	YES	YES	NO	NO	YES
PM	0.066 gr/dscf @ 10% O2 & 0.13 gr/dscf @ 10% O2	YES	YES	YES	YES	NO	NO	YES
PM	69 TPY	YES	YES	YES	YES	NO	NO	YES
PM (as opacity)[e]	25%	YES	YES	YES	YES	-	YES	NO
PM (as opacity)[e]	35%	YES	YES	YES	YES	NO	NO	YES
SO_2	28 TPY	YES	NO	YES	NO	-	YES	NO
SO_2	20 ppm @ 10% O2/3-hr & 500 ppm @ 10% O2/hr	YES	NO	YES	NO	-	YES	NO
NO_x	275 ppm @ 10% O2/24-hr & 262 TPY	YES	NO	YES	NO	-	YES	NO
CO	64 lb/hr & 282 TPY	YES	NO	YES	NO	-	-	NO
TRS as H_2S	8 ppm @ 10% O2/12-hr & 6 TPY	YES	NO	YES	NO	-	YES	NO

(a) For pollutants with multiple limits/standards, CAM is analyzed for each limits/standards. If a pollutant does not have a limit or standard, it is not included in the table because it is not subject to CAM.
(b) Federally-enforceable limits or standards.
(c) Limit proposed by EPA pursuant to section 111 (NSPS) and section 112 (NESHAPs). This exemption does not necessarily apply to limits set by WACs, NOCs, or PSDs.
(d) If the CEMS/COMS are specified compliance methods (demonstration of compliance), the exemption applies. If the CEMS/COMS are considered "indicators of compliance," this exemption does not apply.
(e) EPA maintained that opacity limits are subject CAM evaluation. This position was communicated to Ecology in the renewal process of Boise Wallula air permit in 2018.

Table 13. Power Boiler 20 CAM Applicability

Pollutant[(a)]	Applicable Emission Limit or Standard[(b)]	Federally Enforceable?	Use control device to comply w/ limit or standard?	Pre-controlled emissions ≥ Major source threshold (tpy)?	CAM Applicable?	Exemption: Limit[(c)] proposed after 11/15/90	Exemption: Permit specifies continuous compliance determination method[(d)]	CAM required?
PM	0.025, 0.030, 0.048, 0.2, 0.089, 0.083, 0.081 gr/dscf @ 7% O2	YES	YES	YES	YES	NO	NO	YES
PM	234 tpy and 365 tpy, 12-month rolling average	YES	YES	YES	YES	NO	NO	YES
PM	Boiler MACT STANDARD	YES	YES	YES	YES	YES	NO	NO
PM	NSPS STANDARD	YES	YES	YES	YES	YES	NO	NO
PM	0.2 gr/dscf @ 7% O2 & 0.10 lb/MMBtu	YES	YES	YES	YES	NO	NO	YES
PM	234 and 365 TPY	YES	YES	YES	YES	NO	NO	YES
PM (as opacity)[(e)]	20%	YES	YES	YES	YES	-	NO	YES
PM (as opacity)[(e)]	20% (WAC)	YES	YES	YES	YES	NO	NO	YES
SO_2	0.80 lb/MMBtu & 946 TPY	YES	YES	YES	YES	-	YES	NO
SO_2	100 and 1,000 ppm @ 7% O2/hr	YES	YES	YES	YES	-	YES	NO
NO_x	0.20 and 0.30 lb/MMBtu/3-hr & 1,183 TPY	YES	NO	YES	NO	-	YES	NO
CO	900 lb/hr & 3,942 TPY	YES	NO	YES	NO	-	-	NO

(a) For pollutants with multiple limits/standards, CAM is analyzed for each limits/standards. If a pollutant does not have a limit or standard, it is not included in the table because it is not subject to CAM.
(b) Federally-enforceable limits or standards.
(c) Limit proposed by EPA pursuant to section 111 (NSPS) and section 112 (NESHAPs). This exemption does not necessarily apply to limits set by WACs, NOCs, or PSDs.
(d) If the CEMS/COMS are specified compliance methods (demonstration of compliance), the exemption applies. If the CEMS/COMS are considered "indicators of compliance," this exemption does not apply.
(e) EPA maintained that opacity limits are subject CAM evaluation. This position was communicated to Ecology in the renewal process of Boise Wallula air permit in 2018.

