

Issuance Date: February 26, 2004
Effective Date: March 1, 2004
Expiration Date: March 1, 2009

AIR OPERATING PERMIT 000087-6

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

**Kaiser Aluminum & Chemical Corporation
Mead Works
2111 East Hawthorne Road
Mead, Washington 99021**

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

Issued by:

State of Washington
DEPARTMENT OF ECOLOGY
300 Desmond Drive
P.O. Box 47600
Olympia, Washington 98504-7600

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SECTION I: INTRODUCTION AND LEGAL AUTHORITY

This Air Operating Permit is issued under the procedures established in the Operating Permit Regulation, Chapter 173-401 WAC (Washington Administrative Code). The provisions of this permit describe the emissions limitations, operating requirements, emission monitoring, recordkeeping requirements, and reporting frequencies for the permitted source. Terms used in this permit have the meaning assigned to them in the referenced regulations.

Kaiser Aluminum & Chemical Corporation's Mead Works (Permittee) requires a Chapter 173-401 WAC Air Operating Permit because it emits or has the potential-to-emit, one hundred tons per year or more of one or more air pollutants as evidenced by Kaiser's annual emission inventories and Kaiser's monthly air emission reports. [WAC 173-401-300(1)].

All terms and conditions except state-only requirements are enforceable under the Federal Clean Air Act (FCAA). State-only requirements are specifically identified in the permit.

SECTION II: SPECIFIC TERMS AND CONDITIONS OF THE PERMIT

The permittee is subject to the respective requirements in each of the tables for the specific processes (pages 12 through 48) and is also subject to all the facility-wide generally applicable requirements (pages 5 through 11). Insignificant emission units (IEUs) and activities are subject to the applicable requirements contained in the facility-wide generally applicable requirements, however, they are not subject to testing, monitoring, recordkeeping, reporting and certification requirements unless the generally applicable requirements in the State Implementation Plan (SIP) impose them [WAC 173-401-530(2)(c)].

During periods of temporary curtailment of smelting operations, the permittee may petition the Department in writing to reduce or eliminate both emission and ambient monitoring requirements. Curtailment is defined as 10 percent or less employees working on the site. During periods of total curtailment (100% of smelting operations are shut down), emission and ambient monitoring, inspections, and record-keeping requirements can be discontinued. Reporting requirements shall remain in effect. Upon start up of the curtailed smelting operations, all AOP requirements shall revert to those in the current permit.

Facility-wide Generally Applicable Requirements:

The applicable requirements, test methods, and associated monitoring, recordkeeping and reporting requirements in the “Facility-wide Generally Applicable Requirements” table (pages 5 through 11) apply facility-wide, unless a more restrictive condition contained in II.2 to II.9 applies.

Process Specific Requirements for Processes 2 through 9:

This permit categorizes permit conditions according to Kaiser's aluminum smelter processes. The following Tables listed specific permit conditions for these eight specific processes:

Table II.2	Coke Calcining Process
Table II.3	Green Carbon Process
Table II.4	Baked Carbon Process
Table II.5	Anode Rodding Process
Table II.6	Potroom & Reactors Process
Table II.7	Metal Productions Process
Table II.8	Ancillary Operations
Table II.9	Maintenance Operations

The emission units identified in these tables are the emission units that are subject to specific requirements in addition to the generally applicable requirements (on pages 5 through 11).

In column 2, when more than one citation is listed for a permit condition, the more stringent, or more specific of multiple citations is listed first. Less stringent or less specific citations are listed below the higher order requirement (typed in italicized font). [WAC 173-301-600].

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II.1 Facility-Wide Generally Applicable Requirements			
Condition Number	Citation of Authority	Emission limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
1.a	<p>WAC 173-415-030(3) [approved into the SIP on 2/19/91; state rule effective 3/22/91]</p> <p>WAC 173-415-030</p>	<p>Visible Emissions (VE)</p> <p>Must not exceed an average of 20% opacity for more than six consecutive minutes in any 60-minute period.</p>	<p>The permittee shall comply with Condition No. 1.n and shall conduct EPA Method 9 (40 CFR Part 60, Appendix A) upon request by Ecology.</p> <p>If visible emissions are observed at any time, the observation shall be documented and corrective action initiated as soon as practical but not to exceed 24 hours.</p> <p>The permittee shall conduct a weekly functional integrity inspection of each emission unit and its air emission device. The minimum requirement of the inspection for an air emission device (such as baghouse) and its emission unit will include a visual/sensory check of the following parameters: visible emissions (no Method 9 is required), leaks in/out of any ductwork or housing, pressure drops, and excess vibration/noise. The permittee shall maintain records of the inspection results of these parameters and any resulting corrective actions. The inspection log shall be properly maintained for review. The permittee shall initiate corrective action as soon as practical but not to exceed 24 hours if problems are observed during the inspection.</p> <p>[WAC 173-401-615(1)(b) & WAC 173-401-630(1)]</p>
1.b	<p>WAC 173-400-040(2) [effective 3/22/91; not submitted for SIP approval]</p> <p>State-only requirement</p>	<p>Fallout</p> <p>No person shall cause or permit the emission of particulate matter from any source to be deposited beyond the property under direct control of the permittee in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material is deposited.</p>	<p>The permittee shall conduct investigations of any reports of excessive fallout and maintain records of: (1) each report of fallout by operational staff or complaint of excessive fallout received; (2) the results of investigation into the validity and/or cause of the excessive fallout; (3) corrective action taken, if any, to eliminate the excessive fallout; and (4) the time the action was initiated and completed. The permittee shall initiate corrective action as soon as practical but not to exceed 24 hours when any valid complaint is received.</p> <p>[WAC 173-401-615(1)(b) & WAC 173-401-630(1)]</p>
1.c	<p>WAC 173-400-040(3)(b) [effective 3/22/91; approved into the SIP on 2/19/91]</p> <p>WAC 173-400-040(3)(a)</p>	<p>Fugitive Emissions</p> <p>The permittee shall use RACT to prevent fugitive emissions.</p>	<p>The permittee shall comply with Condition No. 1.a.</p>

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II.1 Facility-Wide Generally Applicable Requirements			
Condition Number	Citation of Authority	Emission limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
1.d	WAC 173-400-040(4) [3/22/91; not submitted for SIP approval] State-only requirement	Odor Permittee shall use recognized good practice and procedures to reduce odors which unreasonably interfere with any other property owner's use and enjoyment of his property to a reasonable minimum.	The permittee shall conduct investigations of any report of odor and maintain records of: (1) each report of odor by operational staff or complaint of odors received; (2) the results of investigation into the validity and /or cause of the odors; (3) corrective action taken, if any, to eliminate or reduce odors; and (4) the time the action was initiated and completed. The permittee shall initiate corrective action as soon as practical but not to exceed 24 hours when any valid complaint is received. [WAC 173-401-615(1)(b) & WAC 173-401-630(1)]
1.e	WAC 173-400-040(5) [3/22/91; approved into the SIP on 8/20/93]	Emissions Detrimental to Persons or Property Permittee shall not cause or permit the emissions of any contaminant from its source if it is detrimental to the health, safety, or welfare of any person, or causes damage to property or business	The permittee shall conduct investigations of any reports of detrimental emissions and maintain records of: (1) each report of detrimental emissions by operational staff or complaint of detrimental emissions received; (2) the results of investigation into the validity and/or cause of the detrimental emissions; (3) corrective action taken, if any, to eliminate or reduce the odor; and (4) the time the action was initiated and completed. The permittee shall initiate corrective action as soon as practical but not to exceed 24 hours when any valid complaint is received. [WAC 173-401-615(1)(b) & WAC 173-401-630(1)]

