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AIR OPERATING PERMIT 0000124

In compliance with the provisions of The State of Washington
Clean Air Act Chapter 70.94 Revised Code of Washington

Nippon Dynawave Packaging Company, LLC
P.O. Box 188
Longview, Washington 98632

Is authorized to operate in accordance with the terms and conditions
of this permit.

Issued by:

State of Washington
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INTRODUCTION AND LEGAL AUTHORITY

This Air Operating Permit is authorized under the Operating Permit Regulation, Chapter 173-401 Washington Administrative Code (WAC). The provisions of this permit describe the emissions limitations, operating requirements, monitoring and recording requirements, and reporting frequencies for the permitted source.

Nippon Dynawave Packaging Company (NDP) requires a Title V Air Operating Permit because it emits, or has the potential to emit, 100 tons per year or more of one or more air pollutants (WAC 173-401-300(1)). NDP is a wholly owned subsidiary of Nippon Paper Industries.

The Longview site, which includes the NDP kraft pulp and paper mill, the NORPAC thermomechanical pulp and paper mill, and the Weyerhaeuser NR Company log/lumber operation, has historically been permitted as a single major Title V source. The three facilities, previously owned by Weyerhaeuser NR Company, now have separate ownership. Ecology has not made a disaggregation determination and therefore the three facilities remain a single major Title V source for the issuance of this permit. Ecology is issuing three separate permits to the single major Title V source at the Longview site. The three permits constitute a “permit” as defined by WAC 173-401-200(5).

During the drafting of this permit, Ecology has attempted to incorporate requirements using the exact language of the law, regulation, or order. In some cases, this has not been possible. Where there is a difference in language, this difference is presented in this permit only for clarification of the underlying requirement. The legal requirement remains the underlying applicable requirement cited in the “Applicable Requirements” column of the tables and the citations contained in brackets at the end of each requirement. Any conflict between the permit and an underlying requirement will be resolved by referring to the cited applicable requirement. Unless otherwise stated, the effective date of referenced regulations or statutes is that of the provision in effect on the date of permit issuance. Compliance with underlying requirements shall be demonstrated using the methods specified in this permit.

The Title V Air Operating Permit consists of all parts of this assembled document including all footnotes and Appendices, but does not include the accompanying Statement of Basis or the Title V permit application materials submitted by the facility.

The definitions of terms contained in WAC 173-401-200, and as defined in all referenced regulations, apply to this permit unless otherwise defined in the permit.

Any federal test method referenced, unless specifically stated otherwise within the body of the permit, is that which is contained in 40 CFR Part 60, Appendix A. Any state test method referenced, unless specifically stated otherwise within the body of the permit, is that which is contained in the “Ecology Source Test Manual” as of July 12, 1990.

EMISSION UNIT SPECIFIC REQUIREMENTS [WAC 173-401-600]

NDP requires a Title V Air Operating Permit because it emits or has the potential to emit, 100 tons per year or more of one or more air pollutants (WAC 173-401-300(1)). The emission units identified in Conditions A through I and K are subject to the emission unit specific requirements set forth in Conditions A through I and K. These units are also subject to the facility-wide applicable requirements. The associated monitoring, recordkeeping, and reporting requirements, for these limits are in the Facility-Wide section of this permit. Unless specified otherwise, the basis of authority for the type and frequency of monitoring imposed in Conditions A through M is WAC 173-401-615.

The reference test method (RM) or compliance determination algorithm is identified under the column titled, "Monitoring and Reporting." The identified reference test method or compliance determination algorithm is the compliance determination method which is intended to be the default or absolute determinant of compliance. It may or may not also be the method by which ongoing compliance is indicated.

Appendix C contains the emission estimate algorithms. These algorithms set forth the manner by which emissions are calculated for those requirements for which the RM itself does not directly result in an emission estimate. Unless otherwise required by the applicable requirement, minor modifications to the test method may be used with the advanced approval of Ecology. In addition, the Permittee may use an equivalent alternative method with written approval from Ecology. Failure to obtain prior written approval for any test changes may invalidate the use of the test result(s) for Title V compliance purposes.

The Permitted facility includes emission units that are subject to EPA New Source Performance Standards at 40 CFR Part 60 Subpart A, Subpart BB, and Subpart D. These standards are set forth as generic stand-alone conditions in the section of the permit titled "NSPS General Requirements." Emission units subject to NSPS requirements cross-reference the specific applicable NSPS standards.

The Permitted facility includes emission units that are subject to EPA National Emission Standards for Hazardous Air Pollutants in 40 CFR Part 63 Subparts S, MM, JJJJ, ZZZZ, and DDDDD.

A. KRAFT MILL

The kraft mill includes the Fiberline (Digester, Pulp Washing and Screening, Oxygen Delignification, and Bleach Plant Systems), No. 7 Multiple Effect Evaporator (No. 7 MEE), High Solids Crystallizer (HSC), and Steam Stripper System.

The following emission units were new or reconstructed during the 1995 Kraft Modernization Project, and are subject to A.1 through A.4: Fiberline (Digester, Pulp Washing and Screening, Oxygen Delignification, and Bleach Plant Systems), HSC, and Steam Stripper System.

| KRAFT MILL | | | | |
|-------------------|--|--|---|--|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| A.1 | CO | 349 lbs/hour and 300 tons per year (measured at bleach plant scrubber stack and oxygen delignification vent) | The Reference Test Method and initial compliance determinant is EPA RM 10 at the bleach plant scrubber outlet and oxygen delignification vent. Initial source testing; no ongoing monitoring required by this permit. | PSD 92-03 Amendment 4 Condition 1, Order DE 92AQ I069 |
| A.2 | TRS | 5.0 ppm _{dv} @ 10% O ₂ , 12 hour avg. | Reference Test Method and compliance indicated by continuous collection and combustion of collected sources. | 40 CFR 60.283(a)(1) for limit and 40 CFR 60.284 for monitoring |
| A.3 | The aforementioned fiberline units are subject to the NSPS requirements identified in the stand-alone generic NSPS section of this permit. | | | |

The following **state-only** requirement is not federally enforceable under the federal Clean Air Act and is applicable to **digester, multiple-effects evaporators, and condensate stripper system**.

| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
|------|------------------|--|--|--------------------------------|
| A. 4 | TRS | Treat non-condensable gases (NCG) to reduce TRS emission equal to reduction achieved by thermal oxidation in a lime kiln; install a backup treatment system to ensure continual treatment. | Record number of hours system vents each month. Report periods of untreated venting. | WAC 173-405-040(4) |

The following emission unit specific requirements for the Kraft Mill derive from the NESHAP for the Pulp and Paper Industry (40 CFR Part 63, Subpart S).

LVHC System

LVHC system includes the Kamyr Digester System (chip steaming vessel, impregnation vessel, digester, flash tanks, and flash steam condensers) No. 7 MEE, HSC, and Steam Stripper System.

The Chip Bin is regulated under Subpart S as part of the Digester System only when flash steam is used in the Bin for chip pre-steaming. However, the Chip Bin vent gas stream is physically high in volume and low in HAP concentration, but high in oxygen. As such, it is incompatible for collection in the mill’s LVHC system, and is instead collected for control in the mill’s HVLC NCG system. Accordingly, LVHC emissions from the Chip Bin are subject to the excess emissions limitation for a combined LVHC and HVLC control system (40 CFR 63.443(e)(3)), which are functionally equivalent to the HVLC System requirements listed below.

40 CFR Part 63 requirements are cited in this permit as applicable. WAC 173-400-075(5) incorporates 40 CFR Part 63 (MACT) by reference.

| LVHC SYSTEM | | | | |
|--------------------|-------------------------|--|---|---|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| A.5 | LVHC HAP: General | Enclose, collect, and treat all vent gases from LVHC equipment systems. | Record all periods during which LVHC gases were not collected and treated each month. Report periods of such non-treatment monthly. Venting of LVHC gases from main bypass vent valves for periods in excess of one percent of total operating time shall constitute a violation of the applicable standard. | 40 CFR 63.443(c) 40 CFR 63.443(e)(1) for determination of violation. |
| A.6 | LVHC HAP: Collection | Collect LVHC gases in closed-vent system. Maintain enclosures in closed position. | Perform monthly visual inspection of enclosure openings as specified in 40 CFR 63.453(k). | 40 CFR 63.453(k)(1) |
| A.7 | LVHC HAP: Collection | Collect LVHC gases in closed-vent system; visual inspection for visible evidence of defects. | Perform monthly visual inspection of closed-vent system components as specified in 40 CFR 63.453(k). | 40 CFR 63.453(k)(2) |
| A.8 | LVHC HAP: Collection | Collect LVHC gases in closed-vent system; annual leak testing. | Conduct annual performance tests on closed vent systems using the procedures in 40 CFR 63.457(d). | 40 CFR 63.453(k)(3) |

| LVHC SYSTEM | | | | |
|--------------------|-------------------------|--|---|---|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| A.9 | LVHC HAP: Collection | Timely repair of closed-vent system leaks and defects found during monthly inspections or annual testing. | <p>If an inspection identifies visible defects, or if enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken:</p> <p>Make a first effort to repair or correct the closed vent system as soon as practicable, but no later than five calendar days after the problem has been identified. Complete the repair or corrective action no later than 15 days after the problem is identified.</p> <p>Delay of repair or corrective action is allowed if the repair or corrective action is technically infeasible without a process unit shutdown or if it is determined that the emissions resulting from the immediate repair would be greater than the emission likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process shutdown.</p> | <p>40 CFR 63.453(k)(6) for corrective action.</p> <p>40 CFR 63.453(b)&(c) for operating requirements.</p> |
| A.10 | LVHC HAP: Treatment | Treat LVHC vent gases to reduce total HAP emissions in the NCG thermal oxidizer, lime kiln, No. 10 Boiler (recovery boiler), or No. 11 Boiler (hog fuel boiler). | Record all periods during which LVHC gases are combusted in each control device. Venting of LVHC gases from main bypass vent valves for periods in excess of one percent of total operating time shall constitute a violation of the applicable standard. | <p>40 CFR 63.443(d) for treatment options.</p> <p>40 CFR 63.443(e)(1) for determination of violation.</p> |

| LVHC SYSTEM | | | | |
|--------------------|------------------------|---|--|--|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| A.11 | LVHC HAP: Treatment | When combusting LVHC in the thermal oxidizer: Reduce total HAP concentration at the outlet of the thermal oxidizer to 20 parts per million or less by volume, corrected to 10 percent oxygen on a dry basis. Continuous compliance to be demonstrated by maintaining a thermal oxidizer combustion temperature of 1350 F°, as a 12-hour block average. | Continuously monitor thermal oxidizer combustion temperature while combusting LVHC NCGs. Report any deviations from the operating temperature requirement in the monthly report. Conduct repeat performance test at five-year intervals for emission sources subject to the limitations in 40 CFR 63.443, 63.444, and 63.445. The first of the five-year repeat tests must be conducted by September 7, 2015, and thereafter within 60 months from the date of the previous performance test. | 40 CFR 63.443(d)(2) 40 CFR 63.457(a)(1) and (2) |

HVLC System

The HVLC system includes the following equipment: Pressure Diffusion Washer System, Brownstock Press Washer System, and Oxygen Delignification System.

The Atmospheric Chip Bin vent is regulated by 40 CFR Part 63, Subpart S as an LVHC when using digester flash steam for chip pre-steaming. However, due to its physical characteristics, the Chip Bin vent is collected for control in the mill’s HVLC collection system and not in the LVHC collection system. Accordingly, the LVHC emissions from the Chip Bin are subject to the excess emissions limitation for a combined LVHC and HVLC control system (40 CFR 63.443(e)(3)), which are functionally equivalent to the HVLC System requirements listed below.

Several black liquor tank vents are also collected for control in the mill’s HVLC collection system, but these black liquor tank vents are not subject to 40 CFR Part 63, Subpart S.

40 CFR Part 63 requirements are cited in this permit, as applicable. WAC 173-400-075(5) incorporates 40 CFR Part 63 (MACT) by reference.

HVLC SYSTEM

| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
|------|-------------------------|--|---|---|
| A.12 | HVLC HAP: General | Enclose, collect, and treat all vent gases from HVLC equipment systems. The HVLC system includes the following equipment: Diffusion Washer Filtrate Tank, Brownstock Press Washer System, and Oxygen Delignification System. | Record all periods during which HVLC gases were not collected and treated each month. Report periods of such non-treatment monthly. Venting of HVLC gases from main bypass vent valves for periods in excess of 4 percent of total operating time shall constitute a violation of the applicable standard. | 40 CFR 63.443(c) 40 CFR 63.443(e)(1) for determination of violation. |
| A.13 | HVLC HAP: Collection | Collect HVLC gases in closed-vent system. Maintain enclosures in closed position. | Perform monthly visual inspection of enclosure openings as specified in 40 CFR 63.453(k). | 40 CFR 63.453(k)(1) |
| A.14 | HVLC HAP: Collection | Collect HVLC gases in closed-vent system; visual inspection for visible evidence of defects. | Perform monthly visual inspection of closed-vent system components as specified in 40 CFR 63.453(k). | 40 CFR 63.453(k)(2) |
| A.15 | HVLC HAP: Collection | Collect HVLC gases in closed-vent system; annual leak testing. | Conduct annual performance tests on closed vent systems using the procedures in 40 CFR 63.457(d) | 40 CFR 63.453(k)(3) |

HVLC SYSTEM

| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
|------|-------------------------|---|--|---|
| A.16 | HVLC HAP: Collection | Timely repair of closed vent system leaks and defects found during monthly inspections or annual testing. | <p>If an inspection identifies visible defects or if enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken: Make a first effort to repair or correct the closed vent system as soon as practicable, but no later than five calendar days after the problem has been identified. Complete the repair of corrective action no later than 15 days after the problem is identified.</p> <p>Delay of repair or corrective action is allowed if the repair or corrective action is technically infeasible without a process unit shutdown, or if it is determined that the emissions resulting from the immediate repair would be greater than the emission likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process shutdown.</p> | <p>40 CFR 63.453(k)(6) for corrective action.</p> <p>40 CFR 63.453(b) & (c) for operating requirements.</p> |
| A.17 | HVLC HAP: Treatment | Treat HVLC vent gases to reduce total HAP emissions in the NCG thermal oxidizer, Recovery Boiler (No. 10 Boiler), or No. 11 Boiler. | Record all periods during which HVLC gases are combusted in each control device. Venting of HVLC gases from main bypass vent valves for periods in excess of 4 percent of total operating time shall constitute a violation of the applicable standard. | <p>40 CFR 63.443(d) for treatment options;</p> <p>40 CFR 63.443(e)(1) for determination of violation.</p> |

| HVLC SYSTEM | | | | |
|--------------------|------------------------|--|---|--|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| A.18 | HVLC HAP: Treatment | When combusting HVLC in thermal oxidizer: Reduce total HAP concentration at the outlet of the thermal oxidizer to 20 parts per million or less by volume, corrected to 10 percent oxygen on a dry basis. Continuous compliance to be demonstrated by maintaining a thermal oxidizer combustion temperature of 1350 F°, as a 12-hour block average. | Continuously monitor thermal oxidizer combustion temperature while combusting HVLC. Report any deviations from the operating temperature requirement in the monthly report. Conduct repeat performance test at five-year intervals for emission sources subject to the limitations in 40 CFR 63.443, 63.444, and 63.445. The first of the five-year repeat tests must be conducted by September 7, 2015, and thereafter within 60 months from the date of the previous performance test. | 40 CFR 63.443(d)(2) 40 CFR 63.457(a)(1) and (2) |
| A.19 | HVLC HAP: Treatment | When combusting HVLC in the Recovery Boiler (No. 10 boiler) or Hog Fuel Boiler (No. 11 boiler); introduce the HAP emission stream into the flame zone. | No monitoring required if HVLC burner is located in the flame zone. Safety interlocks required to prevent introducing HVLC unless a flame is present. | 40 CFR 63.443(d)(4) |

Pulping Condensate System

40 CFR Part 63, Subpart S regulates “named” pulping condensates streams, which for this facility include the following: Fiberline primary condensates (flash steam condensates); Fiberline foul condensates (turpentine system underflow); HSC foul, hotwell, and surface condenser condensates; No. 7 MEE vacuum pump and hot well condensates; LVHC condensates; and HVLC condensates.