NOTE: Scrubber efficiencies for SO2 removal is not known but regardless of the level of uncontrolled emissions, this unit is exempt from CAM due to the presence of a CEMs for SO2.

6.0 MISCELLANEOUS EMISSION UNITS AND REGULATIONS

Risk Management Plan (40 CFR Part 68)

40 CFR Part 68, Chemical Accident Provisions, requires submittal of a Risk Management Plan if the facility stores a regulated material above the applicable concentration and threshold values. Since the Permittee does not presently store a regulated material above the threshold quantity, the facility is presently only subject to the General Duty Clause requirements and must review materials as purchased to verify if additional requirements must be met. This requirement is included as Facility-Wide General Requirement 13.

7.0 INSIGNIFICANT EMISSION UNITS

The facility-wide general requirements apply to the whole facility, including insignificant emission units and activities (IEUs), as required by Ecology's Operating Permit Regulation rule. However, the rule states that IEUs are not subject to monitoring requirements unless the generally applicable requirements in the State Implementation Plan (SIP) impose them per WAC 173-401-530(2) . The Washington SIP does not impose any specific monitoring-related requirements for the facility-wide requirements for IEUs at this source. The permit, therefore, does not require any testing, monitoring, reporting, or recordkeeping for insignificant emission units or activities.

An updated list of IEUs was provided by WestRock Longview and is provided in Appendix B.

8.0 OPERATIONAL FLEXIBILITY

Ecology does not specify a time period for bringing operating parameters to predetermined values. Individual exceptions may require a shorter or longer time period than could be foreseen by the permit. By specifying a definite time period, one would be lengthening the required time in certain cases. In other cases, the Permittee may need more time to respond to unforeseen breakdown. Therefore, Ecology's project officer is given the flexibility to determine the definition of the shortest period of time on a case-by-case basis when all the facts are known for each individual exception using the company's incident report on the occurrence.

9.0 CHANGES TO PERMIT

This section documents any substantial changes in this permit renewal. Minor changes, such as references, reformatting, or typos, are not included.

This Air Operating Permit renewal removed emission units which have been shut down and are no longer operational. These emission units include: Recovery Furnace 15, Recovery Furnace 18, Smelt Dissolving Tank 15, Smelt Dissolving Tank 18, Lime Kiln 1, Lime Kiln 2, Power Boiler 12, Power Boiler 13, Power Boiler 16, Cogen 23, and NSSC Sulfur Buner (SCMS). The remaining emission units and associated conditions were reorganized and assigned different alpha/numeric designations.

Recovery Furnace 19

- Condition A1.1 (formerly A3.1) incorporated footnote A3F.1 into the body of the table. Compliance Assurance Monitoring (CAM) language was also added.

  The reporting timeline requirements have been updated to be consistent with the underlying requirement and to require the submittal of full stack test reports.

- Condition A1.2 is a new requirements that resulted from the 40 CFR Part 63, Subpart MM RTR. Performance testing for HAP metals compliance is required once every 5 years.
- Condition A1.3b (formerly A3.2) has been updated to reflect that the method of compliance determination for WAC 173-405-040(6) is EPA Method 9.
- Condition A1.4 has been updated to reflect changes from the 40 CFR Part 63, Subpart MM RTR. A violation occurs if opacity is greater than 35% for 2% or more of operating time in a semiannual period. Previously this allowance was 6%. Recordkeeping and reporting language has been updated to clarify the requirements.
- Condition A1.7 has been updated to make the reporting requirement timeline consistent with the underlying requirement. The AOP has been updated to require the submittal of the stack test report to Ecology.
- Condition A1.8 has been updated to make the reporting requirement timeline consistent with the underlying requirement. The AOP has been updated to require the submittal of the stack test report to Ecology.
- Condition A1.11 is a new requirement that resulted from the 40 CFR Part 63, Subpart MM RTR. Performance testing for HAP metals compliance is required once every 5 years.
- Condition A1.12 has been updated to make the reporting requirement timeline consistent with the underlying requirement.
- Former Condition A3.11 regarding SSM plans has been removed. The SSM plan is no longer a requirement as a result of the 40 CFR Part 63, Subpart S RTR.