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II.1 Facility-Wide Generally Applicable Requirements			
Condition Number	Citation of Authority	Emission limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
1.f	WAC 173-415-030(5)(a) [3/22/91; approved into the SIP on 2/19/91]	Sulfur Dioxide - Mass Limit Total emissions of sulfur dioxide from all emissions units (excluding coke calciner) shall not exceed sixty pounds of sulfur dioxide per ton of aluminum produced on a monthly average.	<p>The permittee shall conduct an emission test using EPA Method 6 or 6c (40 CFR Part 60, Appendix A) upon request by Ecology.</p> <p>The permittee shall analyze each incoming load or batch coke and pitch for sulfur content using the procedures in ASTM D4239. Measure aluminum production daily. Calculate sulfur dioxide emissions from a mass balance calculation (making the assumption that all sulfur converts to sulfur dioxide), using a weighted daily aluminum production rate for the month being evaluated, and using a weighted average sulfur content representative of all raw materials consumed during the month being evaluated.</p> <p>The permittee shall calculate the sulfur dioxide emission rate by the following equation:</p> <p>Pounds SO₂/ton Al = (ΣC_xS_C+ΣP_xS_P+ΣO_xS_O) x 40/Al</p> <p>Where C, P, and O are the coke, pitch, and fuel oil usage, in tons, S_C, S_P, and S_O are the sulfur concentration of coke, pitch and fuel oil respectively, consumed during the month being evaluated expressed as a percentage; and Al is the aluminum production for the month.</p> <p>Monthly, the permittee shall submit the Pounds SO₂/ton Al. The submission shall include records of raw material usage, representative raw material sulfur analysis, and aluminum production rate. [WAC 173401-615(1)(b) & WAC 173-401-630(1)]</p>
1.g	WAC 173-415-030(5)(b) [3/22/91; approved into the SIP on 2/19/91] WAC 173-400-040(6), <i>first paragraph</i>	Sulfur Dioxide - Concentration Limit The permittee shall not cause or permit the emissions of a gas containing sulfur dioxide in excess of 1,000 ppm corrected to dry standard conditions for an hourly average.	<p>The permittees shall conduct an emission test using EPA Method 6 or 6c (40 CFR Part 60, Appendix A) upon request by Ecology.</p> <p>The permittee shall comply with Condition No 1.f.</p>

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II.1 Facility-Wide Generally Applicable Requirements			
Condition Number	Citation of Authority	Emission limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
1.h	WAC 173-400-040(8)(a) [effective 3/22/91; approved into the SIP on 8/20/93]	Fugitive Dust The permittee shall take reasonable precautions to prevent fugitive dust from becoming airborne and shall maintain and operate the source to minimize emissions. WAC 173-401-600(2) & -605(1).	The permittee shall comply with Condition No.1.c. [WAC 173-401-615(1)(b) & WAC 173-401-630(1)]
1.i	WAC 173-400-050(1) [effective 3/22/91; approved into the SIP on 8/20/93] And WAC 173-400-060 [effective 3/22/91; approved into the SIP on 8/20/93]	Particulate Matter (PM) Emissions of particulate material from any combustion and incineration unit and from any general process operations shall not exceed 0.1 grains/dscf.	The permittee shall conduct source tests at Ecology's request. The reference test methods are EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A); or another EPA approved method (40 CFR Part 63, Appendix A). [WAC 173-401-615(1)(b) & WAC 173-401-630(1)]
1.j	Order No. 01AQIS-2005 (XXVI) <i>WAC 173-415-030(1)(a)</i> <i>[effective 3/22/91; not submitted for SIP approval]</i> <i>WAC 173-481-150</i> State-only requirement	Fluorides Monitoring program for fluorides emitted to the ambient air. An exceedance of the forage standard using a standardized grass culture shall be considered a violation of the respective standard in Chapter 173-481 WAC. Additionally, failure to maintain and operate the standardized grass cultures in accordance with the protocol shall be considered a failure to monitor violation.	Annually and before the beginning of the growing season (March 1), Kaiser shall conduct a survey of potential forage sites within the area described as the SE quadrant and extending out five (5) miles from Kaiser's plant site to determine if livestock has the potential to consume vegetation. Submit this survey to Ecology within 30 days of the start of the growing season. Kaiser shall conduct forage sampling and monitoring at each site identified as having potential for forage production or grazing on a monthly basis at each site during the growing season (March 1 to October 31) provided that at least 2 grams of dry prepared sample can be obtained. Generally, forage sampling and monitoring is not necessary for the growing season if the annual survey conducted prior to the growing season does not reveal any potential forage production or grazing sites. However, if during the growing season, Ecology or Kaiser identifies additional sites, Kaiser shall immediately begin sampling and monitoring of the newly identified site(s) for the remainder of the growing season.

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II.1 Facility-Wide Generally Applicable Requirements			
Condition Number	Citation of Authority	Emission limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
			The permittee shall adhere to the <u>Standardized Grass Culture for Atmospheric Biomonitoring (as Modified at Boyce Thompson Institute, Ithaca, NY), 10 June 1991</u> for any necessary forage sampling and monitoring required by this order. Washing of the forage is not allowed. Kaiser shall adhere to ASTM D3269-96, <u>Standard Test Methods for Analysis for Fluoride Content of Atmosphere and Plant Tissues (Manual Procedures)</u> .
1.k	Order No. 01AQIS-2005 (XXVI) <i>WAC 173-415-060(1) (a), (b), (d), and (e) [effective 3/22/91; not submitted for SIP approval]</i> <i>WAC 173-481-150</i> State-only requirement	Monitoring of ambient air, forage, fluoride emissions and other air data as specified.	The permittee shall comply with Condition No. 1.j.
1.l	Order No. 01AQIS-2005 (XXVI) <i>WAC 173-481-100 [effective 9/16/87; not submitted for SIP approval]</i> State-only requirement	Forage standards Sampling must be conducted in locations and during time periods consistent with protecting livestock and vegetation. Fluoride content must not exceed: - an average of 40 ppm for any 12 consecutive months; - 60 ppm for each month for more than 2 consecutive months. - 80 ppm more than once in any 2 consecutive months - In areas where cattle are not grazed continually, but are fed cured forage part of the year, the fluoride content of the cured forage shall be used as the	The permittee shall comply with Condition No. 1.j.

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II.1 Facility-Wide Generally Applicable Requirements			
Condition Number	Citation of Authority	Emission limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
		forage fluoride content for as many months as it is fed to establish the yearly average. Cured forage grown for sale as livestock feed shall not exceed 40 ppm by dry weight after curing or preparing for sale.	
1.m	Order No. 01AQIS-2005 (XXVI) <i>WAC 173-481-110(1) [effective 9/16/87; not submitted for SIP approval]</i> <i>WAC 173-415-060(1)(a)</i> State-only requirement	Ambient standards Sampling must be conducted in locations and during time periods consistent with protecting livestock and vegetation. Gaseous fluorides in the ambient air calculated as HF must not exceed: - 3.7 ug/m ³ for any 12 consecutive hours; - 2.9 ug/m ³ for any 24 consecutive hours; - 1.7 ug/m ³ for any 7 consecutive days; - .84 ug/m ³ for any 30 consecutive days; - 0.50 ug/m ³ average for the period from March 1 through October 31 of any year.	The permittee shall maintain three ambient gaseous fluoride monitoring stations around the smelter, which are “Fairview” “Mead”, and “Nord” stations. The stations can be relocated or eliminated in the future if approved by Ecology. The permittee shall monitor for compliance with the 24 hour standard. Compliance with the 24 hour standard is deemed compliance with the 12 hour standard.

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II.1 Facility-Wide Generally Applicable Requirements			
Condition Number	Citation of Authority	Emission limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
1.n	WAC 173-415-030(6) [3/22/91; approved into the SIP on 2/19/91]	<p>Operation and maintenance Consistent with Good Air Pollution Control Practices</p> <p>At all times, including periods of abnormal operation and upset, the permittee must operate and maintain air pollution control equipment in a manner consistent with good air pollution control practice.</p> <p>Emissions that result from permittee's failure to follow the requirements of the manuals may be considered proof that the equipment was not properly operated and maintained.</p> <p>Determination of whether acceptable O&M procedures are being used will be based on information available to Ecology that may include, but is not limited to, monitoring results, opacity observations, inspections of the source, and O&M manuals.</p>	<p>The permittee shall maintain training records. [WAC 173-401-615(1)(b) & WAC 173-401-630(1)]</p> <p>Copies of the O&M manuals must be available to Ecology inspector's review.</p>
1.o	WAC-173-401-615(1)(b) & WAC 173-401-630(1)	<p>Corrective Action</p> <p>A standard procedure shall be followed when initiating corrective action.</p>	<p>A standard procedure shall be developed by the permittee for how corrective actions are to be taken.</p>