40 CFR Part 63 requirements are cited in this permit, as applicable. WAC 173-400-075(5) incorporates 40 CFR Part 63 (MACT) by reference.

| PULPING CONDENSATES SYSTEM | | | | |
|-----------------------------------|--|--|---|--------------------------------|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| A.20 | Kraft Pulping Condensates HAPs: General | Collect and control HAP emissions from regulated pulping condensates to comply with 40 CFR 63.446. | Subpart S regulated “named” pulping condensates streams include: Fiberline primary condensates (flash steam condensates); Fiberline foul condensates (turpentine system underflow); HSC foul, hot well, and surface condenser condensates; No. 7 MEE vacuum pump and hot well condensates; LVHC condensates; and HVLC condensates. | 40 CFR 63.446 |
| A.21 | Kraft Pulping Condensates HAPs: Collection & Control Requirement Overview | Collect and control condensates from the applicable equipment systems named such that the total collected HAPs mass (as methanol) is 11.1 pounds or more per ton of oven dried pulp, and the total HAPs mass controlled is 10.2 pounds or more per ton of oven dried pulp. | Record kraft pulp production (in oven dry tons of unbleached pulp exiting the oxygen delignification process). Calculate and record the mass of methanol in the stripper liquid product stream sent to the thermal oxidizer for destruction, in the combined condensates collected for recycle, and in the combined condensates controlled by recycle to closed vent pulping systems, to determine total mass of methanol collected and controlled. | 40 CFR 63.446(b) & (c)(3) |
| A.22 | Kraft Pulping Condensates HAPs: Monitoring Collection to Thermal Destruction | Monitor the mass of HAPs (measured as methanol) collected and sent to the Foul Condensate Stripper that is also controlled by combustion in the thermal oxidizer. | Continuously monitor and record the mass flow of methanol from the foul condensate stripper to the thermal oxidizer, using the CMS and calculation procedures established during the Initial Performance Test. | 40 CFR 63.446 |

| PULPING CONDENSATES SYSTEM | | | | |
|-----------------------------------|---|---|---|--|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| A.23 | Kraft Pulping Condensates HAPs: Monitoring Collection for Recycle | Monitor the mass of HAPs (as methanol) collected and sent to the Combined Condensate Tank prior to recycle in equipment specified in 40 CFR 63.443(a) meeting the requirements of 40 CFR 63.443(c) and (d). | Continuously monitor and record the total volumetric flow rate from the Combined Condensate Tank. Calculate the mass flow of HAPs (as methanol) that is collected and sent to the Combined Condensate Tank using the monitored volumetric exit flows and the HAP emission factors from the Initial Performance Test. Subtract the mass of HAPs (as methanol) in non-named streams using the flow rate and HAP emission factors for non-named streams determined from the Initial Performance Test to determine the total regulated HAP mass collected prior to recycle. | 40 CFR 63.453 (n) for establishing operating parameter value requirements for CMS. |
| A.24 | Kraft Pulping Condensates HAPs: Monitoring Control by Recycle | Monitor the mass of HAPs (as methanol) controlled by recycle from the Combined Condensate Tank to equipment specified in 40 CFR 63.443(a) meeting the requirements of 40 CFR 63.443(c) and (d). | Continuously monitor and record the volumetric flow rate from the Combined Condensate Tank to the Post Oxygen Press and /or the Brownstock Press. Calculate the mass of HAPs (as methanol) recycled to the presses by multiplying the total HAPs collected to the Combined Condensate Tank by the recycle flow rate divided by the total Combined Condensate flow rate. Multiply the result by the fraction of time the HVLC collection system was operating during the period. The result is the total mass of HAPs (as methanol) controlled by recycle to closed vent pulping system equipment. | 40 CFR 63.453(n) for establishing operating parameter value requirements for CMS. |

| PULPING CONDENSATES SYSTEM | | | | |
|-----------------------------------|---|--|--|--|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| A.25 | Kraft Pulping Condensates HAPs: Total HAP Collection Standard | Collect at least 11.1 pounds of HAPs per ton of ODP (oven-dried unbleached pulp) 60-day rolling average. | <p>On a daily basis, calculate the following to determine the 60-day rolling average HAPs collection rate:</p> <p>(a) Unbleached Kraft pulp production, in ODTP;</p> <p>(b) Total HAPs collected, in pounds per day, by summing the daily mass of HAPs from the stripper controlled by thermal oxidation and the mass of HAPs collected to the Combined Condensate Tank for recycle;</p> <p>(c) Total unbleached Kraft pulp production for the previous 60-day period;</p> <p>(d) Total HAPs collected for the previous 60-day period by total kraft pulp production during the 60-day period;</p> <p>(e) Total HAPs collected per ODTP by dividing total HAPs collected during the 60-day period by total kraft pulp production during the 60-day period.</p> | 40 CFR 63.446(c)(3) for HAPs mass collection requirement at bleached Kraft pulp mills. |

| PULPING CONDENSATES SYSTEM | | | | |
|-----------------------------------|---|---|---|--|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| A.26 | Kraft Pulping Condensates HAPs: Total HAPs Control Standard | Control at least 10.2 pounds of HAPs per ton of ODP (oven-dried unbleached pulp), 60-day rolling average. | On a daily basis, calculate the following to determine the 60-day rolling average HAPs control rate: (a) Unbleached Kraft pulp production, in ODTP; (b) Total HAPs controlled, in pounds per day, by summing the daily mass of HAPs from the stripper controlled by thermal oxidation and the mass of HAPs controlled by recycle to closed vent pulping systems; (c) Total unbleached Kraft pulp production for the previous 60-day period; (d) Total HAPs controlled for the previous 60-day period; (e) Total HAPs controlled per ODTP by dividing total HAPs controlled during the 60-day period by total Kraft pulp production during the 60-day period. | 40 CFR 63.446(e)(5) for HAPs mass collection requirement at bleached Kraft pulp mills. |
| A.27 | Kraft Pulping Condensate HAP: Final Control Device Standard | Each HAP removed from a pulping condensate stream during treatment and handling under 40 CFR 63.446(d) or (e) shall be controlled as specified in 40 CFR 63.443(c) and (d). | Stripper methanol product lines to the incinerator, and combined condensates tank and discharge piping meet the closed-vent systems as specified by 63.443(c). HAP from stripper product methanol and pulp press vent gases are controlled in the thermal oxidizer, which meets the control standard of 40 CFR 63.443(d). | 40 CFR 63.446(f) |

| PULPING CONDENSATES SYSTEM | | | | |
|-----------------------------------|---|---|---|--|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| A.28 | Kraft Pulping Condensates HAPs: Control in Thermal Oxidizer | When combusting HAPs from pulping condensates in thermal oxidizer: Reduce total HAPs concentration at the outlet of the thermal oxidizer to 20 parts per million or less by volume, corrected to 10 percent oxygen on a dry basis. Continuous compliance to be demonstrated by maintaining a thermal oxidizer combustion temperature of 1350°F, as a 12-hour block average. | Continuously monitor thermal oxidizer combustion temperature while combusting HAPs removed from pulping condensates. Report any deviations from the operating temperature requirement in the monthly report. Conduct repeat performance tests at five-year intervals for emission sources subject to the limitations in 40 CFR 63.443, 63.444, and 63.445. The first of the five-year repeat tests must be conducted by September 7, 2015, and thereafter within 60 months from the date of the previous performance test. | 40 CFR 63.443(d)(2) 40 CFR 63.457(a)(1) and (2) |
| A.29 | Kraft Pulping Condensates HAPs: Control in Kiln, Recovery Boiler (No. 10 boiler) or Hog Fuel Boiler (No. 11 boiler) | When combusting LVHC in the Kiln, Recovery Boiler (No. 10 boiler), or Hog Fuel Boiler (No. 11 boiler): Introduce the HAP emission stream into the flame zone. | No monitoring required. LVHC burner is located in the flame zone. Safety interlocks prevent introducing LVHC to the kiln unless a flame is present. | 40 CFR 63.443(d)(4) |

| PULPING CONDENSATES SYSTEM | | | | |
|-----------------------------------|--|---|---|---|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| A.30 | Kraft Pulping Condensates HAPs: Closed Drain Collection System | Pulping process condensates collected for purposes of meeting the HAP collection and control requirements of 40 CFR 63.446 shall be conveyed in a closed collection system that is designed and operated to meet the requirements specified in 40 CFR 63.446(d)(1)&(2). (No detectable leaks or visible defects, and timely repairs if leaks or defects found). | Monthly visual inspection of closed collections systems and associated closed vent collection systems. Annual leak testing of condensate collection tanks by the procedures specified in 40 CFR 63.457(d) to demonstrate no detectable leaks. | 40 CFR 63.446(d) for closed collection system requirements; 40 CFR 63.453(1) for monthly inspection, annual leak testing and corrective action requirements; 40 CFR Part 63 Subpart RR (63.960 to 63.966) for closed collection system design, monitoring and timely repair requirements. |

Bleaching System

40 CFR Part 63 requirements are cited in this permit, as applicable. WAC 173-400-075(5) incorporates 40 CFR Part 63 (MACT) by reference.

| BLEACHING SYSTEM | | | | |
|-------------------------|---|--|---|--------------------------------|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| A.31 | Chlorinated HAPs (not including chloroform): General | <p>All equipment at each bleaching stage where chlorinated compounds are introduced (D1 & D2 bleaching stages) shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements of 40 CFR 63.445(c).</p> <p>Process modifications have been used to achieve compliance with the emission limit specified in 40 CFR 63.445(c)(2) at the D1 and D2 diffusion washer roof hatch openings, and the requirements for enclosures and closed-vent systems are not applicable to emissions from these openings.</p> | Record all periods during which bleach plant vent gases were not collected and treated each month. Report periods of such nontreatment monthly. | 40 CFR 63.445(b) |

| BLEACHING SYSTEM | | | | |
|-------------------------|---|---|--|--|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| A.32 | Chlorinated HAPs: Scrubber to achieve 10 ppm Cl ₂ | Treat bleach plant vent gases to achieve a scrubber outlet concentration of 10 parts per million or less by volume, measured as chlorine. | <p>Operation of the scrubber outside the range established for operating parameter values shall constitute a violation of the applicable emission standard, and shall be reported as excess emissions in the monthly report. (Note: Scrubber operating parameter ranges are described in subsequent applicable requirements.)</p> <p>Conduct repeat performance test at five-year intervals for emission sources subject to the limitations in 63.443, 63.444, and 63.445. The first of the five-year repeat tests must be conducted by September 7, 2015, and thereafter within 60 months from the date of the previous performance test.</p> | <p>40 CFR 63.445(c)(2) for HAPs limit; 40 CFR 63.453(o) for definition of violation and excess emissions.</p> <p>40 CFR 63.457(a)(1) and (2)</p> |
| A.33a | Chlorinated HAPs: Scrubber Operation (ORP control mode) | Scrubber medium ORP: -200 mV maximum, 3-hour block average. | Continuously monitor scrubber liquor Oxidation Reduction Potential (ORP) on liquor recirculation line as a performance indicator. If scrubbing medium ORP maximum operating parameter is not maintained, based on a three-hour block average, Permittee will initiate corrective action within 24 hours. Report deviations in the monthly report. | <p>40 CFR 63.453(m) for alternate operating parameter</p> <p>(alternate to 40 CFR 63.453(c)(1))</p> |

| BLEACHING SYSTEM | | | | |
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| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| A.33b | Chlorinated HAPs: Scrubber Operation (Ep Filtrate pH control mode) | Scrubber medium pH 9.0 minimum, 3-hour block average. | Continuously monitor pH of Ep filtrate supply to scrubber as a performance indicator. If Ep filtrate pH operating parameter is not maintained, based on a three-hour block average, Permittee will initiate corrective action within 24 hours. Report deviations in the monthly report. | 40 CFR 63.453(m) for alternate operating parameter. (Alternate to 40 CFR 63.453(c)(1); Ecology Order No. 7414. |
| A.34 | Chlorinated HAPs: Scrubber Operation | Scrubber liquid minimum flow rate: 150 gpm, 3-hour block average. | Continuously monitor scrubber liquid influent flow rate to the scrubber as a performance indicator. If scrubber liquid flow falls below the minimum established flow rate based on a three-hour block average, Permittee will initiate corrective action within 24 hours. Report deviations only in the monthly report. | 40 CFR 63.453(c)(2) |
| A.35 | Chlorinated HAPs: Scrubber Operation | Scrubber fan operation required as an indicator of scrubber gas inlet flow. | Monitor scrubber fan motor function continuously as a performance indicator. If fan motor ceases operation as indicated by motor function based on a three-hour block average, Permittee will initiate corrective action within 24 hours. Report only excursions in the monthly report. | 40 CFR 63.453(m) for alternate operating parameter. |

| BLEACHING SYSTEM | | | | |
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| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| A.36 | Chlorinated HAPs: Closed Vent Collection | No visible defects in enclosure openings and closed vent system components for D1 and D2 bleaching stages (does not apply to D1 and D2 bleach tower roof hatch openings which use process modifications to meet the HAP emissions standard). | Perform monthly visual inspection of each enclosure opening and closed-vent system for D1 and D2 bleaching stages, as specified in 40 CFR 63.453(k)(1) & (2). Inspection of each enclosure opening is to ensure that the opening is maintained in the closed position and sealed. The visual inspection of closed vent systems shall include inspection of ductwork, piping, enclosures, and connections to covers for visible evidence of defects. | 40 CFR 63.453(k)(1) & (2) for monthly visual inspection of enclosures and closed vent system components. |
| A.37 | Chlorinated HAPs: Closed Vent Collection | Annually demonstrate no detectable leaks from the portions of the closed vent collection system for D1 and D2 bleaching stages that are operated at positive pressure, by the procedures of 40 CFR 63.457(d), (i.e., no leaks >500 ppm VOC). | There are no positive pressure portions in the closed vent collection system; therefore, no annual testing is required. | 40 CFR 63.453(k)(3) for annual leak testing requirement. |
| A.38 | Chlorinated HAPs: Closed Vent Collection | Demonstrate annually that each enclosure opening used to comply with the closed-vent standards for D1 and D2 bleaching stages is maintained at negative pressure. | Annual demonstration that each enclosure opening used to comply with 40 CFR 63.450(a) is maintained at negative pressure as specified in 40 CFR 63.457(e). (Note: There are no such enclosure openings for D1 and D2 stages. The towers are not subject to the closed vent standards and the filtrate tanks have no openings.) | 40 CFR 63.453(k)(4) for annual testing. |

| BLEACHING SYSTEM | | | | |
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| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| A.39 | Chlorinated HAPs: Closed Vent Collection | Timely repair of closed vent system leaks and defects found during monthly inspections or annual testing. | <p>If an inspection identifies visible defects or if enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken. Make a first effort to repair or correct the closed vent system as soon as practicable, but no later than five calendar days after the problem has been identified.</p> <p>Complete the repair or corrective action no later than 15 days after the problem is identified. Delay of repair or corrective action is allowed if the repair or corrective action is technically infeasible without a process unit shutdown, or if it is determined that the emissions resulting from the immediate repair would be greater than the emission likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process shutdown.</p> | <p>40 CFR 63.453(k)(6) for corrective action.</p> <p>40 CFR 63.453(b) & (c) for operating requirements.</p> |
| A.40 | HAPs (chloroform) | Comply with the effluent limitations guidelines for paper-grade Kraft and soda bleaching systems and lines, 40 CFR 63.430.24(a)(1) and (e), and 40 CFR 63.430.26(a) and (c). | Chloroform monitoring as required by NPDES Permit Number WA0000124. | 40 CFR 63.445(d)(1)(ii) |

General Requirements of 40 CFR Part 63, Subpart S

The following 40 CFR Part 63, Subpart S requirements apply to the emission units in Section A (Kraft Mill) of the AOP. WAC 173-400-075(5) incorporates 40 CFR Part 63 (MACT) by reference.

| | Parameter | | Applicable Requirements |
|------|---------------------------|--|--------------------------------|
| A.41 | Operation and Maintenance | At all times, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. | 40 CFR 63.453(q) |
| A.42 | Reporting | If a malfunction occurred during the reporting period, the report must include the number, duration and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with Condition A.41 above, including actions taken to correct a malfunction. | 40 CFR 63.455(g) |
| A.43 | Affirmative Defense | In response to an action to enforce the standards set forth in §§63.443(c), (d), 63.444(b), (c), 63.445(b), (c), 63.446(c), (d), and (e), 63.447(b) or §63.450(d), the owner or operator may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at 40 CFR 63.2. Appropriate penalties may be assessed, however, if the owner or operator fails to meet the burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief. | 40 CFR 63.456 |
| A.44 | Recordkeeping | Maintain files of all information (including all reports and notifications) required by 40 CFR Part 63 Subpart S in a form suitable and readily available for inspection for at least five years following the date of each occurrence, measurement, corrective action, report, or record. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche. | 40 CFR 63.10(b)(1) |

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| A.45 | Excess Emission and Continuous Monitoring System Performance Reports | Semiannual NESHAP Subpart S excess emissions and continuous monitoring performance reports shall be submitted within 30 days following the end of each semiannual period. | 40 CFR 63.10(e)(3) and WAC 173-401-615(3) |
|------|--|---|---|

B. HOGGED FUEL BOILER NO. 11

| HOGGED FUEL BOILER NO. 11 | | | | |
|----------------------------------|------------------|---|---|---|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| B.1 | Particulate | 0.05 gr/dscf @ 7% O ₂ . | EPA RM 5 is the reference test method. Sample quarterly using EPA RM 5. (Note: The particulate emission limit is only applicable to the filterable emissions, i.e. front half catch.) Report test results in a monthly report within 60 days of performance testing; no later than the monthly report for the month subsequent to sampling. | WAC 173-400-091 for particulate limit implemented through Order DE 94AQ-I080. BART Compliance Order #7840 for particulate limit. |
| B.2a | Particulate | 0.2 gr/dscf @ 7% O ₂ . | EPA RM 5 is the reference test method. Sample quarterly ¹ using EPA RM 5. Report test results in a monthly report within 60 days of performance testing; no later than the monthly report for the month subsequent to sampling. | WAC 173-405-040(5)(a) |
| B.2b | Particulate | 0.10 lb per MMBtu. | EPA RM 5 is the reference test method. Compliance demonstrated by monitoring specified in Condition B.2a. Keep records of type and quantity of fuels used. | 40 CFR 60.42(a)(1) |
| B.2c | Particulate | Opacity ≤ 20% except for one 6-minute period per hour of not more than 27%. | Reference Test Method is EPA RM Method 9. Monitor continuously using a COM that conforms to 40 CFR Part 60 (July 1, 1992), App. F and App. B, Perf. Spec. 1. Report exceedances monthly. | 40 CFR 60.42(a)(2) |

| HOGGED FUEL BOILER NO. 11 | | | | |
|----------------------------------|------------------|---|---|---|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| B.3 | Opacity | Average 20% for more than 6 consecutive minutes in any 1-hour period, except for emissions due to soot blowing or grate cleaning for up to 15 minutes in 8 consecutive hours. | EPA RM 9 is the reference test method. Monitor continuously using an approved COM. Report excursions monthly. Maintain COM in accordance with 40 CFR 60.13(d). | WAC 173-405-040(6) for opacity limit. 40 CFR Part 64 (CAM) |
| B.4 | SO ₂ | 1000 ppm @ 7% O ₂ , hourly average. | Reference Test Method is EPA RM 6. Ongoing compliance indicated by maintaining fuel oil sulfur content less than or equal to 2%. Record of sulfur content of each shipment will be maintained. | WAC 173-405-040(11)(b) |
| B.5 | SO ₂ | 0.80 lb per MMBtu (derived from liquid fossil fuel or liquid fossil fuel and wood residue). | Reference Test Method is EPA RM 6. Monitor continuously using a CEM that conforms to 40 CFR Part 60 (July 1, 1992), App. F and App. B, Perf. Spec. 2 or by fuel sampling and analysis as allowed by 40 CFR 60.45(b)(2). Excess emissions are defined as any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceeds the applicable standard. Keep records of type and quantity of fuels used. Report excess emissions monthly and in the semi-annual "excess emission and monitoring system performance" report required by the NSPS General Requirement section. | 40 CFR 60.43(a)(1) 40 CFR 60.45(g)(3) for excess emission definition 40 CFR 60.7(c) for excess emission reporting |