Recovery Furnace 22

- Condition A2.1 (formerly A4.1) was modified to incorporate footnote A4F.1 into the body of the table. CAM language was also added. The reporting timeline has been updated to be consistent with the underlying requirement. The reporting requirements have been updated to require the submittal of stack test reports. The NSPS requirement has been updated to reflect the applicable requirements in 40 CFR Part 60. Sample time and volume requirements have been added for the NSPS PM requirement. The NSPS opacity requirement has also been added to this section (previously included with the other opacity requirements), as it is a surrogate for PM compliance.
- Condition A2.2 is a new requirements that resulted from the 40 CFR Part 63, Subpart MM RTR. Stack testing for HAP metals compliance is required once every 5 years.
- Condition A2.3b (formerly A4.2) has been updated to reflect that the method of compliance determination for WAC 173-405-040(6) is EPA Method 9.
- Condition A2.4 (formerly A4.9) has been updated to reflect changes from the 40 CFR Part 63, Subpart MM RTR. A violation occurs if opacity is greater than 35% for 2% or more of operating time in a semiannual period. Previously this allowance was 6%. Recordkeeping and reporting language has been updated. The excess emission reporting requirement has been updated to a semiannual frequency.
- Condition A2.6 (formerly A4.4) has been updated to clarify the monitoring and reporting requirements.

- Condition A2.8 has been updated to make the reporting requirement timeline consistent with the underlying requirement. The AOP has been updated to require the submittal of the stack test report to Ecology.
- Condition A2.9 (formerly A4.7) has been updated to clarify to calculation methodology and to require the submittal of the stack test reports to Ecology. The reporting requirement timeline has been updated to be consistent with the underlying requirement.
- Condition A2.11 is a new requirement that resulted from the 40 CFR Part 63, Subpart MM RTR.
- Former Condition A4.10 regarding SSM plans has been removed. The SSM plan is no longer a requirement as a result of the 40 CFR Part 63, Subpart S RTR.

Smelt Dissolver Tank 19

- Condition B1.1 (formerly B3.1) has been updated to include CAM language. The reporting requirement timeline has been updated to be consistent with the underlying requirement. The AOP has been updated to require the submittal of stack test reports to Ecology.
- Condition B1.2 is a new requirements that resulted from the 40 CFR Part 63, Subpart MM RTR. Performance testing for HAP metals compliance is required once every 5 years.
- Condition B1.3b (formerly B3.2) has been updated to reflect that the method of compliance determination for WAC 173-405-040(6) is EPA Method 9.
- Condition B1.4 (formerly B3.8) has been moved to be with the other scrubber operating limits. The language has been updated to be consistent with the language in 40 CFR Part 63, Subpart MM. Monthly operating limit reporting has been added. The excess emission reporting requirement has been updated to a semiannual frequency.
- Condition B1.5 has been updated to remove a duplicative requirement regarding a 1-hr SO_2 requirement. This requirement is already in the AOP in the facility-wide general conditions section.
- Condition B1.6 has been updated to require the submittal of stack test reports to Ecology and the make the reporting timeline consistent with the underlying requirement.
- Condition B1.7 has been updated to require the submittal of stack test reports to Ecology and to make the reporting timeline consistent with the underlying requirement.
- Condition B1.8 has been updated to require the submittal of stack test reports to Ecology and to make the reporting timeline consistent with the underlying requirement.
- Former Condition B3.9 regarding SSM plans has been removed. The SSM plan is no longer a requirement as a result of the 40 CFR Part 63, Subpart S RTR.