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II.2 Coke Calcining			
Condition No Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
2.1 Cooling Kiln Cyclone /Baghouse (Baghouse #11) Discharge pt. #4 8,000 cfm	Condition #1 of Order No. DE 01- AQIS-2005 (XXV)	PM Emissions of particulate material from any general process operations shall not exceed 0.01 grains per actual cubic foot.	The permittee shall conduct a source test upon Ecology's request using EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A); or another EPA approved method.
	Condition #2 of Order No. DE 01- AQIS-2005 (XXV)	VE Opacity at the stack must not exceed an average of five percent for any six consecutive minutes in any sixty-minute period.	The permittee shall comply with Condition No. 1.a.
	Condition #3 of Order No. DE 01- AQIS-2005 (XXV)	Functional Integrity Conduct inspections using functional integrity check list. The list shall be reasonably developed and shall be based on O&M manuals.	The permittee shall comply with Condition No. 1.a.
	Condition #4 of Order No. DE 01- AQIS-2005 (XXV)	O&M The permittee shall follow O&M manuals at all times. The permittee shall operate and maintain the unit(s) consistent with good air pollution control practice.	The permittee shall comply with Condition No. 1.n.
2.2 Discharge pt. #1 Baghouse No. 2 (Green coke transfer) 9,000 cfm	WAC 173-400- 060 [effective 3/22/91; approved into the SIP on 8/20/93]	PM Emissions of particulate material from any general process operations shall not exceed 0.1 grains/dscf.	The permittee shall conduct a source test upon Ecology's request using EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A) or another EPA approved method. The permittee shall comply with Condition No. 1.a.

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II.2 Coke Calcining			
Condition No Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
2.3 Discharge pt. #6 Baghouse #10 (rail car loading) 10,000 cfm			
2.4 Discharge pt. #8 Calcined Coke Tank Vent BH 1,000 cfm	WAC 173-400-060 [effective 3/22/91; approved into the SIP on 8/20/93]	PM Emissions of particulate material from any general process operations shall not exceed 0.1 grains/dscf.	The permittee shall conduct a source test upon Ecology's request using EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A) or another EPA approved method. The permittee shall comply with Condition No. 1.a.
2.5 Discharge pt. #12 400T Nahcolite BH 750 cfm			
2.6 Discharge pt. #13 200T Nahcolite BH 750 cfm			
2.7 Discharge pt. #15 Sodium Sulfate BH 750 cfm			
2.8 Discharge pt. #14 (Coke Calciner) Baghouse #5 31,536 cfm			

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II.2 Coke Calcining			
Condition No Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
	Condition #2 of Order No. DE 01- AQIS-2005 (XXIX) WAC 173-400- 040(6)	Sulfur Dioxide (SO₂) SO ₂ emissions from the baghouse stack shall be limited to 1,000 ppm and to 75 tons per month or 565 tons per year.	The permittee shall monitor SO ₂ emissions through the use of the sulfur dioxide concentrations measured by the CEM installed on the calciner stack together with the volumetric flow rate as determined by EPA Reference Methods (40 CFR Part 60, Appendix A)
	Condition #3 of Order No. DE 01- AQIS-2005 (XXIX) WAC-173-401- 615(1)(b) & WAC 173-401-630(1)	VE Opacity at the stack must not exceed an average of five percent for any six consecutive minutes in any sixty-minute period.	The permittee shall conduct monthly scrubber stack observation by using EPA Test Method 9 (40 CFR Part 60, Appendix A). The permittee shall comply with Condition No. 1.a.
	Condition #4 of Order No. DE 01- AQIS-2005 (XXIX)	Functional Integrity Conduct inspections using functional integrity check list. The list shall be reasonably developed and shall be based on O&M manuals.	The permittee shall comply with Condition No. 1.a.
	Condition #5 of Order No. DE 01- AQIS-2005 (XXIX)	O&M The permittee shall follow O&M manuals at all times. The permittee shall operate and maintain the unit(s) consistent with good air pollution control practice.	The permittee shall comply with Condition No. 1.n.

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II.3 Green Carbon			
Condition No. Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
3.1 Coke Unloading Baghouse Discharge pt. #1 4,200 cfm 80 hrs per week	Condition #1 and #6 of Order No. DE 01-AQIS- 2005 (XIV) <i>WAC 173-400-060</i>	PM PM emissions must not exceed: 0.01 grains/dscf	The permittee shall conduct a source test upon Ecology's request using EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A) or another EPA approved method.
	Condition #2 of Order No. DE 01- AQIS-2005 (XIV)	VE Opacity at the stack must not exceed an average of five percent for any six consecutive minutes in any sixty-minute period.	The permittee shall comply with Condition No. 1.a.
	Condition #3 of Order No. DE 01- AQIS-2005 (XIV)	Functional Integrity Conduct inspections using functional integrity check list. The list shall be reasonably developed and shall be based on O&M manuals.	The permittee shall comply with Condition No. 1.a.
	Condition #4 of Order No. DE 01- AQIS-2005 (XIV)	O&M The permittee shall follow O&M manuals at all times. The permittee shall operate and maintain the unit(s) consistent with good air pollution control practice.	The permittee shall comply with Condition No. 1.n.

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II.3 Green Carbon			
Condition No. Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
3.2 Coke Transfer Baghouse Discharge pt. #2 19,000 cfm	WAC 173-400-060 [effective 3/22/91; approved into the SIP on 8/20/93]	PM Emissions of particulate material from any general process operations shall not exceed 0.1 grains/dscf.	The permittee shall conduct a source test once every two-year and upon Ecology's request. Use EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A), or another EPA approved method. Concurrently with the particulate matter emission test, conduct a visible emission observation or EPA Test Method 9 (40 CFR Part 60, Appendix A) during the time period of the particulate matter test. Record the time and duration of visible emissions during the particulate matter emission test. The permittee shall comply with Condition No. 1.a.
3.3 Baghouse #81N Discharge pt. #4 20,000 cfm	WAC-173-401-615(1)(b) & WAC 173-401-630(1)		
3.4 Baghouse #80S Discharge pt. #6 20,000 cfm			
3.5 Central Plenum Baghouse (Ball Mill, Coke Crushing, etc) Discharge pt. 7 32,000 cfm	Condition #1 and #6 of Order No. DE 01-AQIS-2005 (XV) WAC-173-401-615(1)(b) & WAC 173-401-630(1) <i>WAC 173-400-060</i>	PM PM emissions must not exceed 0.01 grains/dscf.	The permittee shall conduct a source test twice every year and upon Ecology's request. Use EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A), or another EPA approved method. Concurrently with the particulate matter emission test, conduct a visible emission observation or EPA Test Method 9 (40 CFR Part 60, Appendix A) during the time period of the particulate matter test. Record the time and duration of visible emissions during the particulate matter emission test.
	Condition #2 of Order No. DE 01-AQIS-2005 (XV) WAC-173-401-615(1)(b) & WAC 173-401-630(1)	VE Opacity at the stack must not exceed an average of five percent for any six consecutive minutes in any sixty-minute period.	The permittee shall conduct monthly scrubber stack observation by using EPA Test Method 9 (40 CFR Part 60, Appendix A). The permittee shall comply with Condition No. 1.a.

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II.3 Green Carbon			
Condition No. Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
	Condition #3 of Order No. DE 01- AQIS-2005 (XV)	Functional Integrity Inspection Conduct inspections using functional integrity check list. The list shall be reasonably developed and shall be based on O&M manuals.	The permittee shall comply with Condition No. 1.a.
	Condition #4 of Order No. DE 01- AQIS-2005 (XV)	O&M The permittee shall follow O&M manuals at all times. The permittee shall operate and maintain the unit(s) consistent with good air pollution control practice.	The permittee shall comply with Condition No. 1.n.
3.6 Baghouse #53C Discharge pt. #5 12,492 cfm	WAC 173-400- 060 [effective 3/22/91; approved into the SIP on 8/20/93]	PM Emissions of particulate material from any general process operations shall not exceed 0.1 grains/dscf.	The permittee shall conduct a source test upon Ecology's request using EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A); or another EPA approved method. The permittee shall comply with Condition No. 1.a.
3.7 Fresh Coke Airveyor Baghouse Discharge pt. #8 700 cfm			

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II.3 Green Carbon			
Condition No. Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
3.8 Reacted Coke Airveyor Baghouse Discharge pt. #9 700 cfm			
3.9 Green Carbon Vacuum System Discharge pt. #10, 2,000 cfm			
3.10 Dust Airveyor Baghouse Discharge pt. 15 700 cfm			
3.11.a Dry Coke Scrubber Discharge pt. #11	40 CFR Part 63.843(b)	POM Operate and maintain equipment to capture and control POM emissions from the paste production plant.	The permittee shall comply with the following parametric monitoring and visible emissions of this emission unit, 3.11.a.