HOGGED FUEL BOILER NO. 11

| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
|-----|------------------|---|--|--|
| B.6 | SO ₂ | 1.2 lb per MMBtu (derived from solid fossil fuel or solid fossil fuel and wood residue). | <p>Reference Test Method is EPA RM 6. Monitor continuously using a CEM that conforms to 40 CFR Part 60 (July 1, 1992), App. F and App. B, Perf. Spec. 2 or by fuel sampling and analysis as allowed by 40 CFR 60.45(b)(2). Excess emissions are defined as any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceeds the applicable standard.</p> <p>Keep records of type and quantity of fuels used. Report excess emissions monthly and in the semi-annual “excess emission and monitoring system performance” report required by the NSPS General Requirement section.</p> | <p>40 CFR 60.43(a)(2)</p> <p>40 CFR 60.45(g)(3) for excess emission definition</p> <p>40 CFR 60.7(c) for excess emission reporting</p> |
| B.7 | SO ₂ | $(0.8y + 1.2z) / (y + z)$ lb per MMBtu. (Derived from burning a mixture of liquid and solid fossil fuel). | <p>Reference Test Method is EPA RM 6. Monitor continuously using a CEM that conforms to 40 CFR Part 60 (July 1, 1992), App. F and App. B, Perf. Spec. 2 or by fuel sampling and analysis as allowed by 40 CFR 60.45(b)(2). Excess emissions are defined as any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceeds the applicable standard.</p> <p>Keep records of type and quantity of fuels used. Report excess emissions monthly and in the semi-annual “excess emission and monitoring system performance” report required by the NSPS General Requirement section.</p> | <p>40 CFR 60.43(b) which also defines the variables y and z.</p> <p>40 CFR 60.45(g)(3) for excess emission definition</p> <p>40 CFR 60.7(c) for excess emission reporting</p> <p>BART Compliance Order #7840 for sulfur dioxide limit.</p> |

HOGGED FUEL BOILER NO. 11

| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
|-----|------------------|---|---|---|
| B.8 | NOx | 0.30 lb per MMBtu (derived from liquid fossil fuel or liquid fossil fuel and wood residue). | Reference Test Method is EPA RM 7. Monitor continuously using a continuous monitoring system that conforms to 40 CFR Part 60 (July 1, 1992), App. F and App. B, Perf. Spec. 2 if required per 40 CFR 60.45(b)(3). Excess emissions are defined as any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceeds the applicable standard. Keep records of type and quantity of fuels used. Report excess emissions monthly and in the semi-annual “excess emission and monitoring system performance” report required by the NSPS General Requirement section. | 40 CFR 60.44(a)(2) 40 CFR 60.45(g)(3) for excess emission definition 40 CFR 60.7(c) for excess emission reporting |
| B.9 | NOx | 0.70 lb per MMBtu (derived from solid fossil fuel or solid fossil fuel and wood residue). | Reference Test Method is EPA RM 7. Monitor continuously using a continuous monitoring system that conforms to 40 CFR Part 60 (July 1, 1992), App. F and App. B, Perf. Spec. 2 if required per 40 CFR 60.45(b)(3). Excess emissions are defined as any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceeds the applicable standard. Keep records of type and quantity of fuels used. Report excess emissions monthly and in the semi-annual “excess emission and monitoring system performance” report required by the NSPS General Requirement section. | 40 CFR 60.44(a)(3) 40 CFR 60.45(g)(3) for excess emission definition 40 CFR 60.7(c) for excess emission reporting |

HOGGED FUEL BOILER NO. 11

| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
|------|------------------|---|---|--|
| B.10 | NOx | (0.30x + 0.70y)/(x + y) lb per MMBtu (derived from solid fossil fuel, liquid fossil fuel and wood residue). | Reference Test Method is EPA RM 7. Monitor continuously using a continuous monitoring system that conforms to 40 CFR Part 60 (July 1, 1992), App. F and App. B, Perf. Spec. 2 if required per 40 CFR 60.45(b)(3). Excess emissions are defined as any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceeds the applicable standard. Keep records of type and quantity of fuels used. Report excess emissions monthly and in the semi-annual “excess emission and monitoring system performance” report required by the NSPS General Requirement section. | 40 CFR 60.44(b) which also defines the variables y and z. 40 CFR 60.45(g)(3) for excess emission definition 40 CFR 60.7(c) for excess emission reporting BART Compliance Order #7840 for nitrogen dioxides limit. |

1. If monitored emissions are less than or equal to 50% of the emission limitation for any four consecutive quarters, emissions may be monitored annually. Annual tests must be conducted no longer than 8 to 14 months after the previous test. If monitored emissions exceed the 50% threshold for reduced monitoring frequency, emissions must be monitored quarterly for at least four consecutive quarters before qualifying again for reduced monitoring frequency.

The specific implementation of the Boiler MACT regulations presented in this permit (B.11 through B.25) reflect the regulations in place at the time of permit issuance. It is the responsibility of the Permittee to be informed of any changes to the underlying requirements. As stated in the *Legal Introduction and Authority* section of this permit, “Any conflict between the Permit and an underlying requirement that is not acknowledged in this Permit or its support document, nor is addressed in past orders or permits referenced in this Permit or its support document, will be resolved by referring to the underlying requirement.”

| HOGGED FUEL BOILER NO. 11 | | | | |
|----------------------------------|------------------------|---|--|--|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| B.11 | CO (Emission Limit) | 1500 ppm by volume on a dry basis; corrected to 3% oxygen (3-run average) | <p>Reference Test Method is EPA RM 10. Use a measurement span value 2 times the concentration of the applicable emission limit.</p> <p>Conduct tests annually, no more than 13 months after the previous performance test. If performance tests for at least 2 consecutive years show that emissions are at or below 75 percent of the emission limit and there are no changes in the operation of the boiler, performance tests may be performed every third year.</p> <p>Notification of Intent to conduct a performance test must be provided to the Administrator 60 days before the performance test is scheduled to begin.</p> <p>Report results within 60 days after completion of the performance test.</p> <p>Operating limit (Condition B.12) must be confirmed or reestablished during performance tests.</p> <p>Develop site-specific test plan.</p> | <p>40 CFR 63.7500(a)(1) and Table 2 (Item 7a) for emission limit</p> <p>40 CFR 63.7515(a) and (b) for testing frequency</p> <p>40 CFR 63.7545(d) for performance test notification</p> <p>40 CFR 63.7515(f) and 63.7550 for reporting</p> <p>40 CFR 63.7520 and Table 5 (Item 5) for performance testing requirements</p> <p>40 CFR 63.7540(a)(1) and Table 7 (footnote a) for operating limit confirmation/reestablishment</p> <p>40 CFR 63.7520(a) for site-specific test plan requirement</p> |

| HOGGED FUEL BOILER NO. 11 | | | | |
|----------------------------------|-----------------------------------|---|---|---|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| B.12 | CO (Operating Limit) | Maintain the 30-day rolling average oxygen content at or above the lowest hourly average oxygen concentration measured during the CO performance test | Continuously monitor the oxygen content using an oxygen analyzer system according to 40 CFR 63.7525(a). Compliance reporting in accordance with 40 CFR 63.7550. | 40 CFR 63.7525(a) 40 CFR 63.7540 and Table 8 (Item 9) for monitoring requirements 40 CFR 63.7500(a)(2) and Table 4 (Item 8) for operating limit 40 CFR 63.7520 and Table 7 (Item 4) for establishing operating limit 40 CFR 63.7550 and Table 9 for reporting |
| B.13 | Filterable PM (Emission Limit) | 3.7 E-02 lb per MMBtu of heat input | Reference Test Method is EPA RM 5. Conduct tests annually, no more than 13 months after the previous performance test. If performance tests for at least 2 consecutive years show that emissions are at or below 75 percent of the emission limit and there are no changes in the operation of the boiler, performance tests may be performed every third year. Notification of Intent to conduct a performance test must be provided to the Administrator 60 days before the performance test is scheduled to begin. Report results within 60 days after completion of the performance test. Operating limit (Condition B.14) must be confirmed or reestablished during performance tests. Develop site-specific test plan. | 40 CFR 63.7500(a)(1) and Table 2 (Item 7b) for emission limit 40 CFR 63.7515(a) and (b) for testing frequency 40 CFR 63.7545(d) for performance test notification 40 CFR 63.7515(f) and 63.7550(h)(1) for reporting 40 CFR 63.7520 and Table 5 (Item 1) for performance testing requirements 40 CFR 63.7540(a)(1) and Table 7 (footnote a) for operating limit confirmation/reestablishment 40 CFR 63.7520(a) for site-specific test plan requirement |

| HOGGED FUEL BOILER NO. 11 | | | | |
|----------------------------------|---|--|--|--|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| B.14 | Filterable PM, Mercury (Operating Limit) | Opacity ≤ 10 percent or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM emission limit (daily block average) | Collect opacity monitoring system data with a COMS according to 40 CFR 63.7525(c) and 63.7535. Permittee must develop a site-specific monitoring plan. Compliance reporting in accordance with 40 CFR 63.7550. | 40 CFR 63.7525(c) for COMS installation, operation, certification, and maintenance requirements 40 CFR 63.7535 for monitoring data collection requirements 40 CFR 63.7540 and Table 8 (Item 1) for monitoring requirements 40 CFR 63.7500(a)(2) and Table 4 (Item 4.a) for operating limit 40 CFR 63.7520 and Table 7 (Item 1.c) for establishing operating limit 40 CFR 63.7505(d) for site-specific monitoring plan 40 CFR 63.7550 and Table 9 for reporting |

| HOGGED FUEL BOILER NO. 11 | | | | |
|----------------------------------|-------------------------|---|--|--|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| B.15 | HCl (Emission Limit) | 2.2 E-02 lb per MMBtu of heat input | <p>Reference Test Method is EPA RM 26 or 26A.</p> <p>Conduct tests annually, no more than 13 months after the previous performance test. If performance tests for at least 2 consecutive years show that emissions are at or below 75 percent of the emission limit and there are no changes in the operation of the boiler, performance tests may be performed every third year.</p> <p>In accordance with 40 CFR 63.7525(l)(8), the Permittee is allowed to substitute the use of a SO₂ CEMS for the annual HCl performance test if using dry sorbent injection control technology to comply with the HCl emission limit.</p> <p>Notification of Intent to conduct a performance test must be provided to the Administrator 60 days before the performance test is scheduled to begin.</p> <p>Report results within 60 days after completion of the performance test.</p> <p>Operating limit (Condition B.16) must be confirmed or reestablished during performance tests.</p> <p>Develop site-specific test and fuel monitoring plans.</p> | <p>40 CFR 63.7500(a)(1) and Table 2 (Item 1a) for emission limit</p> <p>40 CFR 63.7515(a) and (b) for testing frequency</p> <p>40 CFR 63.7545(d) for performance test notification</p> <p>40 CFR 63.7515(f) and 63.7550 for reporting</p> <p>40 CFR 63.7520 and Table 5 (Item 3) for performance testing requirements</p> <p>40 CFR 63.7540(a)(1) and Table 7 (footnote a) for operating limit confirmation/reestablishment</p> <p>40 CFR 63.7520(a) for site-specific test plan requirement</p> <p>40 CFR 63.7521(b) for site-specific fuel monitoring plan</p> <p>40 CFR 63.7525(l)(8) for SO₂ CEMS alternative</p> |

| HOGGED FUEL BOILER NO. 11 | | | | |
|----------------------------------|--------------------------|---|--|---|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| B.16 | HCl (Operating Limit) | Maintain a 30-day rolling average SO ₂ emission rate at or below the highest hourly average SO ₂ concentration measured during the HCl performance test | Continuously monitor SO ₂ using an SO ₂ CEMS according to 40 CFR 63.7525(m) and 63.7535. Permittee must develop a site-specific monitoring plan. Compliance reporting in accordance with 40 CFR 63.7550. | 40 CFR 63.7525(m) 40 CFR 63.7535 for monitoring data collection requirements 40 CFR 63.7540 and Table 8 (Item 11) for monitoring requirements 40 CFR 63.7500(a)(2) and Table 4 (Item 9) for operating limit 40 CFR 63.7520 and Table 7 (Item 2.c) for establishing operating limit 40 CFR 63.7505(d) for site-specific monitoring plan 40 CFR 63.7550 and Table 9 for reporting |

| HOGGED FUEL BOILER NO. 11 | | | | |
|----------------------------------|-----------------------------|---|---|--|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| B.17 | Mercury (Emission Limit) | 5.7 E-06 lb per MMBtu of heat input | <p>Reference Test Method is EPA RM 29, 30A, 30B, or alternate method listed in 40 CFR Part 63 Subpart DDDDD Table 5, Item 4e.</p> <p>Conduct tests annually, no more than 13 months after the previous performance test. If performance tests for at least 2 consecutive years show that emissions are at or below 75 percent of the emission limit and there are no changes in the operation of the boiler, performance tests may be performed every third year.</p> <p>Notification of Intent to conduct a performance test must be provided to the Administrator 60 days before the performance test is scheduled to begin.</p> <p>Report within 60 days after completion of the performance test.</p> <p>Operating limit (Condition B.18) must be confirmed or reestablished during performance tests.</p> <p>Develop site-specific test and fuel monitoring plans.</p> | <p>40 CFR 63.7500(a)(1) and Table 2 (Item 1b) for emission limit</p> <p>40 CFR 63.7515(a) and (b) for testing frequency</p> <p>40 CFR 63.7545(d) for performance test notification</p> <p>40 CFR 63.7515(f) and 63.7550 for reporting</p> <p>40 CFR 63.7520 and Table 5 (Item 4) for performance testing requirements</p> <p>40 CFR 63.7540(a)(1) and Table 7 (footnote a) for operating limit confirmation/reestablishment</p> <p>40 CFR 63.7520(a) for site-specific test plan requirement</p> <p>40 CFR 63.7521(b) for site-specific fuel monitoring plan</p> |

HOGGED FUEL BOILER NO. 11

| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
|------|---|--|---|--|
| B.18 | HCl, Mercury (Operating Limit) | Equal to or lower fuel input of chlorine and mercury than the maximum values calculated during the most recent performance test | <p>Keep records of monthly fuel use, including type(s) of fuel and amount(s) used.</p> <p>Maintain a copy of all calculations and supporting documentation for maximum chlorine and mercury fuel input.</p> <p>Any plans to burn a new fuel or new mixture of fuels require that the maximum chlorine and/or mercury input be recalculated. If the maximum recalculated chlorine/mercury input are greater than the maximum input levels established during the previous performance test, a new performance test must be conducted within 60 days of burning the new fuel type or fuel mixture.</p> <p>Compliance reporting in accordance with 40 CFR 63.7550.</p> | <p>40 CFR 63.7540(a)(2)(ii) for continuous compliance demonstration</p> <p>40 CFR 63.7555(d) for recordkeeping</p> <p>40 CFR 63.7540(a)(4) and (6) for new fuel recalculation</p> <p>40 CFR 63.7550 for reporting</p> |
| B.19 | Any pollutant for which compliance is demonstrated by a performance test (Operating Limit) | Maintain 30-day rolling average operating load \leq highest hourly average operating load recorded during the performance test | <p>Collect operating load data or steam generation data every 15 minutes. Reduce the data to 30-day rolling averages.</p> <p>Compliance reporting in accordance with 40 CFR 63.7550.</p> | <p>40 CFR 63.7500(a)(2) and Table 4 (Item 7) for operating limit</p> <p>40 CFR 63.7520 and Table 7 (Item 5) for establishing operating limit; Table 7 (footnote a) for operating limit confirmation/reestablishment</p> <p>40 CFR 63.7540 and Table 8 (Item 10) for boiler operating load data collection requirements</p> <p>40 CFR 63.7550 for reporting</p> |

| HOGGED FUEL BOILER NO. 11 | | | | |
|----------------------------------|--|--|---|--|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| B.20 | Dioxins and Furans (Work Practice Standard) | Annual Tune-up | Conduct an initial tune-up of the boiler by the compliance date (January 31, 2016). Subsequent tune-ups must be performed annually as specified by the applicable frequency in 40 CFR 63.7540(a)(10) and Table 3. Report in accordance with 40 CFR 63.7550. | 40 CFR 63.7510(e) for initial tune-up 40 CFR 63.7540(a)(10) and Table 3 (Item 3) for annual tune-ups |
| B.21 | Work Practice Standard | One-time Energy Assessment | Perform a one-time energy assessment conducted by a qualified energy assessor. | 40 CFR 63.7500 and Table 3 (Item 4) for energy assessment requirements |
| B.22 | Startup (Work Practice Standard) | The Permittee must comply with all applicable emission limits at all times except for startup periods conforming with this work practice standard. | All CMS must be operated during startup. Must use one or a combination of clean fuels as listed in Table 3 (Item 5.b). Once firing non-clean fuels during startup, emission must be vented to the main stack(s) and all emission control devices must be engaged. Monitoring data must be collected during startup, as specified in 40 CFR 63.7535(b). Records must be kept during periods of startup as specified in 40 CFR 63.7555. Reporting in accordance with 40 CFR 63.7550. | 40 CFR 63.7500(f) and Table 3 (Item 5) 40 CFR 63.7535(b) for monitoring requirements 40 CFR 63.7555(d)(9) and (10) for recordkeeping 40 CFR 63.7550 for reporting 40 CFR 63.7575 for definition of startup |

| HOGGED FUEL BOILER NO. 11 | | | | |
|----------------------------------|--|---|---|--|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| B.23 | Shutdown (Work Practice Standard) | The Permittee must comply with all applicable emission limits at all times except for shutdown periods conforming with this work practice standard. | All CMS must be operated during shutdown. While firing non-clean fuels during shutdown, emission must be vented to the main stack(s) and all emission control devices must be engaged. Monitoring data must be collected during shutdown, as specified in 40 CFR 63.7535(b). Records must be kept during periods of shutdown as specified in 40 CFR 63.7555. Reporting in accordance with 40 CFR 63.7550. | 40 CFR 63.7500(f) and Table 3 (Item 6) 40 CFR 63.7535(b) for monitoring requirements 40 CFR 63.7555(d)(9) and (10) for recordkeeping 40 CFR 63.7550 for reporting 40 CFR 63.7575 for definition of startup |
| B.24 | Semi-annual compliance report containing the required elements in 40 CFR 63.7550(c), (d), and (e) must be submitted to the EPA via the CEDRI and to the permitting authority. Semi-annual compliance reports must cover the semi-annual reporting period from January 1 through June 30 and the semi-annual reporting period from July 1 through December 31. Each semi-annual compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. | | | 40 CFR 63.7550 and Table 9 for reporting |
| B.25 | If the Permittee has switched fuels or made a physical change to the boiler or process heater and the fuel switch or physical change resulted in the applicability of a different subcategory, the Permittee must provide notice of the date upon which it switched fuels or made the physical change within 30 days of the switch/change. | | | 40 CFR 63.7545(h) |