Smelt Dissolver Tank 22

- Condition B2.1a (formerly B4.1) has been updated to include CAM language, make the reporting timeline consistent with the underlying requirements, and require the submittal of stack test reports to Ecology.
- Condition B2.1c has been updated to further clarify the NSPS requirements for the performance testing and monitoring. Reporting language has been updated to require the submittal of stack test reports to Ecology.

- Condition B2.2 is a new requirement that resulted from the 40 CFR Part 63, Subpart MM RTR. Stack testing is required once every five years.
- Condition B2.3b (formerly B4.2) has been updated to reflect that the method of compliance determination for WAC 173-405-040(6) is EPA Method 9.
- Condition B2.4 (formerly B4.8) has been updated to reflect changes from the 40 CFR Part 63, Subpart MM RTR. Recordkeeping and reporting language has been updated. Monthly operating limit reporting has been added. The excess emission reporting requirement has been updated to a semiannual frequency.
- Condition B2.5 has been updated to require the submittal of stack test reports to Ecology.
- Condition B2.6 has been updated to make the reporting timeline consistent with the underlying requirement and to require the submittal of stack test reports to Ecology.
- Condition B2.7 has been updated to require the submittal of stack test reports to Ecology and make this consistent with the timeline in the underlying requirement.
- Condition B2.8 has been updated to require the submittal of stack test reports to Ecology and make this consistent with the timeline in the underlying requirement.
- Former Condition B4.9 regarding SSM plans has been removed. The SSM plan is no longer a requirement as a result of the 40 CFR Part 63, Subpart S RTR.
- Other Condition B changes. Semiannual excess emission reporting for compliance with 40 CFR Part 60, Subpart BB has been removed. Excess emissions from smelt dissolver tanks are not required to be reported by 40 CFR 60.284(d).

Lime Kiln 3

- Condition C1.1 (formerly C3.1) has been updated to include CAM language. Reporting timeline has been updated to make it consistent with the underlying requirement. Reporting language has been updated to require the submittal of stack test reports to Ecology.
- Condition C1.2 is a new requirement that resulted from the 40 CFR Part 63, Subpart MM RTR. Stack testing is required once every five years.
- Condition C1.3b (formerly C3.2) has been updated to reflect that the method of compliance determination for WAC 173-405-040(6) is EPA Method 9.
- Condition C1.4 (formerly C3.10) has been updated to reflect changes from the 40 CFR Part 63, Subpart MM RTR. Recordkeeping and reporting language has been updated. Monthly operating limit reporting has been added. The excess emission reporting requirement has been updated to a semiannual frequency.
- Condition C1.5 has been updated to require the submittal of stack test reports to Ecology. The stack testing requirement has been removed per Ecology letter, see description in body of the SOB.
- Condition C1.7 has been updated to make the reporting timeline consistent with the underlying requirement and to require the submittal of stack test reports to Ecology.
- Condition C1.8 has been updated to make the reporting timeline consistent with the underlying requirement and to require the submittal of stack test reports to Ecology.

- Former Condition C3.11 regarding SSM plans has been removed. The SSM plan is no longer a requirement as a result of the 40 CFR Part 63, Subpart S RTR.