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II.3 Green Carbon			
Condition No. Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
3.11.b	40 CFR Part 63.848(f) and 40 CFR Part 63.847(h)	<p>Parametric Monitoring</p> <p>Operate, calibrate and maintain a continuous parameter monitoring system for the paste plant emission control device.</p> <p>The permittee may re-determine the upper and/or lower operating limits, as appropriate, based on historical data or other information and submit an application to Ecology to change the applicable limits(s).</p>	<p>At least once each day, the permittee shall inspect the control device to ensure the control device is operating properly and record the results of each inspection.</p> <p>The permittee shall continuously monitor and record coke flow and stack air flow rates.</p>
3.11.c	40 CFR Part 63.848(g)	<p>VE</p> <p>Visually inspect the exhaust stack of the control device on a daily basis for evidence of any VE indicating abnormal operation.</p>	<p>The permittee shall conduct daily stack inspection for any visible emissions during normal operation.</p>
3.11.d	40 CFR Part 63.848(h)	<p>Corrective Action</p> <p>If visible emissions indicating abnormal operation are observed from the exhaust stack of a control device during a daily inspection the permittee shall initiate corrective action procedures identified in the startup, shutdown and malfunction plan within one hour.</p>	<p>Within one hour of the visible emission observed, the permittee shall initiate the corrective action procedures identified in the startup, shutdown and malfunction plan.</p>

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II.3 Green Carbon			
Condition No. Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
3.11.e	40 CFR Part 63.848(i)	<p>Exceedances</p> <p>Remain within limits for each operating parameter such that any given limit is not exceeded six or more times in any semiannual reporting period. No more than one exceedance shall be attributed to any given 24-hour period.</p>	<p>The permittee shall submit a semiannual summary report. The first and all subsequent summary reports shall include the dates of each excursion outside the normal operating ranges and the magnitude of each excursion. The report shall also identify exceedances of any given operating parameter six or more times in any semiannual period.</p>
3.11.f	40 CFR Part 63.848(k)	<p>Accuracy and Calibration</p> <p>Submit recommended accuracy requirements for review and approval of all monitoring devices required by conditions 3.11.b through 3.11.e [40 CFR Part 63.848].</p> <p>The submittal must be certified by the permittee to meet the accuracy requirements and must be calibrated in accordance with manufacturer's instructions.</p>	<p>The permittee shall submit recommended accuracy requirements for review and approval within 45 days of plant startup and when any changes are made to monitoring devices affecting their accuracy.</p>

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II.3 Green Carbon			
Condition No. Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
3.11.g	40 CFR Part 63.850(c) and 40 CFR Part 63.6(e)(3)	<p>Startup, Shutdown and Malfunction Plan and Reports</p> <p>The permittee shall develop and implement a written plan as described in 40 CFR Part 63.6(e)(3) that contains specific procedures to be followed for operating the source and maintaining the source during periods of startup, shutdown and malfunction and a program of corrective action for malfunctioning process and control systems used to comply with the (MACT) standard.</p>	<p>At least 45 days prior to plant startup, the permittee shall develop a written plan that contains specific procedures to be followed for operating the source and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and control systems used to comply with the MACT emission standards.</p> <p>In addition to the information required in 40 CFR Part 63.6(e)(3), the plan shall include: (1) procedures, including corrective actions, to be followed if a monitoring device measures an operating parameter outside the limits established in Condition No. 2.4.b, or if visible emissions from an exhaust stack indicating abnormal operation of a control device are observed by the owner or operator during the daily inspection required in Condition No. 3.11.c. The permittee shall also keep records of each event as required by 40 CFR Part 63.10(b) and record and report if an action taken during startup, shutdown, and malfunction is not consistent with the procedures in the plan as described in 63.6(e)(3)(iv).</p>
3.11.h	40 CFR Part 63.850(e)	<p>Recordkeeping</p> <p>The permittee shall maintain files of all information (including all reports and notifications) required by 40 CFR Part 63.10(b) and 40 CFR Part 63.850(e)</p>	

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II.4 Baked Carbon			
Condition No Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
4.1 Anode Bake Furnaces (Building 300 & 53) Baked Carbon Scrubber Discharge pt. #1 78,000 cfm	Condition #1 of Order No. DE 01- AQIS-2005 (XVII) <i>WAC 173-400-060</i>	PM Emissions of particulate material from any general process operation shall not exceed 0.005 grains/dscf and 80 pounds per day limits.	The permittee shall conduct a source test once every three calendar months and upon Ecology's request using EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A) or another EPA approved method.
		VE Opacity at the stack must not exceed an average of five percent for any six consecutive minutes in any sixty-minute period.	The permittee shall use continuous emissions monitoring (CEM) for opacity measurement as contained in 40 CFR Part 60, Appendix B. The permittee shall comply with Condition No. 1.a.
		CO CO emissions shall be limited to 940.6 tons per year.	The permittee shall conduct CO emissions testing no less than once per year at the main air control system by using EPA methods contained in 40 CFR Part 60, Appendix A or Appendix B, or another EPA approved method.
		NOx NOx emissions shall be limited to 123.6 tons per year.	The permittee shall conduct NOx emissions testing no less than once per year at the main air control system by using EPA methods contained in 40 CFR Part 60, Appendix A or Appendix B, or another EPA approved method.
		VOC VOC emissions shall be limited to 248 tons per year.	The permittee shall conduct VOC emissions testing no less than once per year at the main air control system by using EPA methods contained in 40 CFR Part 60, Appendix A or another EPA approved method.
		SO2 SO2 emissions shall be limited to 2,700 pounds per day.	The permittee shall conduct SO2 emissions testing no less than once every three calendar months at the main air control system by using EPA methods contained in 40 CFR Part 60, Appendix A or Appendix B, or another EPA approved method.

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II.4 Baked Carbon			
Condition No Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
		<p>F</p> <p>Fluoride emissions shall be limited to 0.02 pounds per ton of green anode baked</p>	The permittee shall follow Condition No. 4.2.a.
		<p>Polycyclic Aromatic Hydrocarbons (PAHs), including: benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)anthracene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene</p> <p>PAHs emissions shall be limited to 0.056 ton per year.</p>	The permittee shall follow Condition No. 4.2.b.
	Condition #2 of Order No. DE 01- AQIS-2005 (XVII)	<p>Functional Integrity Inspection</p> <p>Conduct inspections using functional integrity check list. The list shall be reasonably developed and shall be based on O&M manuals.</p>	The permittee shall comply with Condition No. 1.a.
	Condition #3 of Order No. DE 01- AQIS-2005 (XVII)	<p>O&M</p> <p>The permittee shall follow O&M manuals at all times. The permittee shall operate and maintain the unit(s) consistent with good air pollution control practice.</p>	The permittee shall comply with Condition No. 1.n.