C. POWER BOILERS 6, 7, 9

| POWER BOILERS 6, 7, 9 | | | | |
|------------------------------|------------------|--|--|--------------------------------|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| C.1 | Particulate | 0.1 gr/dscf @ 7% O ₂ | Reference Test Method is EPA RM 5. Maintain records of type of fuel usage. | WAC 173-405-040(5)(c) |
| C.2 | Opacity | 20% for more than 6 consecutive minutes in any 60 minute period except for soot blowing per WAC 173-405-040(6). | Reference Test Method is EPA RM Method 9. No ongoing monitoring or reporting required. | WAC 173-405-040(6) |
| C.3 | SO ₂ | 1000 ppm @ 7% O ₂ hourly average. | Reference Test Method is EPA RM 6. No ongoing monitoring or reporting required. | WAC 173-405-040(11) |

The specific implementation of the Boiler MACT regulations presented in this permit (C.4 through C.7) reflect the regulations in place at the time of permit issuance. It is the responsibility of the Permittee to be informed of any changes to the underlying requirements. As stated in the *Legal Introduction and Authority* section of this permit, “Any conflict between the Permit and an underlying requirement that is not acknowledged in this Permit or its support document, nor is addressed in past orders or permits referenced in this Permit or its support document, will be resolved by referring to the underlying requirement.”

| POWER BOILERS 6, 7, 9 | | | | |
|------------------------------|--|------------------------------------|---|---|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| C.4 | Dioxins and Furans (Work Practice Standard) | Annual Tune-up | <p>Conduct an initial tune-up of the boiler by the compliance date (January 31, 2016).</p> <p>Subsequent tune-ups must be performed annually as specified by the applicable frequency in 40 CFR 63.7540(a)(10) and Table 3.</p> <p>Alternatively, if an oxygen trim system is utilized for Boilers 6, 7, or 9; the tune-up frequency may be reduced to once every 5 years as per 40 CFR 63.7540(a)(12) and Table 3. When a continuous oxygen trim system is used, set the oxygen level no lower than the oxygen concentration measured during the most recent tune-up. This alternative tune-up frequency will go into effect for a boiler at such time that the Permittee notifies Ecology in writing that an oxygen trim system is in operation for that boiler.</p> <p>Report in accordance with 40 CFR 63.7550.</p> | <p>40 CFR 63.7510(e) for initial tune-up</p> <p>40 CFR 63.7540(a)(10) and Table 3 (Item 3) for annual tune-ups</p> <p>40 CFR 63.7540(a)(12) for alternative tune-up frequency</p> |
| C.5 | Work Practice Standard | One-time Energy Assessment | Perform a one-time energy assessment conducted by a qualified energy assessor. | 40 CFR 63.7500 and Table 3 (Item 4) for energy assessment requirements |
| C.6 | Semi-annual compliance report containing the required elements in 40 CFR 63.7550(c), (d), and (e) must be submitted to the EPA via the CEDRI and to the permitting authority. Semi-annual compliance reports must cover the semi-annual reporting period from January 1 through June 30 and the semi-annual reporting period from July 1 through December 31. Each semi-annual compliance report must be postmarked or submitted no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. | | | 40 CFR 63.7550 and Table 9 for reporting |

| POWER BOILERS 6, 7, 9 | | | | |
|------------------------------|--|------------------------------------|-----------------------------------|--------------------------------|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| C.7 | If the Permittee has switched fuels or made a physical change to the boiler or process heater and the fuel switch or physical change resulted in the applicability of a different subcategory, the Permittee must provide notice of the date upon which it switched fuels or made the physical change within 30 days of the switch/change. | | | 40 CFR 63.7545(h) |

D. RECOVERY FURNACE NO. 10 (AS MEASURED IN THE MAIN STACK)

| RECOVERY FURNACE NO. 10 | | | | |
|--------------------------------|------------------------------|---|--|---|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| D.1 | PM | 0.027 gr/dscf @ 8% O ₂ . | <p>Sample quarterly¹ using reference test method DOE Method 5.</p> <p>Report average of three 1-hour runs in a monthly report within 60 days of performance testing; no later than the monthly report for the month subsequent to sampling.</p> <p>The Permittee shall comply with Condition D.9 for continuous compliance assurance monitoring.</p> | PSD92-03 Amendment 4 Condition 2; Order DE 92 AQ-I069 for particulate limit. |
| D.2 | HAP Metals (PM as surrogate) | 0.044 gr/dscf at 8% O ₂ . | <p>Reference Test Method is EPA RM 5.</p> <p>Periodic performance testing must be completed at five-year intervals. The initial performance test must be conducted by October 13, 2020. Performance testing shall be conducted based on representative performance.</p> <p>Report the results of the five-year interval periodic performance test through CEDRI within 60 days after completing each performance test.</p> | <p>40 CFR 63.862(a)(1)(i)(A) for PM surrogate HAP limit.</p> <p>40 CFR 63.863(c)(1) for compliance dates.</p> <p>40 CFR 63.865 for performance test requirements.</p> |
| D.3 | PM | 0.10 gr/dscf @ 8% O ₂ . | <p>Sample quarterly¹ using reference test method DOE Method 5.</p> <p>Report average of three 1-hr runs in a monthly report within 60 days after performance testing; no later than the monthly report for the month subsequent to sampling.</p> | WAC 173-405-040(1) (a) and for particulate limit. |
| D.4 | PM | 0.020 gr/dscf @ 8% O ₂ annually. | The reference method is the averaging of the RM (DOE Method 5) tests. | PSD92-03 Amendment 4 Condition 2 for particulate limit; Order DE 92 AQ-I069. |

RECOVERY FURNACE NO. 10

| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
|------|------------------|---|--|---|
| D.5 | PM | 252 tons per year. | The reference test method is set forth in Appendix C. Report annual emissions in January air report of following year. | PSD92-03 Amendment 4 Condition 2 for particulate limit; Order DE 92 AQ-I069. |
| D.6 | PM ₁₀ | 0.027 gr/dscf @ 8% O ₂ . | Sample quarterly ¹ using reference test method DOE Method 5. Report average of three 1-hr runs monthly. | PSD92-03 Amendment 4 Condition 3; Order DE 92 AQ-I069. |
| D.7 | PM ₁₀ | 0.020 gr/dscf @ 8% O ₂ annually. | The reference method is the averaging of the RM (DOE Method 5) tests. | PSD92-03 Amendment 4 Condition 3; Order DE 92 AQ-I069. BART Compliance Order #7840 for particulate limit. |
| D.8 | PM ₁₀ | 252 tons per year. | The reference test method is set forth in Appendix C. Report annual emissions in January air report of following year. | PSD92-03 Amendment 4 Condition 3; Order DE 92 AQ-I069. |
| D.9 | Opacity | 20% | Reference Test Method is EPA RM Method 9. Monitor continuously using a COM that conforms to 40 CFR Part 60 (July 1, 1992), App. F and App. B, Perf. Spec. 1. Report exceedances monthly (six-minute averaging time). | PSD92-03 Amendment 4 Condition 4; Order DE 92 AQ-I069. 40 CFR Part 64 (CAM) |
| D.10 | Opacity | 35% for six consecutive minutes in any one hour. | Reference Test Method is EPA RM Method 9. See Condition D9 for ongoing monitoring. | WAC 173-405-040(6) for the limit. |
| D.11 | SO ₂ | 75 ppm _{dv} @ 8% O ₂ , 3-hour average (when not using supplemental oil or when using supplemental oil and BLS firing rate ≥ 120,000 lbs/hr.). | The compliance reference test method and ongoing monitoring method is the continuous use of a CEM that conforms to 40 CFR Part. 60 (July 1, 1992), App. F and App. B, Perf. Spec. 2. Report results monthly. | PSD92-03 Amendment 4 Condition 5.1; Order DE 92 AQ I069. BART Compliance Order #7840 for sulfur dioxide limit. |

RECOVERY FURNACE NO. 10

| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
|-------|------------------|---|--|---|
| D.12 | SO ₂ | 500 ppm _{dv} @ 8% O ₂ , 3-hour average (when BLS firing rate < 120,000 lbs/hr and firing supplemental oil). | The compliance reference test method and ongoing monitoring method is the continuous use of a CEM that conforms to 40 CFR Part 60 (July 1, 1992), App. F and App. B, Perf. Spec. 2. Report results monthly. | PSD92-03 Amendment 4 Condition 5.2; Order DE 92 AQ I069. BART Compliance Order #7840 for sulfur dioxide limit. |
| D.13a | SO ₂ | 500 ppm @ 8% O ₂ , hourly avg. | The compliance reference test method and ongoing monitoring method is the continuous use a CEM that conforms to 40 CFR Part 60 (July 1, 1992), App. F and App. B, Perf. Spec. 2. Report results monthly. | WAC 173-405-040(11)(a) |
| D.13b | SO ₂ | 1000 ppm @ 7% O ₂ , hourly avg. (when firing oil only). | Reference Test Method is EPA RM 6. Ongoing compliance indicated by maintaining fuel oil sulfur content less than or equal to 2%. Record of sulfur content of each shipment will be maintained. | WAC 173-405-040(11)(b) |
| D.14 | SO ₂ | 586 tpy + 0.036 tpy for each hr operation of the NCG incinerator. The combined total not to exceed 884 tpy. | The reference test method is set forth in Appendix C. Report annual emissions in January air report of following year. | PSD92-03 Amendment 4 Condition 5. Order DE 92 AQ I069. BART Compliance Order #7840 for sulfur dioxide limit. |
| D.15 | TRS | 5.0 ppm _{dv} @ 8.0% O ₂ 12-hr average. | Reference Test Method is EPA RM 16 or 16A. Ongoing compliance indicated by continuous use of a CEM that conforms to 40 CFR Part 60 (July 1, 1992), App. F and App. B, Perf. Spec. 5. Report results monthly. | PSD92-03 Amendment 4 Condition 6; Order DE 92 AQ I069 WAC 173-405-040(1)(c) |
| D.16 | TRS | 31 tpy | The reference test method is set forth in Appendix C. Report annual emissions in January air report of following year. | PSD92-03 Amendment 4 Condition 6; Order DE 92 AQ I069. |

RECOVERY FURNACE NO. 10

| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
|------|---|--|---|--|
| D.17 | NOx | 140 ppm _{dv} @ 8.0% O ₂ , 24 hr average. | Reference Test Method is EPA RM 7, 7A, 7B, or 7E. Ongoing compliance indicated by continuous use of a CEM that conforms to 40 CFR Part 60 (July 1, 1992), App. F and App. B, Perf. Spec. 2. Report results monthly. | PSD92-03 Amendment 4 Condition 7, Order DE 92 AQ I069. BART Compliance Order #7840 for nitrogen dioxides limit. |
| D.18 | NOx | 1,179 tpy annual average. | The reference test method is set forth in Appendix C. Report annual emissions in January air report of following year. | PSD92-03 Amendment 4 Condition 7; Order DE 92 AQ I069. |
| D.19 | CO | 1,000 ppm _{dv} 1-hr average. | Reference Test Method is EPA RM 10. Initial source testing; no ongoing monitoring required by this permit. | PSD92-03 Amendment 4 Condition 8; Order DE 92 AQ-I069. |
| D.20 | CO | 2,564 tpy | The reference test method is set forth in Appendix C. Initial source testing; no ongoing monitoring required by this permit. | PSD92-03 Amendment 4 Condition 8; Order DE 92 AQ-I069. |
| D.21 | VOC (as propane) | 50 ppm _{dv} , 1-hour average | Reference Test Method is EPA RM 25, 25A, or 25B. Initial source testing; no ongoing monitoring required by this permit. | PSD92-03 Amendment 4 Condition 9; Order DE 92 AQ-I069. |
| D.22 | VOC (as propane) | 201 tpy | Reference Test Method is EPA RM 25, 25A, or 25B. Initial source testing; no ongoing monitoring required by this permit. | PSD92-03 Amendment 4 Condition 9; Order DE 92 AQ-I069. |
| D.23 | Temp. at entrance to No. 10 recovery boiler ESP | ≤ 500 degrees F, hourly average. | Monitored continuously using thermocouple at ESP entrance. Report only exceedances of hourly average in monthly report. | PSD -92-03 Amendment 4 Condition 10; Order 92AQ-I069. |

| RECOVERY FURNACE NO. 10 | | | | |
|--------------------------------|--|---|---|--|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| D.24 | HAP Metals (Using Opacity as surrogate) | Opacity is greater than 35% for 2% or more of the operating time within any semiannual period. | Monitored with Continuous Opacity Monitoring System. Report excursions in the semiannual report. Semiannual excess emissions and continuous monitoring system performance reports shall be submitted within 30 days following the end of each semiannual period. Submit semiannual reports via CEDRI. Semiannual Subpart MM reporting via CEDRI will start with the semiannual period from July 1 to December 31, 2019. | 40 CFR 63.864(k)(2)(i) for NESHAP HAP definition of limit violation. 40 CFR 63.867(c)(1) for report requirement. 40 CFR 63.867(d)(2) for electronic reporting. 40 CFR 63.10(e)(3)(v) for semiannual reporting. 40 CFR 63.8(c)(4) for COMS data recovery. |
| D.25 | Opacity and NESHAPS: Minimum Operating Condition | Implement corrective action if the average of ten consecutive 6-minute averages result in a measurement greater than 20% opacity. | Monitor continuously using a COM that conforms to 40 CFR Part 60 (July 1, 1992), Appendix F and Appendix B, Perf. Spec 1. The Permittee shall operate the continuous opacity monitor as a performance indicator to show continuous operation of the pollution control device. Report corrective actions and performance indicator deviations in the monthly report. | 40 CFR 63.864(k)(1)(i) for corrective action requirement. 40 CFR 63.8(c) for COMS data recovery. |

1. If monitored emissions are less than or equal to 50% of the emission limitation for any four consecutive quarters, emissions may be monitored annually. Annual tests must be conducted no longer than 8 to 14 months after the previous test. If monitored emissions exceed the 50% threshold for reduced monitoring frequency, emissions must be monitored quarterly for at least four consecutive quarters before qualifying again for reduced monitoring frequency.