Lime Kiln 4

- Condition C2.1 (formerly C4.1) has been updated to include CAM language. Reporting has been updated to make the timeline consistent with the underlying requirement to include the submittal of stack test reports to Ecology.
- Condition C2.2 is a new requirement that resulted from the 40 CFR Part 63, Subpart MM RTR. Stack testing is required once every five years.
- Condition C2.3b (formerly C4.2) has been updated to reflect that the method of compliance determination for WAC 173-405-040(6) is EPA Method 9.
- Condition C2.4 (formerly C4.10) has been updated to reflect changes from the 40 CFR Part 63, Subpart MM RTR. Recordkeeping and reporting language has been updated. Monthly operating limit reporting has been added. The excess emission reporting requirement has been updated to a semiannual frequency.
- Condition C2.5 (formerly C4.3) has been updated to include CAM language. The condition has been updated to remove the stack testing requirement as it has been replaced with a requirement for monitoring with a CEMS.
- Condition C2.7 has been updated to make the reporting timeline consistent with the underlying requirement and to require the submittal of stack test reports to Ecology.
- Condition C2.8 has been updated to make the reporting timeline consistent with the underlying requirement and to require the submittal of stack test reports to Ecology.
- Former Condition C4.11 regarding SSM plans has been removed. The SSM plan is no longer a requirement as a result of the 40 CFR Part 63, Subpart S RTR.

Lime Kiln 5

- Condition C3.1 (formerly C5.1) has been updated to include CAM language. The NSPS PM requirement has been updated to clarify test methodology. Reporting language has been updated make the reporting timeline consistent with the underlying requirement and to require the submittal of stack test reports to Ecology.
- Condition C3.2 is a new requirement that resulted from the 40 CFR Part 63, Subpart MM RTR. Stack testing is required once every five years.
- Condition C3.3b (formerly C5.2) has been updated to reflect that the method of compliance determination for WAC 173-405-040(6) is EPA Method 9.
- Condition C3.4 (formerly C5.9) has been updated to reflect changes from the 40 CFR Part 63, Subpart MM RTR. Recordkeeping and reporting language has been updated. The excess emission reporting requirement has been updated to a semiannual frequency.
- Condition C3.5 has been updated to remove the stack testing requirement as it has been replaced with a requirement for monitoring with a CEMS.
- ~~Conditions C3.6 (formerly C5.4) has updated monitoring and reporting language. Incineration temperature and retention time language regarding the NSPS requirement for burning of NCGs has also been added.~~

Commented [RA18]: As mentioned, this condition needs to be removed

- Condition C3.8 has been updated to remove the stack testing requirement as it has been replaced with a requirement for monitoring with a CEMS.
- Condition C3.11 is a new requirement that resulted from the 40 CFR Part 63, Subpart MM RTR.
- Former Condition C5.10 regarding SSM plans has been removed. The SSM plan is no longer a requirement as a result of the 40 CFR Part 63, Subpart S RTR.

NCG and Condensate Systems

- The conditions regarding the collection and treatment of HAPs in NCGs and condensates have been moved (formerly Conditions K, L, and M; now Condition D1 through D3) in this permit renewal. These conditions have been included with the other emission units from the kraft mill instead of at the end of the permit.

LVHC System

- The list of affected units at the start of Condition D1 has been updated to remove units which have been shut down. The NSSC LVHC system has been added to the affected units list.
- Conditions D1.1 and D1.5 (formerly K.1 and K.5) have been updated to allow for the burning of NCGs in Lime Kiln 5 and Power Boiler 20. The allowance to burn NCGs in PB12 and 13 has been removed since these units are shut down.
- Condition D1.13 (formerly K.13) has been updated to remove language regarding a SSM period exemption. This language was removed as part of the 40 CFR Part 63, Subpart S RTR.
- Former Condition K.14 (LVHC System) was removed. The requirement to develop and follow SSM plans was removed as part of the 40 CFR Part 63, Subpart S RTR.

Pulping Process Condensates

- The list of affected units at the start of Condition D2 has been updated to remove units which have been shut down.
- Condition D2.6 (formerly L.6) has been updated to include language regarding the monthly inspection frequency. This language was included in Order 3463-AQ07 but was not previously included in the AOP.

HVLC System

- Requirements of 40 CFR Part 63, Subpart S were previously included in the permit with a high-level reference. Ecology has removed the high-level reference and included applicable language to help clarify the requirements.