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II.4 Baked Carbon			
Condition No Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
	Condition #4 of Order No. DE 01- AQIS-2005 (XVII)	Reporting Results of emission testing shall be reported to the department on the corresponding monthly report.	Anytime opacity exceeds five (5) percent from the furnace stack, the permittee shall report the date, time, duration, and CEM opacity reading to the department within 24 hours (Ecology normal business hours). The permittee shall provide a full detailed report of all opacity exceedances on the corresponding monthly report.
4.2.a – MACT Anode Bake Furnaces (Building 300 & 53) Baked Carbon Scrubber Discharge pt. #1 78,000 cfm	40CFR 63.843(c)(1), 847(d), 848(c), 849, 850(a)(5) and b, 40CFR 63.7(b) and (g), and WAC 173-415- 060(1)	TF limit Emissions of TF shall not exceed 0.20 lb/ton of green anode placed in the anode bake furnaces.	The permittee shall conduct a source test at the exhaust stack no less than once every 4 calendar months using EPA Test Method 13B (40 CFR Part 60, Appendix A); or another EPA approved method. The permittee shall compute and record the annual average of all valid test runs each year, using the equation in 40CFR63.847(e)(4). The permittee shall submit summaries of all performance tests within 30 days of the end of the last month of the reporting period. Performance tests must be in accordance with the approved test plan, Subpart A of 40CFR Part 63, and 40CFR63.847. Notify Ecology of intention to conduct performance tests. Submit notification at least 60 days before each test is scheduled to begin. Notify Ecology at least 5 days in advance of any delay in the planned test.
4.2.b - MACT Anode Bake Furnaces (Building 300 & 53) Baked Carbon Scrubber Discharge pt. #1 78,000 cfm	40CFR 63.843(c)(2) 847(d), 848(c), 850(a)(5) and b, 40CFR 63.7(b) and (g), and WAC 173-415- 060(1)	POM Emissions of POM shall not exceed 0.18 lb/ton of green anode placed in the anode bake furnaces.	The permittee shall conduct a source test at the exhaust stack no less than once every 6 calendar months using EPA Method 315 (40 CFR Part 63, Appendix A). Performance tests must be in accordance with the approved test plan, Subpart A of 40CFR Part 63, and 40CFR63.847. The permittee shall compute and record the annual average of all valid test runs each year, using the equation in 40CFR63.847(e)(4). Submit summaries of all performance tests within 30 days of the end of the last month of the reporting period. Notify Ecology of intention to conduct performance tests. Submit notification at least 60 days before each test is scheduled to begin. Notify Ecology at least 5 days in advance of any delay in the planned test.

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II.4 Baked Carbon			
Condition No Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
4.2.c	40CFR63.848(f) and 40CFR63.847(h)	Operate, calibrate and maintain a continuous parameter monitoring system including, at a minimum, alumina flow and air flow. Submit for approval by the regulatory authority a description of the parameter(s) to be monitored, the operating limits, and the monitoring frequency to ensure that the control device is being properly operated & maintained.	The permittee shall inspect each control device daily to ensure the device is operating properly and record the results of each inspection. The permittee shall monitor and maintain a daily log of ore feed and air flow rates for each day of operation. The permittee shall maintain records onsite and make them available to Ecology on request. The permittee shall submit a semiannual summary report. The first and all subsequent summary reports shall include the dates of each excursion outside the normal operating ranges and the magnitude of each excursion. The report shall also identify exceedances of any given operating parameter six or more times in any semiannual reporting period.
4.2.d	40CFR63.848(g) VE	Visually inspect the exhaust stack(s) of each control device for evidence of any VE indicating abnormal operation.	The permittee shall conduct a daily visual check (Method 9 is not required) and record the results.
4.2.e	40CFR63.848(h) VE and operating parameters	Initiate corrective action per startup, shutdown, and malfunction plan within 1 hour if operating parameters outside the limits established under condition 4.2.c are measured or VE indicating abnormal operation are observed during daily inspection.	Per approved parametric monitoring description. See condition 4.2.c. The permittee shall conduct a visual inspection, and comply with 4.2.d. The permittee shall comply with 4.2.i (startup, shutdown, malfunction plan) The permittee shall maintain records of all instances of failure to initiate corrective action procedures within 1 hour or to take necessary corrective actions to remedy the problem. Notify Ecology of all such instances at first opportunity during normal office hours.
4.2.f	40CFR63.848(i) Operating parameters	Remain within limits for each operating parameter such that any given limit is not exceeded six or more times in any semiannual reporting period. No more than one exceedance shall be attributed in any given 24-hr. period.	Per approved parametric monitoring description. See condition 4.2.c.

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II.4 Baked Carbon			
Condition No Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
4.2.g	40CFR63.848(j) Green anode material	Operate and maintain a monitoring device to determine the daily weight of green anode material placed in the anode bake furnace.	The permittee shall daily record weight of anodes placed in each furnace in tons.
4.2.h	40CFR63.848(k)	All monitoring devices required by conditions 4.2.a through 4.2.h must be certified by the permittee to meet the accuracy requirements and must be calibrated in accordance with manufacturer's instructions.	When any changes are made to monitoring devices affecting their accuracy, the permittee shall submit any changes to recommended accuracy requirements for review and approval.
4.2.i	40CFR63.850(c) and 40CFR63.6(e)(3)	Implement a startup, shutdown and malfunction plan and corrective action program that satisfy 40CFR63.850(c). The plan should be available for review by the permitting authority on request.	
4.2.j	40CFR63.6(e)(3) (vii)	Make changes to the startup, shutdown and malfunction plan if required by the regulatory authority.	
4.2.k	40CFR63.850(d) and 40CFR63.10(e)(3)	Submit an excess emissions and continuous monitoring system performance report, containing information specified in 40CFR63.10(e)(3)(v), if measured emissions exceed the applicable standard.	The permittee shall submit semiannually report unless quarterly reports are required as a result of excess emissions.
4.2.l	40CFR63.850(e) and 40CFR63.10(b)	Maintain files of all information, reports and notifications required by 40CFR63.10(b) and 40CFR63 Subpart LL in accordance with 40CFR63.850(e).	The permittee shall maintain files for five years.

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II.4 Baked Carbon			
Condition No Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
4.3.a N. Anode Cleaner Baghouse (BH) Discharge pt. #2 6,360 cfm	Condition #1 of Order No. DE 01- AQIS-2005 (XVII) <i>WAC 173-400-060</i>	PM Emissions of particulate material from any general process operations shall not exceed 0.005 grains/dscf.	The permittee shall conduct a source test upon Ecology's request. Use EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A), or another EPA approved method.
4.4.a S. Anode Cleaner BH Discharge pt. #3 8,400 cfm			
4.3.b N. Anode Cleaner BH Discharge pt. #2	Condition #2 of Order No. DE 01- AQIS-2005 (XVII)	VE Opacity must not exceed an average of five percent for any six consecutive minutes in any sixty- minute period.	The permittee shall comply with Condition No. 1.a.
4.4.b S. Anode Cleaner BH Discharge pt. #3			
4.3.b N. Anode Cleaner BH Discharge pt. #2	Condition #3 of Order No. DE 01- AQIS-2005 (XVII)	Functional Integrity Inspection Conduct inspections using functional integrity check list. The list shall be reasonably developed and shall be based on O&M manuals.	The permittee shall comply with Condition No. 1.a.
4.4.b S. Anode Cleaner BH Discharge pt. #3			

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II.4 Baked Carbon			
Condition No Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
4.3.c N. Anode Cleaner BH Discharge pt. #2	Condition #4 of Order No. DE 01- AQIS-2005 (XVII)	O&M The permittee shall follow O&M manuals at all times. The permittee shall operate and maintain the unit(s) consistent with good air pollution control practice.	The permittee shall comply with Condition No. 1.n.
4.3.c S. Anode Cleaner BH Discharge pt. #3			
4.5 Spencer Baghouse System Discharge pt. #4 11,000 cfm	WAC 173-400-060 [effective 3/22/91; approved into the SIP on 8/20/93] WAC-173-401- 615(1)(b) & WAC 173-401-630(1)	PM Emissions of particulate material from any general process operations shall not exceed 0.1 grains/dscf.	The permittee shall conduct monthly scrubber stack observation by using EPA Test Method 9 (40 CFR Part 60, Appendix A). The permittee shall comply with Condition No. 1.a.

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II.5 Anode Rodding			
Condition No or Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
5.1 Discharge pt. #1 (Vibrating conveyor #5 Baghouse) 7,000 cfm	Condition #1 of Order No. DE 01- AQIS-2005 (XVI) <i>WAC 173-400-060</i>	PM PM Emissions from the baghouse stack shall not exceed 0.01 grains.	The permittee shall conduct a source test upon Ecology's request using EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A) or another EPA approved method.
	Condition #2 of Order No. DE 01- AQIS-2005 (XVI)	VE Opacity at the stack must not exceed an average of five percent for any six consecutive minutes in any sixty-minute period.	The permittee shall comply with Condition No. 1.a.
	Condition #3 of Order No. DE 01- AQIS-2005 (XVI)	Functional Integrity Inspection Conduct inspections using functional integrity check list. The list shall be reasonably developed and shall be based on O&M manuals.	The permittee shall comply with Condition No. 1.a.
	Condition #4 of Order No. DE 01- AQIS-2005 (XVI)	O&M The permittee shall follow O&M manuals at all times. The permittee shall operate and maintain the unit(s) consistent with good air pollution control practice.	The permittee shall comply with Condition No. 1.n.
5.2 Discharge pt. #3 (BH 32F South) 25,000 cfm	Condition #1 of Order No. DE 01- AQIS-2005 (V) WAC-173-401- 615(1)(b) & WAC 173-401-630(1) <i>WAC 173-400-060</i>	PM PM Emissions from the baghouse stack shall not exceed 0.01 grains.	The permittee shall conduct a source test once per year and upon Ecology's request. Use EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A), or another EPA approved method. Concurrent with the particulate matter emission test, conduct a visible emission observation or EPA Test Method 9 (40 CFR Part 60, Appendix A) during the time period of the particulate matter test. Record the time and duration of visible emissions during the particulate matter emission test.