E. SMELT DISSOLVER TANK VENT

| SMELT DISSOLVER TANK VENT | | | | |
|----------------------------------|------------------------------|---|--|---|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| E.1 | HAP Metals (PM as surrogate) | 0.20 lbs/ton of black liquor solids (dry weight), hourly average. | <p>Periodic performance testing must be completed at five-year intervals. The initial performance test must be conducted by October 13, 2020. Performance tests must be conducted based on representative performance.</p> <p>For the periodic performance tests, use EPA Reference Method 5 as the reference test method. Report the five-year interval periodic performance test results through CEDRI within 60 days following completion of each performance test.</p> <p>See Scrubber Performance Monitoring for continuous monitoring and compliance requirements.</p> | <p>40 CFR 63.862(a)(1)(i)(B) for PM surrogate HAP limit.</p> <p>40 CFR 63.863(c)(1) for compliance dates.</p> <p>40 CFR 63.865 for performance test requirements.</p> |
| E.2 | Reserved | | | |
| E.3a | PM | 0.30 lb/TBLS | <p>Sample quarterly¹ using EPA Reference Method 5 as the reference test method.</p> <p>Report test results in a monthly report within 60 days of performance testing; no later than the monthly report for the month subsequent to sampling.</p> | WAC 173-405-040(2) |

| SMELT DISSOLVER TANK VENT | | | | |
|----------------------------------|------------------|---|--|---|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| E.3b | PM | 0.2 lb/TBLS (dry weight) | <p>Reference Test Method is EPA RM 5.</p> <p>Compliance demonstrated by monitoring specified in Condition E.3a.</p> <p>The Permittee must install a monitoring device for the continuous measurement of pressure loss of the gas stream through the control equipment and scrubbing liquid supply pressure in accordance with 40 CFR 60.284(b)(2).</p> <p>The Permittee must record, once per shift, measurements obtained from continuous monitoring devices required by 40 CFR 60.284(b)(2).</p> | <p>40 CFR 60.282(a)(2) for limit.</p> <p>40 CFR 60.284(b)(2) for continuous monitoring requirements.</p> <p>40 CFR 60.284(c)(4) for recordkeeping requirements.</p> |
| E.4 | PM ₁₀ | 0.120 lb/TBLS | <p>Sample quarterly¹ using EPA Reference Method 5 as the reference test method.</p> <p>Report test results in a monthly report within 60 days of performance testing; no later than the monthly report for the month subsequent to sampling.</p> | <p>PSD92-03 Amendment 4 Condition 14; Order DE 92 AQ-I069 for PM₁₀ limit.</p> <p>BART Compliance Order #7840 for particulate limit.</p> |
| E.5 | PM ₁₀ | 62.0 tons per year | <p>The reference test method is set forth in Appendix C. Report annual emissions in January air report of following year.</p> | <p>PSD 92-03 Amendment 4 Condition 14; Order DE 92 AQ-I069.</p> <p>BART Compliance Order #7840 for particulate limit.</p> |
| E.6 | Opacity | 20% for more than 6 consecutive minutes in any 1-hour period. | EPA Reference Method 9 is the reference test method. | PSD 92-03 Amendment 4 Condition 15; Order DE 92 AQ-I069 for opacity limit. |

| SMELT DISSOLVER TANK VENT | | | | |
|----------------------------------|------------------------|---|--|---|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| E.7 | Opacity | Average 35% for more than 6 consecutive minutes in any 1-hour period. | EPA Reference Method 9 is the reference test method. | WAC 173-405-040(6) |
| E.8a | TRS | 0.0168 lb/TBLS | Sample quarterly ¹ using EPA RM 16 or 16A. Report average of three 1-hour runs in a monthly report within 60 days of performance testing; no later than the monthly report for the month subsequent to sampling. | PSD 92-03 Amendment 4 Condition 16; Order DE 92AQ-I069. |
| E.8b | TRS | 0.033 lb/TBLS as H ₂ S | Reference Test Method is EPA RM 16, 16A, or 16B. Compliance demonstrated by monitoring required by E.8a. | 40 CFR 60.283(a)(4) for limit. |
| E.9 | Black Liquor Feed Rate | Not applicable | Record Black Liquor (TBLS) feed rate. | PSD 92-03 Amendment 4 Condition 16; Order DE 92AQ-I069. |
| E.10 | TRS | 9.0 tpy | The reference test method is set forth in Appendix C. Report annual emissions in January air report of following year. | PSD 92-03 Amendment 4 Condition 16; Order DE 92AQ-I069. |

| SMELT DISSOLVER TANK VENT | | | | |
|----------------------------------|--|---|--|---|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| E.11 | HAP Metals: Scrubber Performance Monitoring | Maintain scrubber liquid makeup flow rate of at least 100 gpm as a three-hour block average; maintain positive scrubber pressure drop (>0" H ₂ O) to assure fan is in operation and dissolver exhaust flow is routed through scrubber. | <p>Continuously monitor pressure drop and scrubber liquid medium makeup flow rate. Record values at least once every 15 minutes at equally spaced intervals, or as arithmetic three-hour block averages. Report excursions in the monthly and semiannual reports.</p> <p>Semiannual excess emissions and continuous monitoring system performance reports shall be submitted within 30 days following the end of each semiannual period. Submit semiannual reports via CEDRI.</p> <p>Semiannual Subpart MM reporting via CEDRI will start with the semiannual period from July 1 to December 31, 2019.</p> | <p>40 CFR 63.864(e)(10) for pressure drop and flow rate monitoring.</p> <p>40 CFR 63.864(k)(2)(iv) for NESHAP HAP definition of limit violation.</p> <p>40 CFR 63.867(c) and 40 CFR 63.10(c) for reporting.</p> <p>40 CFR 63.8(c)(4)(ii) for recording frequency.</p> <p>40 CFR 63.8(g)(2) for monitored data management requirements.</p> <p>CFR 63.8(c)(4) for CMS data recovery.</p> <p>40 CFR 63.867(d)(2) for electronic reporting.</p> <p>40 CFR 63.10(e)(3)(v) for semiannual reporting.</p> |

| SMELT DISSOLVER TANK VENT | | | | |
|----------------------------------|--|--|--|---|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| E.12 | HAP Metals: Scrubber Performance Monitoring | Implement corrective action whenever the three-hour block average parameter value is outside the range of established values. (100 gpm scrubber liquid makeup flow.) | Implement corrective action for any Kraft smelt dissolving tank equipped with a wet scrubber when any three-hour block average parameter value is outside the range of established values. | 40 CFR 63.864(k)(1)(ii) for Corrective Action requirement. |
| E.13 | HAP Metals: Scrubber Performance Monitoring | Five monitoring parameter exceedances in a semiannual reporting period. | Sources equipped with a scrubber shall not have six or more monitoring parameter exceedances in a semiannual reporting period on each unit. A unit exceedance day is a 24-hour period in which one or more monitoring parameter exceedances occur on a specific emission unit. | 40 CFR 63.864(k)(2)(iv) and 40 CFR 63.864(k)(3) for excursion allowance limitation. |

1. If monitored emissions are less than or equal to 50% of the emission limitation for any four consecutive quarters, emissions may be monitored annually. Annual tests must be conducted no longer than 8 to 14 months after the previous test. If monitored emissions exceed the 50% threshold for reduced monitoring frequency, emissions must be monitored quarterly for at least four consecutive quarters before qualifying again for reduced monitoring frequency.

F. NON-CONDENSABLE GAS (NCG) COLLECTION & TREATMENT

| NON-CONDENSABLE GAS (NCG) COLLECTION & TREATMENT | | | | |
|--|--|--|---|--|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| F.1 | Opacity | 20%, 6-minute avg in any 1-hour period. | None because exhaust is vented to RF stack. | WAC 173-405-040(6) |
| F.2 | TRS – High Conc. NCG (Digester; evaporators; foul condensate stripping) | Treat by incineration or its equivalent. | Continuously monitor and record high concentration NCG venting from high concentration NCG header vent to recovery boiler stack (i.e., not being treated in incinerator or kiln). Report times, duration, and causes of venting in monthly air report. | PSD 92-03 Amendment 4 Condition 11, Order DE 92AQ I069 |
| F.3 | TRS – Low Conc. NCG (Chip bin; blow tanks; brownstock press, filtrate tanks; O ₂ delig.; black liquor tanks D-J) | Treat by incineration or its equivalent. | Continuously monitor and record low concentration NCG venting from chip bin, fiberline roof vent, 24" standpipe, and combined LC-NCG vent to recovery boiler stack (i.e., not being treated in incinerator). Report times, duration, and causes of venting in monthly air report. | PSD 92-03 Amendment 4 Condition 11, Order DE 92AQ I069 |
| F.4 | TRS– NCG (All sources listed in F.2 and F.3) | Incinerator performance: 5.0 ppmdv @ 10% O ₂ , 12-hour avg. | Reference Test Method is EPA Method 16 or 16A. Compliance indicated by maintaining 12-hour average combustion temperature at the point of incineration ≥ 1350° F. | PSD 92-03 Amendment 4 Condition 12; Order DE 92AQ I069 |

| NON-CONDENSABLE GAS (NCG) COLLECTION & TREATMENT | | | | |
|---|--|---|---|--|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| F.5 | TRS–NCG, NSPS Units (Digester, flash tanks, blow tanks, brownstock washing, HSC, Foul Condensate Stripper) | Incinerator /Kiln performance while combusting NCG from NSPS units: a. Incinerator combustion temp >1200°F for at least 0.5 seconds. b. Lime Kiln TRS ≤ 8 ppmdv @ 10% O ₂ , 12 hour average (see Section G). | a. Continuously monitor combustion temperature. Excess emissions defined as “all periods in excess of 5 minutes and their duration during which the combustion temperature at the point of incineration is less than 1200°F”. Report time, cause, and duration of excess emission periods monthly. b. Lime Kiln: See Condition G.7 for monitoring requirement. | 40 CFR 60.283(a) (1) (iii) for limit at incinerator. 40 CFR 60.284(b)(1) for temperature monitoring. 40 CFR 60.284(d) for excess emission reporting. Lime Kiln requirements cited in Condition G. |
| F.6 | Reserved | | | |
| F.7 | SO ₂ | 300 ppm @ 7% O ₂ hourly avg. | Reference Test Method is EPA Method 6. Compliance indicated by maintaining hourly average scrubber pH above 6.5. Record pH continuously. Report exceedances monthly. | PSD 92-03 Amendment 4 Condition 13; Order DE 92 AQ I069 |
| F.8 | SO ₂ | 1000 ppm @ 7% O ₂ , hourly avg. | Reference Test Method is EPA Method 6. Compliance indicated by maintaining hourly average scrubber pH above 6.0. Record pH continuously. Report exceedances monthly. | WAC 173-405-040(11)(b) |
| F.9 | The NCG collection and treatment system is subject to the NSPS requirements identified in the stand-alone generic NSPS section of this permit. | | | |

G. LIME KILN

| LIME KILN | | | | |
|------------------|---------------------------------|--|---|--|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| G.1a | PM | 0.035 gr/dscf @ 10% O ₂ (gas fired) 0.07 gr/dscf @ 10% O ₂ oil fired. | Sample quarterly ¹ using reference test method EPA Method 5. Report average of three 1-hour runs in a monthly report within 60 days of performance testing; no later than the monthly report for the month subsequent to sampling. | Order DE 95AQ-I035 for particulate limit. |
| G.1b | HAP Metals (PM as surrogate) | 0.064 gr/dscf @ 10% O ₂ | Reference Test Method is EPA RM 5. Periodic performance testing must be completed at five-year intervals. The initial performance test must be conducted by October 13, 2020. Performance tests shall be conducted based on representative performance. Report the five-year interval periodic performance test results through CEDRI within 60 days following completion of each performance test. | 40 CFR 63.862(a)(1)(i)(C) for PM surrogate HAP limit. 40 CFR 63.863(c)(1) for compliance dates. 40 CFR 63.865 for performance test requirements. |
| G.2a | PM | 0.066 gr/dscf @ 10% O ₂ (gas). 0.13 gr/dscf @ 10% O ₂ (liquid fossil fuel). | Reference Test Method is EPA RM 5. Compliance demonstrated by monitoring required by G.2b. | 40 CFR 60.282(a)(3) |

| LIME KILN | | | | |
|------------------|---------------------|--|---|---|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| G.2b | PM | 0.13 gr/dscf @ 10% O ₂ | <p>Sample quarterly¹ using reference method EPA Method 5.</p> <p>Report average of three 1-hour runs in a monthly report within 60 days of performance testing; no later than the monthly report for the month subsequent to sampling.</p> | <p>WAC-173-405-040(3)(a)</p> <p>40 CFR 64 (CAM)</p> |
| G.3 | Opacity | Average 25% for more than 6 consecutive minutes in any 1-hour period. | <p>EPA Test Method 9 is reference test method. Monitor continuously using a COM that conforms to 40 CFR Part 60 (July 1, 1992), App. B, Perf. Spec. 1. Report exceedances monthly.</p> | <p>Order DE 95AQ-I035</p> |
| G.4 | Opacity and NESHAPS | Opacity is greater than 20% for 3% or more of the operating time within any semiannual period. | <p>Monitored with Continuous Opacity Monitoring System. Report exceedances in the semiannual report.</p> <p>Semiannual excess emissions and continuous monitoring system performance reports shall be submitted within 30 days following the end of each semiannual period. Submit semiannual reports via CEDRI.</p> <p>Semiannual Subpart MM reporting via CEDRI will start with the semiannual period from July 1 to December 31, 2019.</p> | <p>40 CFR 63.864(k)(2)(iii) for NESHAP HAP definition of limit violation.</p> <p>40 CFR 63.867(c)(1) for report requirement.</p> <p>40 CFR 63.867(d)(2) for electronic reporting.</p> <p>40 CFR 63.10(e)(3)(v) for semiannual reporting.</p> <p>40 CFR 63.8(c)(4) for COMs data recovery.</p> <p>40 CFR Part 64 (CAM)</p> |

| LIME KILN | | | | |
|------------------|--|---|---|--|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| G.5 | Opacity and NESHAPS: Minimum Operating Condition | Implement corrective action if the average of ten consecutive 6-minute averages result in a measurement greater than 20% opacity. | Monitor continuously using a COM that conforms to 40 CFR Part 60 (July 1, 1992), Appendix F and Appendix B, Perf. Spec 1. The Permittee shall operate the continuous opacity monitor as a performance indicator to show continuous operation of the pollution control device. Report corrective actions and performance indicator deviations in the monthly report. | 40 CFR 63.864(k)(1)(i) for corrective action trigger. 40 CFR 63.8(c) for COMs data recovery. |
| G.6 | Opacity | Average 35% for more than 6 consecutive minutes in any 1-hour period. | EPA Test Method 9 is reference test method. See Condition G.5 for ongoing monitoring. | WAC 173-405-040(6) |
| G.7 | TRS | 8.0 ppm _{dv} @ 10% O ₂ , 12 hour avg. | EPA Test Method 16 or 16A is reference test method. Monitor continuously using a CEM that conforms to 40 CFR Part 60 (July 1, 1992), App. B, Perf. Spec. 5. Record 12-hour average on a daily basis. Report results monthly. Report semi-annually periods of excess emissions. | DE 95AQ-I035 and 40 CFR 60.283(a) (5) for limit. 40 CFR 60.284(a) (2) for CEM. 40 CFR 60.284(c) (1), (3) for recording and monitoring. 40 CFR 60.284(d) (2) for semi-annual excess emissions reporting. |
| G.8 | O ₂ | Not Applicable | Record 12-hour average on daily basis. | 40 CFR 60.284(c)(2) for monitoring |

| LIME KILN | | | | |
|------------------|---|---|--|--------------------------------|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| G.9a | SO ₂ | 500 ppm @ 10% O ₂ , hourly avg. | Sample at Ecology's request using reference test method EPA RM 6 or 6A. Report results monthly. See Condition G.9b for minimum O&M requirements intended to indicate compliance. | WAC 173-405-040(11)(a) |
| G.9b | No usage of pulp mill evaporator vapor condensates to wash lime mud. Minimize introduction of sulfur compounds in washing of lime mud. See Support Document for emission history. | | | |
| G.10 | The Lime Kiln is subject to the NSPS requirements identified in the stand-alone generic NSPS section of this permit. | | | |

1. If monitored emissions are less than or equal to 50% of the emission limitation for any four consecutive quarters, emissions may be monitored annually. Annual tests must be conducted no longer than 8 to 14 months after the previous test. If monitored emissions exceed the 50% threshold for reduced monitoring frequency, emissions must be monitored quarterly for at least four consecutive quarters before qualifying again for reduced monitoring frequency.

| G.11 | The following state-only requirements are not federally enforceable under the federal Clean Air Act: | | | |
|-------|---|---|---|--------------------------------|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| G.11a | TRS | 80 ppm as H ₂ S for no more than 2 consecutive hours in any one day. | Monitor continuously using an approved CEM that conforms to 40 CFR Part 60 (July 1, 1992), App. B, Perf. Spec. 5. Report results monthly. | WAC 173-405-040(3)(b) |
| G.11b | TRS | 20 ppm @ 10% O ₂ on daily avg. | Monitor continuously using an approved CEM that conforms to 40 CFR Part 60 (July 1, 1992), App. B, Perf. Spec. 5. Report results monthly. | WAC 173-405-040(3)(c) |

H. SLAKER VENT SCRUBBER STACK

| SLAKER VENT SCRUBBER STACK | | | | |
|----------------------------|--|---|--|--|
| | Parameter | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| H.1 | Particulate | 0.07 gr/dscf | EPA Test Method 5 is the reference test method. See Condition H.3 for minimum monitoring and reporting requirements intended to indicate compliance with the particulate limit. | WAC 173-400-110 and Order DE 95 AQ I035 for the particulate limit. |
| H.2 | Opacity | Average 25% for more than 6 consecutive minutes in any 1-hour period. | DOE Test Method 9B is the reference test method. See Condition H.3 for minimum monitoring and reporting requirements intended to indicate compliance with the particulate limit. | WAC 173-400-110 and Order DE 95AQ-I035 for the opacity limit. |
| H.3 | Maintain water flow \geq 50 gpm on a daily average. Maintain scrubber nozzle pressure \geq 23 psi. Monitor scrubber water flow continuously. Monitor and record pressure monthly. Whenever daily average water flow is less than 50 gpm, the Permittee shall immediately, but no later than 24 hours, take corrective action to bring the parameter within prescribed range. Whenever monitored pressure value is $<$ 23 psi, the Permittee shall, as soon as practical but no later than 30 days, take corrective action to bring the parameter within prescribed range. Failure to take corrective action is a violation of WAC 173-405-040(10) and may be a violation of the underlying applicable requirement. Report exceedances and corrective action taken in monthly report. | | | |