Digester, Multi-Effect Evaporators, Brownstock Washers, and Condensate Stripper Systems

- Condition F1.2 (formerly G1.2) has been updated to include Lime Kiln 5 and Power Boiler 20 as units designated to burn NCGs.

Power Boiler 20

- Condition G1.1 (formerly D4.1) has been updated. The 40 CFR Part 60, Subpart D requirement has been removed and replaced with the 40 CFR Part 60, Subpart Db requirement. The PM, PM_{10}, and $PM_{2.5}$ requirements from Order 8429 have been added.

Reporting requirements have been updated to make the reporting timeline consistent with the underlying requirement and to require the submittal of stack test reports to Ecology.

- Condition G1.3b (formerly D4.2) has been updated to reflect that the method of compliance determination for WAC 173-405-040(6) is EPA Method 9.
- The opacity requirement in 40 CFR 60.42(a)(2) has been replaced with 40 CFR 60.43b(f). This change occurred as a result of the modifications in Order 8429.
- Conditions G1.5 has been updated to require the submittal of stack test reports to Ecology and to include Boiler MACT language for compliance with CO.
- Condition G1.6 has been updated to make the reporting timeline consistent with the underlying requirement.
- Condition G1.7 has been updated to remove the stack testing requirement as it has been replaced with a requirement for monitoring with a CEMS.
- Conditions G1.2, G1.12 through G1.24 have been added to the AOP to incorporate Boiler MACT requirements.
- Condition G1.16b has been added to the AOP to incorporate the requirements of 40 CFR Part 61, Subpart E.

Paper Machines

- Condition H1.2 has been added to the AOP to incorporate requirements from Order No. 9213 which was issued in 2012.

Box Plant Production Lines

- Condition I1.2 through I1.8 have been added to the AOP to incorporate requirements from Order No. 13302 which was issued in 2016 and modified in 2017.

Reciprocating Internal Combustion Engines (RICE)

- Conditions J1.1 through J1.6 and J3.1 through J3.2 have been added to the AOP to incorporate requirements of 40 CFR Part 63, Subpart ZZZZ.
- Condition J2 have been added to the AOP to incorporate requirements of 40 CFR Part 60, Subpart IIII.

Greenhouse Gas Reporting

- Conditions L1.1 through L1.4 have been added to the AOP to incorporate requirements of the Greenhouse Gas Reporting Rule in 173-441 WAC.

Facility-wide General Requirements

- Requirements for "New Source Review", "Replacement or Substantial Alternation of Emission Control Technology", and "Nonroad Engines" have been added.
- Requirement for "Representative Conditions" during source tests has been added (Condition 22).
- "Continuous Emission Monitoring System Operating Requirements" have been added in Condition 26. These are new requirements that were established in Washington Administrative Code in 2011.

- "CMS Data Recovery" requirements have been added (Conditions 27 and 28) to cover NSPS and MACT CMS using 40 CFR 70.6(c)(1) as the basis.
- "Notification of Planned Source Test" requirement has been added (Condition 37).
- "Source Testing Results" requirements have been added to Condition 38. This requirements specifies source test reporting timeframes and how the source tests must be reported to Ecology.
- "CEMS and COMS Data Assessment Report" requirements have been added (Condition 41) for CEMS and COMS subject to 40 CFR Part 60.

Appendix A

- PSD 01-03 allows for variable source test frequencies based on the performance of the emission unit. Language has been added to clarify how the permittee is to transition to monthly source testing following a source test which exceeds 75% of the limitation.

Former Appendix B

- Appendix B from the previous version of the AOP has been removed. The requirements in the appendix were incorporated into other parts of the AOP, under the specific emission unit and requirement or in the facility-wide general conditions. References to former Appendix B have been removed.

SSM Plan, Recordkeeping, and Reporting

- SSM requirements have been removed from the AOP.