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II.5 Anode Rodding			
Condition No or Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
	Condition #2 of Order No. DE 01-AQIS-2005 (V) WAC-173-401-615(1)(b) & WAC 173-401-630(1)	VE Opacity at the stack must not exceed an average of five percent for any six consecutive minutes in any sixty-minute period.	The permittee shall conduct monthly scrubber stack observation by using EPA Test Method 9 (40 CFR Part 60, Appendix A). The permittee shall comply with Condition No. 1.a.
	Condition #3 of Order No. DE 01-AQIS-2005 (V)	Functional Integrity Inspection Conduct inspections using functional integrity check list. The list shall be reasonably developed and shall be based on O&M manuals.	The permittee shall comply with Condition No. 1.a.
	Condition #4 of Order No. DE 01-AQIS-2005 (V)	O&M The permittee shall follow O&M manuals at all times. The permittee shall operate and maintain the unit(s) consistent with good air pollution control practice.	The permittee shall comply with Condition No. 1.n.
5.3 Discharge pt. #2 Fine Cleaning Station 11,000 cfm	Condition #1 of Order No. DE 01-AQIS-2005 (XX) WAC 173-400-060	PM Emissions of particulate material from any general process operations shall not exceed 0.005 grains/dscf.	The permittee shall conduct a source test upon Ecology's request. Use EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A), or another EPA approved method.

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II.5 Anode Rodding			
Condition No or Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
	Condition #2 of Order No. DE 01-AQIS-2005 (XX)	VE Opacity at the stack must not exceed an average of five percent for any six consecutive minutes in any sixty-minute period.	The permittee shall comply with Condition No. 1.a.
	Condition #3 of Order No. DE 01-AQIS-2005 (XX)	Functional Integrity Inspection Conduct inspections using functional integrity check list. The list shall be reasonably developed and shall be based on O&M manuals.	The permittee shall comply with Condition No. 1.a.
	Condition #4 of Order No. DE 01-AQIS-2005 (XX)	O&M The permittee shall follow O&M manuals at all times. The permittee shall operate and maintain the unit(s) consistent with good air pollution control practice.	The permittee shall comply with Condition No. 1.n.
5.4 Discharge pt. #4 (Pangborn BH) 4,776 cfm	WAC 173-400-060 [effective 3/22/91; approved into the SIP on 8/20/93]	PM Emissions of particulate material from any general process operations shall not exceed 0.1 grains/dscf.	The permittee shall conduct a source test upon Ecology's request. Use EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A), or another EPA approved method. The permittee shall comply with Condition No. 1.a.
5.5 Discharge pt. #5 (Flash Welding BH) 2,400 cfm			

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II.6 Potroom & Reactors			
Condition No. Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
6.1.a Combined emissions from dry scrubber and roof vent monitors	WAC 173-415-030(2)	PM The total emission of particulate matter to the atmosphere from the reduction process (potlines) shall be reduced to the lowest level consistent with reasonably available control technology for primary aluminum plants. The emission of particulate shall not exceed fifteen pounds per ton of aluminum produced on a daily basis.	<p>The permittee shall conduct monthly source tests of the primary system and the potroom 4 roof monitor. Sampling particulates concurrent with MACT compliance sampling is acceptable.</p> <p>For dry scrubber emissions, sample a minimum of one reactor per month and at a rate that will sample all operating reactors in a 12-month period. A representative stack, chosen at random from each tested reactor shall be sampled for each test. EPA's Test Method 5 or 17 (40 CFR Part 60 Appendix A), Alcoa Test Methods 4075 and 4076, or another EPA approved method, shall be used for sampling. Conduct each test for a minimum of 4 hours.</p> <p>For roof monitor, the permittee shall conduct at least three source tests per month. Each source test shall be for duration of at least one pot cycle. EPA's Test Method 14 (40 CFR Part 60 Appendix A), Test Method 5 or 17 (40 CFR Part 60 Appendix A), and Alcoa Test Methods 4075 and 4076 shall be used for all sampling.</p> <p>Calculate the particulate matter emission rate from the potlines using the following equation: $E_p = [(C_{s1} \times Q_{sd})_1 + (C_{s2} \times Q_{sd})_2] / (P \times K),$ Where: E_p = the emission rate of PM from a potline in lb/ton; C_{s1} = the concentration of PM from the primary control system in mg/dscf; Q_{sd} = the volumetric flow rate of effluent gas corresponding to the appropriate subscript location in dscf/hr; C_{s2} = the concentration of PM as measured for the roof monitor emissions in mg/dscf; P = the aluminum production rate in ton/hr as determined by dividing the number of hours in the calendar month into the weight of aluminum tapped from the potline during the calendar month that includes the three runs of a performance test; K = conversion factor 453,600 mg/lb;</p> <p>Include all valid source tests in the calculation.</p> <p>Report results monthly, including all supporting data from calculation and units and dates tested on a summary sheet.</p>

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II.6 Potroom & Reactors			
Condition No. Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
6.1.b Combined emissions from dry scrubber and roof vent monitors	WAC 173-415-030(6)	<p>Operation and maintenance Consistent with Good Air Pollution Control Practices</p> <p>At all times, including periods of abnormal operation and upset, the permittee must operate and maintain air pollution control equipment in a manner consistent with good air pollution control practice.</p> <p>Determination of whether acceptable O&M procedures are being used will be based on information available to Ecology that may include, but is not limited to, monitoring results, opacity observations, inspections of the source, and O&M manuals.</p>	<p>If the monthly average emissions of gaseous fluoride from a potline roof (as measured by its CEM) exceed 1.04 pounds per ton of aluminum produced, then the permittee shall conduct an analysis of the CEM data for that potline shall be performed. This analysis shall focus on the factors contributing to the emission level of gaseous fluoride reported. In addition to the analysis of the CEM data, a special training session for the appropriate personnel on the subject potline shall be held within 30 days after the close of the reporting period. This special training session shall focus on the results of the CEM data analysis and a review of the appropriate work practices.</p> <p>The permittee shall develop a training plan that contains specific procedures to be followed for operating and maintaining the potlines in a manner consistent with good air pollution control practice. The purpose of the training program is to ensure that workers: (1) at all times operate and maintain the potlines, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions; and (2) are prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of air pollutants.</p> <p>The training plan, at a minimum, shall incorporate the following measures to employ good air pollution control practice: -Maintain doors in good repair, i.e. repair warps, gaps and holes, maintain top and bottom seals in good repair; -Minimize the duration of time the doors are opened, i.e. no unnecessarily open doors; -Minimize those emissions generated by work practices such as, but not limited to, ore feeding, crust breaking, anode replacement, tapping and metal transfer; -Develop and implement a pot fume collection and enclosure system repair policy -Ensure that the primary air control system is in good repair and operating properly, including operating the fans at or near design capacity; -Maintain an adequate draw on each operating pot including repairing holes in ductwork, etc. (WAC 173-401-600(2) & - 605(1))</p> <p>The permittee shall annually train all potroom workers in this training program. The permittee shall maintain employee training records in accordance with Section 1.n of this permit.</p> <p>Personnel shall conduct weekly functional integrity inspections of each operating potroom that visually checks, at a minimum, the performance requirements listed in the above</p>

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II.6 Potroom & Reactors			
Condition No. Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
			<p>paragraph.</p> <p>The permittee shall conduct a semi-annual ductwork inspection which shall focus on the physical condition of the ductwork system between the pots and the air control system. This inspection shall include but is not limited to the documentation of the physical integrity and functionality (holes due to abrasion or other damage and restrictions due to deposited material) of the ductwork system.</p> <p>Initiate corrective action as soon as practical but not to exceed 24 hours when any improper air pollution control practice is observed. Maintain records of each inspection, fan capacity measurement and corrective actions.</p>
6.2 Potline Dry Scrubbers Discharge pt. #4	WAC 173-400-060 [effective 3/22/91; approved into the SIP on 8/20/93]	VE	The permittee shall comply with Condition No. 1.a.