I. EXTRUDERS OPERATION

| EXTRUDER OPERATION | | | | | |
|---------------------------|------------------|---------------------------------|---|---|--------------------------------|
| | Parameter | Emission Unit | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| I.1 | PM10 | Extruder 6.1 | 1.2 lb/hr (1-hour avg.) and 5.1 tpy | Reference Test Method is EPA Method 5 or 201A | Order 16181, Condition 2 |
| I.2 | VOC | Extruder 6.1 | 1.3 lb/hr (as Carbon) and 4.4 tpy (as Carbon) | Reference Test Method is EPA Method 18/25A | Order 16181, Condition 2 |
| I.3 | PM10 | Extruder 6.2 | 1.2 lb/hr (1-hour avg.) and 5.1 tpy | Reference Test Method is EPA Method 5 or 201A | Order 16181, Condition 2 |
| I.4 | VOC | Extruder 6.2 | 2.3 lb/hr (as Carbon) and 6.8 tpy (as Carbon) | Reference Test Method is EPA Method 18/25A | Order 16181, Condition 2 |
| I.5 | PM10 | Extruder 6.3A, B, C, Combined | 1.6 lb/hr (1-hour avg.) and 3.0 tpy | Reference Test Method is EPA Method 5 or 201A | Order 16181, Condition 2 |
| I.6 | VOC | Extruder 6.3A, B, C, Combined | 2.5 lb/hr (as Carbon) and 8.5 tpy (as Carbon) | Reference Test Method is EPA Method 18/25A | Order 16181, Condition 2 |
| I.7 | PM10 | Extruder 7.1 and 7.1A, Combined | 1.2 lb/hr (1-hour avg.) and 4.0 tpy | Reference Test Method is EPA Method 5 or 201A | Order 16181, Condition 2 |

| EXTRUDER OPERATION | | | | | |
|---------------------------|------------------|---------------------------------|---|--|--------------------------------|
| | Parameter | Emission Unit | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| I.8 | VOC | Extruder 7.1 and 7.1A, Combined | 1.9 lb/hr (as Carbon) and 6.3 tpy (as Carbon) | Reference Test Method is EPA Method 18/25A. | Order 16181, Condition 2 |
| I.9 | PM10 | Extruder 7.2 | 2.0 lb/hr (1-hour avg.) and 8.7 tpy | Reference Test Method is EPA Method 5 or 201A | Order 16181, Condition 2 |
| I.10 | VOC | Extruder 7.2 | 1.6 lb/hr (as Carbon) and 5.1 tpy (as Carbon). | Reference Test Method is EPA Method 18/25A. | Order 16181, Condition 2 |
| I.11 | Ozone | Line 7 Corona Treater | 313 pounds per year | | Order 16181, Condition 2 |
| I.12 | PM10 | Poly Dust Collector Baghouse | 0.005 gr/dcf (1-hour avg.), 0.2 lb/hr (1-hour avg.) and 0.2 tons per year. | | Order 16181, Condition 2 |
| I.13 | Opacity | Poly Dust Collector Baghouse | 0% for more than three minutes in any one-hour period as determined in accordance with Ecology Method 9A. | The Reference Test Method is Ecology Method 9A. Six minutes of opacity monitoring shall be conducted during each particulate sampling run. | Order 16181, Condition 2 |
| I.14 | PM10 and PM2.5 | Core Cutting Room Exhaust | 0.005 gr/dcf (1-hour avg.), 0.1 lb/hr (1-hour avg.) and 0.2 tons per year. | | Order 16181, Condition 2 |

| EXTRUDER OPERATION | | | | | |
|---------------------------|------------------|------------------------------|--|-----------------------------------|--------------------------------|
| | Parameter | Emission Unit | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| I.15 | PM10 | Facility-wide (Extruders) | 17.5 tons per year. | | Order 16181, Condition 2 |
| I.16 | VOCs | Facility-wide (Extruders) | 22.1 tons per year as Carbon. | | Order 16181, Condition 2 |
| I.17 | All | Facility-wide (Extruders) | Annual emissions shall be calculated using the emission factors presented in Appendix B of Order 16181 unless alternative emission factors are developed and approved. | | Order 16181, Condition 3 |
| I.18 | Reserved | | | | |
| I.19 | Reserved | | | | |

| EXTRUDER OPERATION | | | | | |
|---------------------------|------------------|----------------------|---|-----------------------------------|--------------------------------|
| | Parameter | Emission Unit | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| I.20 | | Extruders | <p>The following information shall be recorded each calendar month:</p> <ul style="list-style-type: none"> a. The total quantity of polymeric coating applied by each extruder; b. The total amount of natural gas consumed by the Line 6 and Line 7 pre-treatment burners; c. The total number of hours each corona treater was operated; d. The total number of hours the pellet transport system was operated; e. The total number of hours the vacuum system was operated; and f. The total number of hours the Core Cutting Room Exhaust was operated. g. Any maintenance activities or upset conditions which resulted in increased emissions. | | Order 16181, Condition 4 |
| I.21 | Reserved | | | | |
| I.22 | Reserved | | | | |
| I.23 | Reserved | | | | |

| EXTRUDER OPERATION | | | | | |
|---------------------------|-----------------------------------|----------------------|--|-----------------------------------|--------------------------------|
| | Parameter | Emission Unit | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| I.24 | PM, Opacity, VOC (as Carbon), CPM | Extruders | <p>Source testing of one extruder exhaust shall be conducted no later than September every five years, beginning September 2023, unless an alternative schedule is approved by Ecology. All source emissions testing shall be conducted in accordance with Appendix A of Order 16181.</p> <p>The results of source testing shall be reported to Ecology no later than 60 days following completion of the testing.</p> | | Order 16181, Condition 5 |
| I.25 | Opacity | Extruders | <p>Visual emissions (opacity) monitoring of each extruder exhaust shall be conducted at least once every 12 months in accordance with Appendix A of Order 16181.</p> <p>The results of opacity monitoring shall be reported to Ecology no later than 60 days following completion of the monitoring.</p> | | Order 16181, Condition 6 |

| EXTRUDER OPERATION | | | | | |
|---------------------------|------------------|----------------------|---|-----------------------------------|--------------------------------|
| | Parameter | Emission Unit | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| I.26 | | Extruders | <p>The following emission related information shall be reported to Ecology by March 15 for the previous calendar year:</p> <ul style="list-style-type: none"> a. The total quantity of polymeric coating applied by each extruder; b. The total amount of natural gas consumed by the Line 6 and Line 7 pre-treatment burners; c. The total number of hours each corona treater was operated; d. The total number of hours the pellet transport system was operated; e. The total number of hours the vacuum system was operated; f. The total number of hours the Core Cutting Room Exhaust was operated; and g. Air emissions of criteria air pollutants, volatile organic compounds, toxic air pollutants (TAPs), and hazardous air pollutants (HAPs) from each emission unit and for the entire extruders operation (facility-wide). | | Order 16181, Condition 7 |
| I.27 | Reserved | | | | |

| EXTRUDER OPERATION | | | | | |
|---------------------------|------------------|---|--|---|--|
| | Parameter | Emission Unit | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| I.28 | Reserved | | | | |
| I.29 | N/A | Extruders | N/A | All records required by Order 16181 shall be maintained and made readily available upon Ecology request for a minimum of five years. | Order 16181, Condition 8 |
| I.30 | HAPs | General (Applicable if source utilizes NESHAP Subpart JJJJ, Compliance Demonstration Option 1) | 5% of the organic HAP applied for each month (95 percent reduction); or 20% of the mass of coating solids applied for each month. | Determine organic HAP mass fraction of each coating material per 40 CFR 63.3360(c). Must maintain records per 40 CFR. 63.10(b)(2), on a monthly basis including: - Organic HAP content data - Material usage, organic usage, volatile matter usage and coating solids usage. | 40 CFR 63.3320(b)(1), (2), (3) for emission limits, 40 CFR 63.3410 for recordkeeping requirements, 40 CFR 63.3360(c). Compliance required no later than 1/1/2013. |

| EXTRUDER OPERATION | | | | | |
|---------------------------|------------------|--|--|---|---|
| | Parameter | Emission Unit | Limit (shall not exceed) | Monitoring & Reporting | Applicable Requirements |
| I.31 | HAPs | General (Applicable if source utilizes NESHAP Subpart JJJJ, Compliance Demonstration Option 2 or 3) | Not later than 1/1/2013, demonstrate that each coating material applied during the month contains no more than 0.04 mass fraction organic HAP or 0.2 kg organic HAP per kg coating solids on an as-purchased basis. | Semiannual compliance reports are due in a timely manner, per the provisions of 40 CFR 63.3400(c)(1) and (2). Determine organic HAP mass fraction of each coating material per 40 CFR 63.3360(c). | 40 CFR 63.3370(b), 63.3400(c)(1) and (2), 40 CFR 63.3360(c). Compliance required no later than 1/1/2013. |
| I.32 | HAPs | General | Comply with NESHAP General Requirements. | | 40 CFR Part 63 Subpart JJJJ, Table 2. |
| I.33 | | Extruder 6.1 | Ecology must be notified no later than 30 days prior to returning Extruder 6.1 to regular operation. | | Order 16181, Condition 9 |
| I.34 | N/A | General | The Extruders Operation and the associated air pollution control equipment and monitoring equipment must be operated and maintained in a manner consistent with safety and good air pollution control practices for minimizing emissions at all times. | | Order 16181, Condition 10 |

J. NESHAP SSM REQUIREMENTS (RESERVED – CURRENTLY INAPPLICABLE)

Startup, Shutdown, and Malfunction (SSM) Plan, Recordkeeping, and Reporting Requirements

Nippon Dynawave contains affected sources subject to the NESHAP for the Pulp and Paper Industry (Subpart S), the NESHAP for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-alone Semichemical Pulp Mills (Subpart MM), the NESHAP for Paper and Other Web Coating (Subpart JJJJ), the NESHAP for Stationary Reciprocating Internal Combustion Engines, and the NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters (DDDDD). At the time of Nippon Dynawave's air operating permit issuance on October 5, 2017, it was determined that only NESHAP Subpart MM required a startup, shutdown, and malfunction (SSM) plan; the other NESHAP subparts did not require a SSM Plan. Section J of the air operating permit had originally provided requirements which were specific to the SSM planning requirements for Subpart MM.

The requirements for a SSM plan were removed from NESHAP Subpart MM in the October 10, 2017 residual risk and technology review (RTR) rule revisions. The entire 40 CFR 63.866(a) section on SSM plan requirements was removed from the revised Subpart MM rule. This removal of the Subpart MM SSM plan requirement eliminates the need for Section J in this air operating permit.

K. NESHAP SUBPART ZZZZ, RECIPROCATING INTERNAL COMBUSTION ENGINES – “RICE RULE”

NESHAP Subpart ZZZZ regulates stationary reciprocating internal combustion engines which for this facility includes a diesel powered emergency auxiliary drive on the Lime Kiln rated at 49 hp and a propane/natural gas powered emergency auxiliary drive for the lime mud storage tank rated at 25 hp. Per 40 CFR 63.6580, these emission units are subject to the requirements of NESHAP Subpart ZZZZ for existing emergency RICEs rated at less than 500 hp and located at a major source.

40 CFR Part 63 requirements are cited in this permit, as applicable. WAC 173-400-075(5) incorporates 40 CFR Part 63 (MACT) by reference.

| | Limit | Monitoring & Reporting | Applicable Requirements |
|-----|---|---|--|
| K.1 | <p>Change the oil and filter every 500 hours of operation or annually, whichever comes first. An oil analysis program may be used to extend the specified oil change requirement in accordance with 40 CFR 63.6625(i) or (j), as applicable.</p> <p>Inspect the air cleaner and/or spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.</p> <p>Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.</p> | | 40 CFR Part 63, Subpart ZZZZ, Table 2c |
| K.2 | | <p>Minimize the engine's time spent at idle, and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.</p> | 40 CFR 63.6625(h) |
| K.3 | | <p>There is no time limit on the use of emergency stationary RICE in emergency situations.</p> <p>Emergency RICEs may operate for up to 100 hours per year for maintenance checks and readiness testing or other periods defined in 40 CFR 63.6640(f).</p> <p>Emergency RICEs may operate for up to 50 hours per year in non-emergency situations not mentioned above. This time will count toward the 100 hours per year previously mentioned.</p> | 40 CFR 63.6640(f) |

| | Limit | Monitoring & Reporting | Applicable Requirements |
|-----|--------------|---|--|
| K.4 | | Records of the hours of operation of the engine that is recorded through the nonresettable hour meter must be maintained. Records must include how many hours are spent for emergency operation, including what classified the operation as an emergency, and how many hours are spent for nonemergency operation. If the engines are used for demand response operation, maintain records of the notification of the emergency situation and the time the engine was operated as part of demand response. Records must be kept and readily available for five (5) years following the date of each occurrence, measurement, maintenance, corrective action report, or record. | 40 CFR 63.6655 for recordkeeping. 40 CFR 63.6660 for records retention. |
| K.5 | | <p>The stationary RICE must be operated and maintained according to the manufacturer's emission-related operation and maintenance instructions; or</p> <p>A maintenance plan must be developed and followed which provides to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.</p> <p>Records must be retained of the operation and maintenance of the engines according to the manufacturer's emission-related instructions or according to the developed maintenance plan consistent with good air pollution control practice for minimizing emissions. Records must be kept and readily available for five (5) years following the date of each occurrence, measurement, maintenance, corrective action report, or record.</p> | 40 CFR Part 63 Subpart ZZZZ, Table 6 40 CFR 63.6655 for recordkeeping. 40 CFR 63.6660 for records retention. |
| K.6 | | Beginning January 1, 2015, existing emergency CI stationary RICE with a site rating of more than 100 brake hp and a displacement of less than 30 liters per cylinder that uses diesel fuel, and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii), or that operates for the purpose specified in §63.6640(f)(4)(ii), must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted. | 40 CFR 63.6604(b) |

L. GREENHOUSE GAS (GHG) REPORTING

The following **state-only** GHG requirements are not enforceable under the federal Clean Air Act.

| | Limit | Monitoring & Reporting | Applicable Requirements |
|-----|--------------------|---|--------------------------------|
| L.1 | Reporting Schedule | <p>Permittee must submit the report required under Chapter 173-441 WAC to Ecology no later than March 31 of each calendar year for GHG emissions in the previous calendar year.</p> <p>Reporting requirements begin for Calendar Year 2012 and each subsequent calendar year.</p> | WAC 173-441-050(2) |
| | | <p>The report and certificate or representation must be submitted electronically in accordance with the requirements of WAC 173-441-050 and 173-441-060 and in a format specified by Ecology.</p> | WAC 173-441-070 |
| | | <p>Submit a revised annual GHG report within 45 days of discovering that an annual GHG report previously submitted contains one or more substantive errors.</p> | WAC 173-441-050(7) |

| | Limit | Monitoring & Reporting | Applicable Requirements |
|------|-------------------|--|--|
| L. 2 | Reporting Content | Each annual GHG report shall contain the content specified in WAC 173-441-050(3). | WAC 173-441-050(3) |
| | | <p>Each GHG emission report and any other submission under Chapter 173-441 WAC shall be certified, signed, and submitted by the designated representative or any alternate designated representative.</p> <p>(a) Each such submission shall include the following certification statement signed by the designated representative or any alternate designated representative: <i>"I am authorized to make this submission on behalf of the owners and operators of the facility or supplier, as applicable, for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment."</i></p> | WAC 173-441-060(5) 40 C.F.R. § 3.10 |
| | | <p>All requests, notifications, and communications to Ecology pursuant to Chapter 173-441 WAC, other than submittal of the annual GHG report, shall be submitted to the following address:</p> <p>Greenhouse Gas Report Air Quality Program Department of Ecology PO Box 47600 Olympia, WA 98504-7600</p> | |

| | | | |
|-----|------------------------|---|--------------------|
| L.3 | Emissions Calculations | Use the calculation methodologies specified in the relevant sections of Chapter 173-441 WAC. Use the same calculation methodology throughout a reporting period unless you provide a written explanation of why a change in methodology was required. | WAC 173-441-050(4) |
| | | Calibration and accuracy requirements: Permittee must meet the applicable flow meter calibration and accuracy requirements of WAC 173-441-050(8). The accuracy specifications in this subsection do not apply where either the use of company records (as defined in WAC 173-441-020(3)) or the use of "best available information" is specified in an applicable subsection of Chapter 173-441 WAC to quantify fuel usage and/or other parameters. Further, the provisions of this subsection do not apply to stationary fuel combustion units that use the methodologies in 40 C.F.R. Part 75 to calculate CO2 mass emissions. | WAC 173-441-050(8) |
| L.4 | Recordkeeping | Keep records as specified in WAC 173-441-050(6). Retain all required records for at least three years. The records shall be kept in an electronic or hard copy format (as appropriate), and recorded in a form that is suitable for expeditious inspection and review. Upon request by Ecology, the records required under this section must be made available to Ecology. Records may be retained offsite if the records are readily available for expeditious inspection and review. For records that are electronically generated or maintained, the equipment or software necessary to read the records shall be made available, or, if requested by Ecology, electronic records shall be converted to paper documents. | WAC 173-441-050(6) |

M. COMPLIANCE ASSURANCE MONITORING (CAM)

Nippon Dynawave is required to submit a CAM Plan per 40 CFR Part 64. The previous CAM Plan submitted by this facility with the 2014 AOP renewal permit application and included in this permit's statement of basis shall satisfy the CAM Plan submittal requirement. CAM is applicable for PM/PM₁₀ at Hog Fuel Boiler No. 11, Recover Boiler No. 10, and the Lime Kiln. Existing regulatory requirements assure continuous compliance using Continuous Opacity Monitoring Systems (COMS). These existing requirements (Conditions B.3, D.9, and G.4) satisfy the PM/PM₁₀ CAM requirements.

General CAM requirements:

M.1 Quality Assurance and Control Procedures.

The COMS on the recovery furnace will be calibrated and maintained in accordance with the requirements established in 40 CFR 63.864(d).

M.2 Obligation to monitor and data availability requirement.