Commented [RA19]: See specific comments for these conditions in the draft AOP comments

Appendix A – Compliance Assurance Monitoring (CAM) Plan

Appendix B – Insignificant Emission Units

Insignificant Emission Unit(s)	Basis for Designation
Turpentine Recovery – Decanter Storage	WAC 173-401-532, categorical exemption
Paint operations	WAC 173-401-532, categorical exemption
Fugitives, transfer and storage	WAC 173-401-532, categorical exemption
Roads and parking	WAC 173-401-532, categorical exemption
Portable Drums and totes	WAC 173-401-532, categorical exemption
Comfort air conditioning	WAC 173-401-532, categorical exemption
Paper trimmers/binders	WAC 173-401-532, categorical exemption
Food preparation for human consumption including cafeterias, kitchen facilities	WAC 173-401-532, categorical exemption
Bathroom and toilet vents	WAC 173-401-532, categorical exemption
Air compressors, pneumatically operated equipment, systems and hand tools	WAC 173-401-532, categorical exemption
Steam leaks	WAC 173-401-532, categorical exemption
Steam vents and safety relief valves not emitting process chemicals	WAC 173-401-532, categorical exemption
Recovery boiler blow-down tank	WAC 173-401-532, categorical exemption
Continuous digester chip feeders	WAC 173-401-532, categorical exemption
Weak liquor and filter tanks	WAC 173-401-532, categorical exemption
Process water and white water storage tanks	WAC 173-401-532, categorical exemption
Demineralizer tanks	WAC 173-401-532, categorical exemption
Clean Condensate tanks	WAC 173-401-532, categorical exemption
Broke beaters, repulpers, pulp and repulping tanks, stock chests and pulp handling	WAC 173-401-532, categorical exemption
Lime mud filtrate tank	WAC 173-401-532, categorical exemption
Hydrogen peroxide tanks	WAC 173-401-532, categorical exemption
Lime mud and water	WAC 173-401-532, categorical exemption
Lime mud filter	WAC 173-401-532, categorical exemption
Liquor clarifiers and storage tanks and associated pumping, piping, and handling	WAC 173-401-532, categorical exemption
Lime grit washers, filters and handling	WAC 173-401-532, categorical exemption
Lime silos and feed bins	WAC 173-401-532, categorical exemption
Paper forming	WAC 173-401-532, categorical exemption
Dryers	WAC 173-401-532, categorical exemption
Vacuum systems exhaust	WAC 173-401-532, categorical exemption
Stock cleaning and pressurized pulp washing	WAC 173-401-532, categorical exemption
Sludge dewatering and handling	WAC 173-401-532, categorical exemption
Sewer manholes, junction boxes, sumps, and lift stations associated with wastewater treatment systems	WAC 173-401-532, categorical exemption
Firefighting and similar safety equipment (fire pump)	WAC 173-401-532, categorical exemption

Insignificant Emission Unit(s)	Basis for Designation
Operation, loading and unloading of storage tanks and storage vessels with less than a 260-gallon capacity (35 cubic feet), with lids or other closure and heated only to the minimum extent necessary to avoid solidification – Miscellaneous chemical totes in Longview mill	WAC 173-401-533, size and production rate basis
Operation, loading and unloading of volatile liquid storage with 10,000-gallon capacity or less, with lids or other closure and storing liquid with a vapor pressure not greater than 80 millmeters (mm) of mercury (Hg) at 21 degrees Celsius – Chemical totes in Longview mill	WAC 173-401-533, size and production rate basis
Operation, loading, and unloading of butane, propane, or liquefied petroleum gas (LPG) storage tanks with vessel capacity under 40,000 gallons – Propane tanks in Longview mill	WAC 173-401-533, size and production rate basis
Combustion source less than five million Btu/hr exclusively using natural gas, butane, propane and/or LPG – Mobile jitneys, forklifts and barbeques that fire propane in Longview mill	WAC 173-401-533, size and production rate basis

Appendix C - Response to Comments