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II.6 Potroom & Reactors			
Condition No. Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
<p>6.3 100 Series BHs: Discharge Pt. #1</p> <p>a. # 145, 5,833 cfm b. # 155, 5,933 cfm c. # 165, 5,836 cfm d. # 175, 4,780 cfm -----</p> <p>6.4 500 Series BHs: Discharge pt. #3 Baghouse</p> <p>a. #500, 1,160 cfm b. #510, 1,160 cfm c. #520, 1,160 cfm d. #530, 1,160 cfm -----</p> <p>6.5 400 Series BHs: Discharge pt. #5</p> <p>a. # 418, 1,775 cfm b. # 428, 3,150 cfm c. # 438, 4,376 cfm d. # 448, 5,817 cfm</p>	<p>WAC 173-400-060 [effective 3/22/91; approved into the SIP on 8/20/93] WAC 173-400-060 [effective 3/22/91; approved into the SIP on 8/20/93]</p> <p>WAC-173-401-615(1)(b) & WAC 173-401-630(1)</p>	<p>PM</p> <p>Emissions of particulate material from any general process operations shall not exceed 0.1 grains/dscf.</p>	<p>Source tests for units BH #145, BH #155, and BH #448 are required as follows:</p> <p>The permittee shall conduct a source test once every five-year and upon Ecology's request. Use EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A), or another EPA approved method. The permittee shall concurrently with the particulate matter emission test, conduct a visible emission observation or EPA Test Method 9 (40 CFR Part 60, Appendix A) during the time period of the particulate matter test. Record the time and duration of visible emissions during the particulate matter emission test.</p> <p>For other emission units under Emission Units Numbers 6.3, 6.4, and 6.5 to be subjected to the following requirement:</p> <p>The permittee shall conduct a source test upon Ecology's request. Use EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A), or another EPA approved method. The permittee shall comply with Condition No. 1.a.</p>
<p>6.6.a - MACT</p> <p>Potlines</p>	<p>40 CFR Part 63.843(a)(1)(ii)</p>	<p>Total Fluoride (TF)</p> <p>Emissions of TF to the atmosphere shall not exceed 3.0 pounds/ton of aluminum produced for each potline.</p>	<p>Monthly, the permittee shall determine emissions of total fluoride through Condition No. 6.6.e.</p>

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II.6 Potroom & Reactors			
Condition No. Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
6.6.b	40 CFR Part 63.847(a)	Demonstrate initial compliance with the requirements.	The permittee shall demonstrate initial compliance of Condition No. 6.6.a within 180 days following startup for a potline or potroom group. The 180 day period starts when the first pot in a potline or potline group is energized.
6.6.c	40 CFR Part 63.847(b)(4)(i)	Performance Test Method Audit Samples	The permittee shall analyze performance audit (PA) samples during each performance test. The permittee shall request performance audit materials 45 days prior to the test date.
6.6.d	40 CFR Part 63.847(c)	Initial Performance Test	<p>Following approval of the site-specific test plan, the permittee shall conduct an initial performance test during the first month following the compliance date (Condition No. 6.6.b) in accordance with Condition No. 6.6.e.</p> <p>If a performance test has been conducted on the primary control system for potlines within 12 months prior to the compliance date, the results may be used to determine initial compliance.</p>
6.6.e	40 CFR Part 63.847(d)(1) and 40 CFR Part 63.848(a)	Performance Test Requirements for TF Emissions from Potlines	<p>The permittee shall measure and record the emission rate of total fluoride (TF) exiting the outlet of the primary control system for each potline and the rate of secondary emissions exiting through each roof monitor.</p> <p>The permittee shall conduct at least three runs per month from potroom 4 Method 14 monitoring system using Alcoa Test Methods 4075 and 4076 for duration of a complete operating pot cycle. When conducting secondary emission testing, at least one run must be performed before the 15th of each month, at least one run must be performed after the 15th of each month and there must be at least six days between two of the runs during the month.</p> <p>For potlines without Method 14 sampling systems, measure and record the emission rate of total fluoride (TF) using continuous fluoride monitors.</p> <p>The permittee shall calculate the TF emission rate from each potline using the following equation: $E_p = [(Cs_1 \times Q_{sd})_1 + (Cs_2 \times Q_{sd})_2] / (P \times K)$ </p> <p>Where: E_p = the emission rate of TF from a potline in lb/ton; Cs_1 = the concentration of TF from the primary control system in mg/dscf; Q_{sd} = the volumetric flow rate of effluent gas corresponding to the appropriate subscript location in dscf/hr;</p>

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II.6 Potroom & Reactors			
Condition No. Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
			<p>Cs₂ = the concentration of TF as measured for the roof monitor emissions in mg/dscf; P = the aluminum production rate in ton/hr as determined by dividing the number of hours in the calendar month into the weight of aluminum tapped from the potline during the calendar month that includes the three runs of a performance test; K = conversion factor 453,600 mg/lb; Include all valid runs in the calculation.</p>
6.6.f	40 CFR Part 63.847(h)	<p>Monitoring Parameters</p> <p>Determine the upper and/or lower operating limits, as appropriate, for each monitoring device for the emission control system from values recorded during each of the runs performed during the initial test and from historical data from previous performance tests conducted by MACT approved test methods.</p>	<p>See Condition No. 6.6.g and the applicable requirements of 40 CFR Part 63.848(f) and 40 CFR Part 63.847(h).</p> <p>The permittee may re-determine the upper and lower operating limits, as appropriate, based on historical data or other information and submit an application to Ecology to change the applicable limit(s).</p>
6.6.g	40 CFR Part 63.848(f)	<p>Monitoring Parameters</p> <p>Install, operate, calibrate and maintain a continuous parameter monitoring system for each emission control device.</p>	<p>At least once each operating day, the permittee shall inspect each control device to ensure the control device is operating properly and record the results of each inspection.</p> <p>The permittee shall continuously monitor alumina flow from each reactor.</p> <p>The permittee shall continuously monitor air flow from each reactor. Alumina flow shall be between the ranges as determined by the condition No. 6.6.f. Air flow shall be between the range as determined by the condition No. 6.6.f</p>
6.6.h	40 CFR Part 63.848(g)	Visible Emissions	The permittee shall visually inspect the exhaust stack(s) of each control device on a daily basis for evidence of any visible emissions indicating abnormal operation.
6.6.i	40 CFR Part 63.848(h)	Corrective Action	Within one hour the permittee shall initiate the corrective action procedures identified in the startup, shutdown and malfunction plan: (1) If a monitoring device for a primary control device measures an operating parameter outside the limits established under condition 3.17.h [40 CFR Part 63.847(h)], or (2) if visible emissions indicating abnormal

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II.6 Potroom & Reactors			
Condition No. Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
			operation are observed from the exhaust stack of a control device during a daily inspection.
6.6.j	40 CFR Part 63.848(i)	Exceedances No operating parameter limit contained in 6.6.f shall be exceeded more than six times in any semiannual period. No more than one exceedance shall be attributed to any given 24-hour period.	The permittee shall submit a semiannual summary report. The first and all subsequent summary reports shall include the dates of each excursion outside the normal operating ranges and the magnitude of each excursion. The report shall also identify exceedances of any given operating parameter six or more times in any semiannual period.
6.6.k	40 CFR Part 63.848(j)	Weight of Aluminum Install, operate and maintain monitoring devices to determine the daily weight of aluminum produced.	The permittee shall record the average daily weight of aluminum produced per potline.
6.6.l	40 CFR Part 63.848(k)	Accuracy and Calibration Submit recommended accuracy requirements for review and approval of all monitoring devices required by conditions 6.6.a through 6.6.j [40 CFR Part 63.848].	The permittee shall submit recommended accuracy requirements for review and approval within 45 days of startup and when any changes are made to monitoring devices affecting their accuracy. The submittal must be certified by the permittee to meet the accuracy requirements and must be calibrated in accordance with manufacturer's instructions.
6.6.m	40 CFR Part 63.849	Test Methods and Procedures The permittee shall use EPA test methods identified in 40 CFR Part 63.849 or approved equivalents.	The permittee shall comply with Condition No. 6.6.e