Except for monitoring malfunctions, associated repairs, and required quality assurance and control activities (including, as applicable, calibration checks, and required zero and span adjustments), the Permittee shall perform the CAM monitoring described in this section at all times that the affected emission units are in operation. (40 CFR 64.7(c) and 64.6(c)(3)-(4) (10/22/97))

M.3 Excursions.

The Permittee shall report excursions as defined in the unit specific monitoring requirements. An excursion does not necessarily indicate an exceedence of the applicable particulate emission standards referenced above, nor does evidence of an excursion precluded the Permittee from certifying continuous compliance as provided in Facility Wide Condition 40 of this permit if the Permittee has other data on which to base a determination of compliance during the reporting period in which the excursion occurred. (40 CFR 64.6(c)(2)(10/22/97); 40 CFR 70.6(c)(iii)(C) (6/27/03))

M.4 Response to an excursion.

Upon detecting an excursion, the Permittee shall restore operation of the affected emission unit and/or control device to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practice for minimizing emissions. (40 CFR 64.7(d) and 64.6(c)(3) (10/22/97))

M.5 Quality Improvement Plan (QIP).

If Ecology or U.S. EPA Region 10 determines, based on the frequency of excursions reported, review of operation and maintenance procedures and records, and reports on corrective action taken in response to an excursion, that the Permittee's corrective action procedures are not consistent with good air pollution control practice for minimizing emissions, Ecology or U.S. EPA Region 10 may require the Permittee to develop and implement a Quality Improvement Plan. (40 CFR 64.8 and 64.6(c)(3) (10/22/97))

M.6 Reporting.

A monitoring report required by this section shall include: (a) summary information on the number, duration and cause (including unknown cause, if applicable) of each excursion and the corrective action taken; (b) summary information on every failure to meet the data availability requirement in subsection (6) of this section; and (c) a description of the actions taken to implement a QIP during the reporting period, if required. Upon completion of a QIP, the Permittee shall include in the next monthly report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions occurring. (40 CFR 64.9(a) and 64.6(c)(3) (10/22/97))

M.7 Recordkeeping.

The recordkeeping required by this section shall include records of the monitoring data described in this section, corrective actions taken pursuant to this section, any QIP prepared under Condition M.5, and any activities taken to implement a QIP. Instead of paper records, the Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review. (40 CFR 64.9(b) and 64.6(c)(3) (10/22/97))

NSPS GENERAL REQUIREMENTS

| Affected Units under NSPS | NSPS General Requirement | Applicable Requirement |
|--|--|--|
| A (MCC Digester, High solids crystallizer, washing and screening facilities, condensate stripper), B (HFB #11), F (NCG Collection/Treatment System), and G (Lime Kiln) | Operate affected units consistent with good air pollution control practices for minimizing emissions. | 40 CFR 60.11(d) |
| A (MCC Digester, High solids crystallizer, washing and screening facilities, condensate stripper), B (HFB #11), F (NCG Collection/Treatment System), and G (Lime Kiln) | Concealing an emission that would be a violation is prohibited. | 40 CFR 60.12 |
| B (HFB #11), F (NCG Collection/Treatment System), and G (Lime Kiln) | Operate and maintain CEMs as required. | 40 CFR 60.13 |
| B (HFB #11), F (NCG Collection/Treatment System), and G (Lime Kiln) | Submit excess emissions and monitoring systems performance reports and/or summary report semiannually. | 40 CFR 60.7(c) 40 CFR 60.7(d) |
| A (MCC Digester, High solids crystallizer, washing and screening facilities, condensate stripper), B (HFB #11), F (NCG Collection/Treatment System), and G (Lime Kiln) | Notification, Recordkeeping, and Credible Evidence. | 40 CFR 60.4(a), 40 CFR 60.4(b), 40 CFR 60.11(c) and (g). |

FACILITY-WIDE GENERAL REQUIREMENTS [WAC 173-401-600]

These generally applicable requirements apply facility-wide, including insignificant emission units or activities. Insignificant emission units or activities, however, are not subject to monitoring, testing, recordkeeping, reporting, or compliance certification requirements.

1. Varying Emission Rate. The Permittee cannot vary the rate of emission of a pollutant according to atmospheric conditions or ambient concentrations of that pollutant, except as directed according to air pollution episode regulations. [WAC 173-400-205]
2. Particulate Matter Deposition. The following condition is **state-only** and is not federally enforceable under the Clean Air Act: No deposit of particulate matter beyond property line which interferes unreasonably with use and enjoyment of the property upon which the material is deposited. [WAC 173-400-040(3)]
3. Fugitive Emission. The Permittee shall take reasonable precautions to prevent the release of air contaminants from emission units engaged in material handling, construction, demolition, or any other operation that is a source of fugitive emissions. Reasonable precautions include but are not limited to application of water to paved areas and debris piles as necessary to control fugitive dust or the timely removal or coverage of material piles. [WAC 173-400-040(4)(a)]
4. Odors. The following condition is **state-only** and is not federally enforceable under the Clean Air Act: Any person causing odor, which may unreasonably interfere with use & enjoyment of property, must use recognized good practice and procedures to reduce odors to a reasonable minimum. [WAC 173-400-040(5)]
5. Emissions Detrimental to Persons of Property. The Permittee shall not cause or permit emission of any contaminant if it is detrimental to the health, safety, or welfare of any person, or causes damage to property or business. [WAC 173-400-040(6)]
6. Concealment and Masking. The Permittee shall not install or use any means that conceal or mask an emission of an air contaminant that would otherwise violate provisions in this permit. [WAC 173-400-040(8)]
7. Fugitive dust. The Permittee shall take reasonable precautions to prevent fugitive dust from becoming airborne, and maintain and operate the source to minimize emissions. Reasonable precautions include but are not limited to application of water to paved areas and debris piles as necessary to control fugitive dust or the timely removal or coverage of material piles. [WAC 173-400-040(9)(a)]
8. Opacity. The Permittee may not cause or allow the emission of a plume from any emission unit other than a Kraft recovery furnace, smelt dissolver tank, or lime kiln, which has an average opacity greater than 20% for more than 6 consecutive minutes in any 60-minute period except as provided in WAC 173-405-040(7). [WAC 173-405-040(6)]

9. Except where specific requirements are defined elsewhere, the Permittee shall assure compliance with Conditions 1 through 8 by recordkeeping of actions taken by the Permittee in response to complaints received by the Permittee or of possible noncompliance noticed by the facility staff in day-to-day operations. The Permittee shall assess the validity of each complaint and commence corrective action, if warranted, as soon as possible, but no later than 3 working days of receiving the complaint. The Permittee shall keep records of the following: complaints received; the assessment of validity, and what, if any, corrective action is taken in response to the complaint.
10. The emission of sulfur dioxide from any emissions unit other than a recovery furnace or lime kiln shall not exceed 1,000 parts per million for an hourly average, corrected to 7% oxygen for combustion units. [WAC 173-405-040(11)]
11. Continuous emission monitoring systems (CEMS) required under an order, PSD permit, or regulation issued by a permitting authority and not subject to CEMS performance specifications and data recovery requirements imposed by 40 C.F.R. Parts 60, 61, 62, 63, or 75 must meet the following CEMS performance specifications:
 - a. The owner or operator shall recover valid hourly monitoring data for at least 95 percent of the hours that the equipment (required to be monitored) is operated during each calendar month except for periods of monitoring system downtime, provided that the owner or operator demonstrated that the downtime was not a result of inadequate design, operation, or maintenance, or any other reasonable preventable condition, and any necessary repairs to the monitoring system are conducted in a timely manner.
 - b. The owner or operator shall install a continuous emission monitoring system that meets the performance specification in 40 C.F.R. Part 60, Appendix B in effect at the time of its installation, and shall operate this monitoring system in accordance with the quality assurance procedures in Appendix F of 40 C.F.R. Part 60 in effect on May 1, 2012, and the U.S. Environmental Protection Agency's "Recommended Quality Assurance Procedures for Opacity Continuous Monitoring Systems" (EPA) 340/ 1-86-010.
 - c. Monitoring data commencing on the clock hour and containing at least forty-five minutes of monitoring data must be reduced to one hour averages. Monitoring data for opacity is to be reduced to six minute block averages unless otherwise specified in the order of approval or permit. All monitoring data will be included in these averages except for data collected during calibration drift tests and cylinder gas audits, and for data collected subsequent to a failed quality assurance test or audit. After a failed quality assurance test or audit, no valid data is collected until the monitoring system passes a quality assurance test or audit.
 - d. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under subsection (a) of this section, all continuous monitoring systems shall be in continuous operation.

- i. Continuous monitoring systems for measuring opacity shall complete a minimum of one cycle of sampling and analyzing for each successive ten second period and one cycle of data recording for each successive six minute period.
 - ii. Continuous monitoring systems for measuring emissions other than opacity shall complete a minimum of one cycle of sampling, analyzing, and recording for each successive fifteen minute period.
- e. The owner or operator shall retain all monitoring data averages for at least five years, including copies of all reports submitted to the permitting authority and records of all repairs, adjustments, and maintenance performed on the monitoring system.
- f. The owner or operator shall submit a monthly report (or other frequency as directed by terms of an order, air operating permit or regulation) to the permitting authority within thirty days after the end of the month (or other specified reporting period) in which the data were recorded. The report required by this section may be combined with any excess emission report required by WAC 173-400-108. This report shall include:
 - i. The number of hours that the monitored emission unit operated each month and the number of valid hours of monitoring data that the monitoring system recovered each month;
 - ii. The date, time period, and cause of each failure to meet the data recovery requirements of (a) of this subsection and any actions taken to ensure adequate collection of such data;
 - iii. The date, time period, and cause of each failure to recover valid hourly monitoring data for at least 90 percent of the hours that the equipment (required to be monitored) was operated each day;
 - iv. The results of all cylinder gas audits conducted during the month; and
 - v. A certification of truth, accuracy, and completeness signed by an authorized representative of the owner or operator.

[WAC 173-400-105(7)]

12. The Permittee shall at all times, including periods of abnormal operation and upset conditions, to the extent practicable, maintain and operate any affected facility, including associated air pollution control equipment, in a manner consistent with good air pollution control practice. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to Ecology that may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [WAC 173-405-040(10)]

13. Chemical Accidental Release Program. This stationary source, as defined in 40 CFR Section 68.3, is subject to part 68, the accidental release prevention regulations. This stationary source shall submit a risk management plan (RMP) by the date specified in Section 68.10. [40 CFR Part 68]
14. Ozone Protection. The Permittee shall comply with the applicable standards for recycling and emissions reductions pursuant to 40 CFR Part 82, Subpart F.
 - a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156.
 - b. Equipment used during the maintenance, service, repair, or disposal must comply with standards for recycling and recovery equipment pursuant to § 82.158.
 - c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161.
 - d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with recordkeeping requirements pursuant to § 82.166. ("MVAC-like appliance" is defined at § 82.152.)
 - e. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156.
 - f. Owners/operators of appliances normally containing 50 or more pounds, or refrigerant purchased and added to such appliances must do so in compliance with §82.166.
15. Reserved for Future Use.
16. The generally applicable requirements that apply to IEUs are WAC 173-405-040(5), WAC 173-400-050(1) and (3), and WAC 173-400-060 [WAC 173-401-530(2)(b)]
17. The Permittee will continue to comply with applicable requirements with which the Permittee is in compliance. [WAC 173-401-630(3) and 510(2)(h)(iii)(A)]

The Permittee will meet applicable requirements that become effective during the permit term on a timely basis. [WAC 173-401-630(3) and 510(2)(h)(iii)(B)]
18. Volatile Organic Liquid Storage Vessels. The Permittee shall keep records showing the dimensions and capacities of all storage vessels having capacities greater than or equal to 75 cubic meters that are used to store volatile organic liquids and for which construction, reconstruction, or modification commenced after July 23, 1984. This does not apply to storage vessels with a capacity greater than or equal to 151 cubic meters storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa), or with a capacity greater than or equal to 75 cubic meters but less than 151 cubic meters storing a liquid with a maximum true vapor pressure less than 15.0 kPa. These records are to be kept for the life of each storage vessel. [40 CFR 60.116b (a) and (b)]

19. Reserved for Future Use.
20. The following condition is **state-only** and is not federally enforceable under the Clean Air Act.

The Permittee cannot burn used oil not meeting standards prescribed in RCW 70.94.610(1). [RCW 70.94.610]
21. Asbestos. The Permittee must comply with 40 CFR sections 61.145 and 61.150 and WAC 173-400-075 if asbestos-containing material is present above specified quantities in a facility being demolished or renovated. [40 CFR Part 61, Subpart M]
22. New Source Review. The permittee shall not construct new sources or make modifications required to be reviewed under WAC 173-400-110, WAC 173-400-560, WAC 173-400-720, WAC 173-400-820, or WAC 173-460-040 before the permittee obtains written final approval from Ecology in accordance with those regulations, pays the appropriate fees required by WAC 173-455-120, and pays the cost of public notice described in WAC 173-400-171. [WAC 173-400-110; WAC 173-400-171; WAC 173-400-560; WAC 173-400-720; WAC 173-400-820; 173-460-040]
23. Replacement or Substantial Alteration of Emission Control Technology. Prior to replacing or substantially altering emission control technology subject to review under WAC 173-400-114, the permittee shall file for and obtain approval from Ecology according to that regulation. The permittee shall pay the appropriate fees required by WAC 173-455-100(4) prior to commencing construction. [WAC 173-400-114]
24. Nonroad Engines. Prior to installation or operation of a nonroad engine, as defined in WAC 173-400-030(56), the permittee shall meet the requirements of WAC 173-400-035. If the nonroad engine(s) has a cumulative maximum rated brake horsepower greater than 500, a notification of intent to operate will be submitted to Ecology. If the nonroad engine(s) has a cumulative maximum rated break horsepower greater than 2,000, the permittee will not operate the engine(s) unless Ecology issues written approval to operate. [WAC 173-400-035]

MONITORING, RECORDKEEPING & REPORTING

Monitoring Requirements [WAC 173-401-630(5)(b)]

25. Unit-Specific Requirements. The Permittee shall conduct routine monitoring of emissions in accordance with the program of monitoring or testing required by specific emission unit conditions of this permit. [WAC 173-405-072].
26. Unavoidable Excess Emissions. This condition applies, where applicable, to excess emissions that are claimed to be unavoidable pursuant to WAC 173-400-107. The Permittee may include in its reports demonstrations that excess emissions were unavoidable, consistent with the requirements of WAC 173-400-107. The Permittee shall have the burden to prove that deviations from permit terms were unavoidable. Excess emissions that are unavoidable are excused and not subject to penalty. [WAC 173-400-107]
27. Violation Duration. A violation of an emission limit is presumed to commence at the time of the testing, recordkeeping, or monitoring indicating noncompliance, and to continue until the time of retesting, recordkeeping, or monitoring that indicates compliance. This presumption may be defeated if credible evidence shows that the violation was of longer duration, that there were intervening days during which no violation occurred, or that that violation was not continuing in nature. [42 U.S.C. 7413(e)(2)]. The Permittee may conduct monitoring or testing more frequently than required by this permit.
28. Insignificant Emission Units. The Permittee is not subject to any testing, monitoring, reporting, or recordkeeping requirements for insignificant units or activities listed. [WAC 173-401-530(2)(c)]

Recordkeeping Requirements

29. Monitoring Records. The Permittee shall keep records of any periodic and continuous monitoring required by this permit. These records shall include the following, where applicable:
 - a. The date, place as defined in requirement, and time of sampling or measurement;
 - b. The date(s) analysis was performed;
 - c. The company or entity that performed the analysis;
 - d. The analytical techniques or methods used;
 - e. The results of such analysis;
 - f. Inspector sign name;
 - g. The operating conditions existing at the time of sampling or measurement. [WAC 173-401-615(2)(a); WAC 173-400-105]
30. The Permittee shall keep records describing changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes. [WAC 173-401-724(5)]

31. The Permittee shall retain records of all required monitoring data and support information for a period of five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. [WAC 173-401-615(2)(c)]
32. The Permittee shall maintain a contemporaneous record of any deviation from the requirements of this permit. [WAC 173-401-615(3)(b)]

Reporting Requirements [WAC 173-401-520, -615(3), & -710]

33. In addition to any emission unit specific reporting requirements identified below, emission unit specific reporting requirements are identified in conditions A through M.
34. Report within 15 days of the end of each month average daily production of air-dried unbleached pulp. [WAC 173-405-072(4)]
35. Monthly monitoring reports required by this permit must be submitted to Ecology within 15 days of the end of each calendar month. [WAC 173-405-072]. All reports must clearly identify all instances of deviations from permit requirements. [WAC 173-401-615(3)(a)]
36. Submit an inventory of emissions from the source each year no later than 105 days after the end of the calendar year; maintain records of information necessary to substantiate any reported emissions. [WAC 173-400-105(1)]
37. The Permittee shall promptly submit a report of any deviations from permit conditions. [WAC 173-401-615(3)(b)]
 - a. For purposes of this permit, submitting a report "promptly" means the following: (a) If the deviation presents a potential threat to human health or safety, the report shall be made as soon as possible but no later than 12 hours after the discovery of the deviation; (b) for other deviations, "promptly" means that the deviations are identified in the respective monthly report.
 - b. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken. [WAC 173-401-615(3)]. The Permittee may include in its reports demonstrations that excess emissions were unavoidable, consistent with the requirements of WAC 173-400-107.
38. Certification of truth, accuracy, and completeness. Any application form, report, or compliance certification required to be submitted by this permit or by Chapter 173-401 WAC shall contain certification by a responsible official of truth, accuracy, and completeness. Where the permit requires reporting more frequently than once every 3 months, the responsible official's certification need only be submitted once every 3 months covering all required reporting since the date of the last certification.

This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. [WAC 173-401-520]

39. All reports and renewal applications required by this permit shall be submitted to:

Department of Ecology
Industrial Section
PO Box 47600
Olympia, WA 98504-7600

40. Compliance Certification. The Permittee shall submit a report to the Department of Ecology and to EPA Region 10 twelve (12) months after the effective date of this permit and every year thereafter, within 45 days after the close of the year that the certification covers, certifying compliance with the terms and conditions contained in this permit. The term “year” means a consecutive 365-day period and does not refer to a calendar year. The certification shall describe the following:

- a. The permit term or condition that is the basis of the certification;
- b. the compliance status;
- c. whether compliance was continuous or intermittent; and
- d. the methods used for determining compliance.

[WAC 173-401-630(5)]

Where a permit does not require testing, monitoring, recordkeeping, and reporting for insignificant emission units or activities, the Permittee may certify continuous compliance if there were no observed, documented, or known instances of noncompliance during the reporting period. [WAC 173-401-530(2)(d)]

STANDARD TERMS & CONDITIONS

41. Duty to Comply. The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Chapter 70.94 RCW and, for federally enforceable provisions, a violation of the FCAA. Such violations are grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. [WAC 173-401-620(2)(a)]
42. Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. [WAC 173-401-620(2)(b)]
43. Permit Actions. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [WAC 173-401-620(2)(c)]
44. Reopening for Cause. This permit shall be reopened and revised under any of the following circumstances:
 - a. Additional applicable requirements become applicable to a major Chapter 401 source with a remaining permit term of three or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended pursuant to WAC 173-401-620(2)(j);
 - b. Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approval by the administrator, excess emissions offset plans shall be deemed to be incorporated into the permit;
 - c. The permitting authority or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or
 - d. The administrator or the permitting authority determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

Procedures to reopen and issue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. [WAC 173-401-730]
45. Property Rights. This permit does not convey any property rights of any sort, or any exclusive privilege. [WAC 173-401-620(2)(d)]

46. Duty to Provide Information. The Permittee shall furnish to the permitting authority, within a reasonable time, any information that the permitting authority may request in writing to determine whether cause exists for modifying, revoking, and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the Permittee shall also furnish to the permitting authority copies of records required to be kept by the permit or, for information claimed to be confidential, the Permittee may furnish such records directly to the EPA administrator along with a claim of confidentiality. Permitting authorities shall maintain confidentiality of such information in accordance with RCW 70.94.205. [WAC 173-401-620(2)(e)]
47. Permit Fees. The Permittee shall pay fees as a condition of this permit in accordance with the permitting authority's fee schedule. Failure to pay fees in a timely fashion shall subject the Permittee to civil and criminal penalties as prescribed in Chapter 70.94 RCW. [WAC 173-401-620(2)(f)]
48. Emissions Trading. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit. [WAC 173-401-620(2)(g)]
49. Severability. If any provision of this permit is held to be invalid, all unaffected provisions of the permit shall remain in effect and be enforceable. [WAC 173-401-620(2)(h)]
50. Permit Appeals. This permit or any conditions in it may be appealed only by filing an appeal with the Pollution Control Hearings Board and serving it on the permitting authority within 30 days of receipt pursuant to RCW 43.21B.310. This provision for appeal in this section is separate from and additional to any federal rights to petition and review under § 505(b) of the FCAA. [WAC 173-401-620(2)(i)]
51. Permit Continuation. This permit is issued for a 5-year term; however, this permit and all terms and conditions contained therein, including any permit shield provided under WAC 173-401-640, shall not expire until the renewal permit has been issued or denied if a timely and complete application has been submitted. An application shield granted pursuant to WAC 173-401-705(2) shall remain in effect until the renewal permit has been issued or denied if a timely and complete application has been submitted. [WAC 173-401-620(2)(j)]
52. Inspection and Entry. Upon consent of the Permittee or upon presentation of credentials and other documents as may be required by law, the Department of Ecology or an authorized representative shall be allowed to:
- a. Enter the source;
 - b. Have access to and copy at reasonable times any records that must be kept under this permit;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and

- d. As authorized by WAC 173-400-105 and the FCAA, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements. [WAC 173-400-105(3); WAC 173-401-630(2)]
53. Risk Management Programs. In accordance with 40 CFR Part 68, if the Permittee has or receives more than a threshold quantity of a regulated substance in a process, as determined under 40 CFR 68.115, the Permittee shall comply with the requirements of the Chemical Accident Prevention Provisions of 40 CFR Part 68 no later than the following dates:
- a. Three years after the date on which a regulated substance is first listed under 40 CFR 68.130; or
 - b. The date on which a regulated substance is first present above a threshold quantity in a process. (40 CFR Part 68)

The Permittee shall certify compliance with this requirement as part of the Permittee's annual compliance report.

PERMIT SHIELD

Pursuant to WAC 173-401-640(1), compliance with the terms and conditions of this permit is deemed to constitute compliance with applicable requirements as contained in this permit on which the term or condition is based, as of the date the permit is issued. This permit shield does not exempt the Permittee from requirements, determined to be applicable, enacted after the permit issuance date. This permit shield shall not apply to any insignificant emission unit or activity designated under WAC 173-401-530. [WAC 173-401-530(3)]

Pursuant to WAC 173-401-640(2), the Department of Ecology has determined that the requirements listed in Appendix A to this permit do not apply to the facility, as of the date the permit is issued, for the reasons specified.

Appendix A - Permit Shield/Inapplicable Requirements

The following requirements do not apply to the facility as of the date of permit issuance for the reasons indicated:

| Citation | Brief Description | Reason Inapplicable |
|---|---|--|
| 40 CFR Part 60 Subpart Da, Standards of Performance for Electric Utility Steam Generators (construction or modification commenced after 9/18/78) | Applies to the following types of generating units for which construction or modification commenced after September 18, 1978: generating greater than 250 MMBtu/hr. | Facility does not have this emission unit. |
| 40 CFR Part 60 Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (construction or modification commenced after 7/19/84) | Applies to the following types of generating units for which construction or modification commenced after July 19, 1984: generating greater than 29 MW (100 MMBtu/hr). | Facility does not have this emission unit. |
| 40 CFR Part 60 Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units | Applies to the following types of generating units for which construction or modification commenced after June 9, 1989: generating greater than 10 MMBtu/hr and less than 100 MMBtu/hr. | Facility does not have this emission unit. |
| 40 CFR §60.110a | Subpart Kb, Standards of Performance for Storage Vessels for Petroleum Liquids with a capacity greater than 40,000 gallons and for which construction is commenced after May 18, 1978. | Fuel oil tanks at the site have not been modified since the applicability date. A physical change was made to the 35 KBBL fuel oil tank, reducing the tank's volumetric capacity, but this change did not increase emissions and was therefore not a "modification" under NSPS. All other tanks are either below the size applicability criteria or do not contain volatile organic liquids. |
| 40 CFR Part 63, Subpart Q as amended through 9/8/94 | No chromium based water treatment chemicals may be used in industrial process cooling towers. | The facility does not use chromium based water treatment chemicals. |

| Citation | Brief Description | Reason Inapplicable |
|---|--|--|
| WAC 173-400-040(3)(b) | Emissions unit identified as a significant contributor to nonattainment must use reasonable and available control methods to control emissions of contaminants for which area is designated nonattainment. | The facility is not in a special control/nonattainment area. |
| WAC 173-400-040(8)(b) | Sources of fugitive dust identified as significant contributors to a PM-10 nonattainment area must use RACT to control fugitive dust emissions. | The facility is not in a special control/nonattainment area. |
| WAC 173-400-070 as amended through 2/19/91 | Emission standards source categories. | The facility is not in this source category and hogged fuel boilers regulated under 173-405 WAC. |
| WAC 173-400-100 Registration | Registration required for listed sources, excluding sources subject to the operating permit program, after EPA grants interim or final approval to the state program. | Facility is subject to the operating permit program; EPA has granted interim approval for the state program. |
| WAC 173-400-105(6) | Applies to sources that are not subject to operating permit program. | Facility is subject to the operating permit program. |
| WAC 173-405-040(1)(b) as amended through 2/1/95 <i>[STATE ONLY, NOT FEDERALLY ENFORCEABLE]</i> | 17.5 ppm daily average TRS limit for recovery furnaces constructed before 1/1/70 and recovery furnaces with direct contact evaporators. | RF #10 built after 1/1/70 without direct contact evaporator. |
| Chapter 173-410 WAC; Sulfite Pulping Mills | | Facility is not a sulfite pulping mill |
| Chapter 173-433 WAC as amended through 2/3/93; Solid Fuel Burning Devices | Applies to wood stoves and fireplaces. | Any such device(s) operated on site qualify as “insignificant” under WAC 173-401-500(2)(h). |
| WAC 173-435-050(2) | No open fires during an air pollution episode. | Facility does not conduct open burning. |

| Citation | Brief Description | Reason Inapplicable |
|---|--|--|
| Chapters 173-470, 474, 475, 480, 481 WAC | Ambient Air Quality Standards | AAQS apply to air sheds, not individual sources. |
| Chapter 173-490 WAC | Emission Standards and Controls for Sources of VOCs. | The facility is not in a special control/nonattainment area. |
| 40 CFR Part 60, Subpart DDDD, and WAC 173-400-050(4), Commercial Industrial Solid Waste Incinerator (CISWI) Rules | Emission guidelines and compliance standards for commercial and industrial solid waste incineration units. | No affected facilities on site. The NCG Thermal Oxidizer is exempt as a pulping liquor recovery unit, because turpentine and methanol are managed as pulping liquors and pulping chemicals are recovered after combustion. |
| Chapter 173-434 WAC Solid Waste Incinerator Facilities (as revised 2003) | Regulates incineration of solid waste, including MSW, other than creosote treated wood, in amounts greater than 12 tons per day. | No units on site combust 12 tons per day or more of solid waste. |
| 40 CFR Part 63, Subpart NNNNN, NESHAP for Hydrochloric Acid Production (HCL MACT) | MACT Standards for hydrochloric acid production plants that are not subject to 40 CFR part 63, subpart S, NESHAP from the Pulp and Paper Industry, or other specifically listed NESHAP subparts. | Not applicable because HCL generator is completely integrated component of Chlorine Dioxide Generator, which is defined as part of the Bleach Plant under Subpart S. |
| 40 CFR Part 63, Subpart GGGGG, NESHAP for Site Remediation | Establishes MACT control standards for certain remediation processes and activities at remediation sites involving one or more of 97 listed organic HAP compounds. | There are no remediation activities subject to the rule. CERCLA sites, RCRA corrective actions, UST cleanups, or remediation actions extracting less than 1 Mg (10000 kg) of HAP per year. |

Appendix B - Definitions of Abbreviations Used in Permit

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|-------|--------------------------------------|
| AAQS | Ambient air quality standard |
| ADMT | Air dry metric ton |
| avg | Average |
| BACT | Best available control technology |
| BART | Best available reasonable technology |
| BDMT | Bone dry metric ton |
| BL | Black liquor |
| BLS | Black liquor solids |
| BTU | British thermal unit |
| CEM | Continuous emission monitor |
| CMS | Continuous Monitoring System |
| CO | Carbon monoxide |
| DOE | Department of Ecology |
| dscf | Dry standard cubic foot |
| EPA | Environmental Protection Agency |
| ESP | Electrostatic precipitator |
| FCAA | Federal Clean Air Act |
| FW | Facility wide general requirements |
| gpm | Gallons per minute |
| gr | Grain |
| HAP | Hazardous air pollutant |
| HSC | High Solids Crystallizer |
| IEU | Insignificant emission unit |
| kg | Kilogram |
| lbs | Pounds |
| LM | Lime mud |
| MACT | Maximum available control technology |
| MBF | Thousand Board Feet |
| MMBTU | Million British thermal units |
| MR | Monitoring, recording and reporting |
| NOx | Oxides of nitrogen |
| NCG | Noncondensable gas |

| | |
|-----------------|--|
| NESHAP | National Emission Standards for Hazardous Air Pollutants |
| NSPS | New source performance standards |
| ORP | Oxidation reduction potential |
| Perf. Spec. | Performance specification |
| PM | Particulate matter |
| PM-10 | Particulate matter less than 10 microns in diameter |
| ppm | Parts per million |
| ppmdv | Part per million dry volume |
| RC | Recordkeeping requirements |
| RF, RB | Recovery furnace, recovery boiler |
| RACT | Reasonable available control technology |
| RM | Reference method |
| SERP | Source emission reduction plan |
| SIP | State implementation plan |
| SO ₂ | Sulphur dioxide |
| SWCAA | Southwest Clean Air Agency |
| TC | Standard terms and conditions |
| tpy | Tons per year |
| TRS | Total reduced sulphur |
| TSP | Total suspended particulate |
| U.S.C. | United States Code |
| VOC | Volatile organic compound |
| WAC | Washington Administrative Code |

Appendix C - Algorithms for Emissions Calculation

Note: The Permittee may use an equivalent alternative method with written approval by Ecology.

Averages over time specified in emission limits shall be determined by the arithmetic mean of measurements taken during the specified time period.

Permit Conditions B.2b, B.5, B.6, B.7, B.8, B.9, B.10 Particulate Matter, SO₂, NO_x (mass per fuel heat input)

$$= (\text{Concentration} * \text{Air Flow Rate} * \text{Unit Conversion Factor}) / \text{Heat Input}$$

Concentration comes from EPA RM 5 or DOE RM 5, RM6, or RM7 as specified in the respective condition, and gives results in terms of gr/dscf or lbs/ft³.

Air Flow is calculated per specified RM 5.

Unit Conversion Factor is case specific. For example, 1 lb = 7,000 grains.

Heat Input is calculated by multiplying the measured steaming rate by the rated efficiency of the boiler. The boiler manufacturer's rated efficiency is 64.23%. If future performance tests demonstrate a different efficiency, that may be used to calculate heat input after consultation with the Department of Ecology.

Permit Conditions D.5, D.8, E.5 Particulate Matter (mass per time)

$$= [(\text{Concentration} * \text{Air Flow Rate} * \text{Unit Conversion Factor}) / \text{Black Liquor Solids Firing Rate}] * \text{Black Liquor Solids Fired/time period}$$

Concentration, whether EPA RM 5 or DOE RM 5 as specified in the respective condition, gives results in terms of gr/dscf.

Air Flow is calculated per specified RM 5.

Unit Conversion Factor is case specific. For example, 1 lb = 7,000 grains.

Black Liquor Solids Firing Rate is the average firing rate during the stack test.

Black Liquor Solids Fired is the total tons fired over the period in question.

| | |
|------------------------------------|---------------------------------------|
| Permit Condition D.13, F.9 | SO₂ (mass per time) |
| Permit Condition D.15, E.10 | TRS (mass per time) |
| Permit Condition D.17 | NO_x (mass per time) |

$$= [(\text{concentration} * \text{air flow} * \text{natural gas law conversion}) / \text{black liquor solids firing rate}] * \text{black liquor solids fired/time period}$$

Concentration is in terms of ppm_{dv} at standard conditions. It is derived either from average CEM values over the period of the particulate testing (e.g. SO₂ on the Recovery Boiler) or from stack testing using specified RM (e.g. TRS on the smelt dissolver tank vent).

Air Flow is calculated per specified particulate test from the respective emission unit. Natural Gas Law Conversion is case specific. It converts ppm to mass per volume of air and is dependent on the molecular weight of the specific pollutant.

Black Liquor Solids Firing Rate is the average firing rate during the stack test. Black Liquor Solids Fired is the total tons fired over the period in question.

Permit Conditions E.3, E.4 Particulate Matter (mass/mass BLS)

= (Concentration x Air Flow Rate x Unit Conversion Factor x Time Adjustment) / Black liquor solids firing rate

Concentration is in terms of gr/dscf .

Air Flow is calculated per specified RM 1 and 2.

Unit Conversion Factor is case specific. For example 1 lb = 7,000 grains.

Time Adjustment is case specific and is dependent on the flow rate time unit. For example, if the flow rate from a RM 1 and 2 was in terms of dscfm and the black liquor firing rate is in hours then the time adjustment would be 60 minutes/hour.

Black liquor solids firing rate is the “as-fired” firing rate average for the test period. The firing rate is in terms of mass per time.

Permit Condition E.8 TRS (mass per mass BLS)

= [(concentration x air flow x natural gas law conversion) / black liquor solids firing rate] x black liquor solids fired/time period

Concentration is in terms of ppm_{dv} at standard conditions. It is derived either from average CEM values over the period of the particulate testing (e.g. SO₂ on the Recovery Boiler) or from stack testing using specified RM (e.g. TRS on the smelt dissolver tank vent).

Natural Gas Law Conversion is case specific. It converts ppm to mass per volume of air and is dependent on the molecular weight of the specific pollutant.

Air Flow is calculated as specified in RM 1, 2, 3 & 4.

Unit Conversion Factor is case specific. For example 1 lb = 7,000 grains.

Time Adjustment is case specific and is dependent on the flow rate time unit. For example, if the flow rate from a RM 1 and 2 was in terms of dscfm and the black liquor firing rate is in hours then the time adjustment would be 60 minutes/hour. Black liquor solids firing rate is the “as-fired” firing rate average for the test period. The firing rate is in terms of mass per time.

Appendix D – Orders, Permits, and Operational Practices

The specific applicable elements of these documents have been incorporated into the permit itself. The documents in entirety are kept on file and available for public review in Ecology's Industrial Section. The objective is to maintain the permit as a practical field document.

PSD-92-03, Amendment 4

PSD 97-01, Amendment 3

Order No. DE 95AQ-I035(Order No. DE 84-133)

Order No. DE 94AQ-I080

Order No. 7840

Order No. 7414

Order No. DE 95 I079

Order No. 16181