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II.6 Potroom & Reactors			
Condition No. Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
6.6.n	40 CFR Part 63.850(a)(6) and 63.7(g)(1)	Notification of Initial Compliance Status	The permittee shall submit Notification upon startup.
6.6.o	40 CFR Part 63.850(a)(8)	Notification of Compliance Approach The permittee shall develop and submit an engineering plan that describes the techniques that will be used to address the capture efficiency of the reduction cells for gaseous hazardous air pollutants in compliance with emission limits in 40 CFR Part 63.843, 63.844 and 63.846.	The permittee shall submit the engineering plan within the first year of startup.
6.6.p	40 CFR Part 63.850(b) and 40 CFR Part 63.7(g)(1)	Performance Test Reports The permittee shall submit a summary of all subsequent performance tests to Ecology annually	The permittee shall submit an annual summary of the performance test results.
6.6.q	40 CFR Part 63.850(c) and 40 CFR Part 63.6(e)(3)	Startup, Shutdown and Malfunction Plan and Reports The permittee shall develop and implement a written plan as described in 40 CFR Part 63.6(e)(3)	Prior to startup, the permittee shall develop a written plan that contains specific procedures to be followed for operating the source and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and control systems used to comply with the MACT emission standards. In addition to the information required in 40 CFR Part 63.6(e)(3), the plan shall include: (1) procedures, including corrective actions, to be followed if a monitoring device

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II.6 Potroom & Reactors			
Condition No. Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
		that contains specific procedures to be followed for operating the source and maintaining the source during periods of startup, shutdown and malfunction and a program of corrective action for malfunctioning process and control systems used to comply with the (MACT) standard.	measures an operating parameter outside the limits established in Condition No. 6.6.g, or if visible emissions from an exhaust stack indicating abnormal operation of a control device are observed by the owner or operator during the daily inspection required in Condition No. 6.6.h. The permittee shall also keep records of each event as required by 40 CFR Part 63.10(b) and record and report if an action taken during startup, shutdown, and malfunction is not consistent with the procedures in the plan as described in 63.6(e)(3)(iv)
6.6.r	40 CFR Part 63.850(d)	Excess Emissions Report The permittee shall submit a report if measured emissions are in excess of the applicable standard in accordance with 40 CFR Part 63.10(e)(3).	The permittee shall submit excess emissions reports in accordance with 40 CFR Part 63.10(e)(3)(v) semiannually unless quarterly reports are required as a result of excess emissions.
6.6.s	40 CFR Part 63.850(e)	Recordkeeping	The permittee shall maintain files of all information (including all reports and notifications) required by 40 CFR Part 63.10(b) and 40 CFR Part 63.850(e)

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II.7 Metal Products			
Condition No. Emissions Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
7.1 Treatment with Aluminum Fluoride in Crucibles (TAC) Station Baghouse Discharge pt.#1 4,000 cfm ----- 7.2 Crucible Cleaning Baghouse Discharge pt. #4 4,000 cfm	Condition #1 of Order No. DE 01-AQIS-2005 (XI) <i>WAC 173-400-060</i>	PM PM Emissions from the baghouse stack shall not exceed 0.01 grains/dscf.	The permittee shall conduct a source test upon Ecology's request. Use EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A), or another EPA approved method.
	Condition #2 of Order No. DE 01-AQIS-2005 (XI)	VE Opacity at the stack must not exceed an average of five percent for any six consecutive minutes in any sixty-minute period.	The permittee shall comply with Condition No. 1.a.
	Condition #3 of Order No. DE 01-AQIS-2005 (XI)	Functional Integrity Inspection Conduct inspections using functional integrity check list. The list shall be reasonably developed and shall be based on O&M manuals.	The permittee shall comply with Condition No. 1.a.
	Condition #4 of Order No. DE 01-AQIS-2005 (XI)	O&M The permittee shall follow O&M manuals at all times. The permittee shall operate and maintain the unit(s) consistent with good air pollution control practice.	The permittee shall comply with Condition No. 1.n.
7.3a MACT Cast house Group 2 furnace	40CFR63.1506	Operating requirements For Group 2 furnaces.	The permittee shall operate each furnace using only clean charge as the feedstock. The permittee shall operate each furnace using no reactive flux. Other requirements for group 2 furnaces.

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II.7 Metal Products			
Condition No. Emissions Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
7.3b MACT	40CFR63.1510	<p>Monitoring Requirements</p> <p>(a) Summary, (b) Operation, maintenance, and monitoring plan, (c) Labeling, (d) Capture/collection system, (e) Feed/charge weight, (m) In-line fluxers using no reactive flux, and (r) Group 2 furnace.</p>	<p>The permittee shall record a description of materials charged to each furnace, including any non-reactive, non-HAP-containing/non-HAP-generating fluxing materials or agents.</p> <p>The permittee shall submit a certification of compliance with the applicable operational standard for charge materials in Section 63.1516(o) for each 6-month reporting period. Each certification must contain the information in Section 63.1516(b)(2)(v).</p> <p>Other requirements for group 2 furnace.</p>
7.3c MACT	40CFR63.1516(a) 40CFR63.1516(b) & 40CFR63.1516(c)	<p>Reports</p> <p>Startup, shutdown, and malfunction plan/reports.</p> <p>Excess emissions/summary report.</p> <p>Annual compliance certifications.</p>	<p>The permittee shall develop and implement a written plan as described in Section 63.6(e)(3).</p> <p>As required by Section 63.10(e)(3), the permittee shall submit semiannual reports within 60 days after the end of each 6-month period. Each report shall contain the information specified in Section 63.10(c).</p> <p>The permittee shall certify continuing compliance based upon, but not limited to, the following conditions: (1) Any period of excess emissions, as defined in paragraph (b)(1) of this section, that occurred during the year were reported as required by this subpart;; and (2) All monitoring, recordkeeping, and reporting requirements were met during the year.</p>

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II.8 Ancillary Operations			
Condition No. Emissions Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
8.1 Baghouse #475 Discharge pt. #7 6,359 cfm 112 hrs per wk	Condition #1 of Order No. DE 01-AQIS-2005 (VI) <i>WAC 173-400-060</i>	PM PM Emissions from the baghouse stack shall not exceed 0.01 grains/dscf.	The permittee shall conduct a source test upon Ecology's request. Use EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A), or another EPA approved method.
And			
8.2 Baghouse #477 Discharge pt. #6 5,633 cfm	Condition #2 of Order No. DE 01-AQIS-2005 (VI)	VE Opacity at the stack must not exceed an average of five percent for any six consecutive minutes in any sixty-minute period.	The permittee shall comply with Condition No. 1.a.
	Condition #3 of Order No. DE 01-AQIS-2005 (VI)	Functional Integrity Inspection Conduct inspections using functional integrity check list. The list shall be reasonably developed and shall be based on O&M manuals.	The permittee shall comply with Condition No. 1.a.
	Condition #4 of Order No. DE 01-AQIS-2005 (VI)	O&M The permittee shall follow O&M manuals at all times. The permittee shall operate and maintain the unit(s) consistent with good air pollution control practice.	The permittee shall comply with Condition No. 1.n.
8.3 A/B Belt Baghouse Discharge pt. #9	Condition #1 of Order No. DE 01-AQIS-2005 (XIII) <i>WAC 173-400-060</i>	PM Emissions of particulate material from any general process operations shall not exceed 0.01 grains/dscf.	The permittee shall conduct a source test upon Ecology's request. Use EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A), or another EPA approved method.

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II.8 Ancillary Operations			
Condition No. Emissions Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
5,400 cfm	Condition #2, Order No. DE 01-AQIS-2005 (XIII)	VE Opacity at the stack must not exceed an average of five percent for any six consecutive minutes in any sixty-minute period.	The permittee shall comply with Condition No. 1.a.
	Condition #3, Order No. DE 01-AQIS-2005 (XIII)	Functional Integrity Inspection Conduct inspections using functional integrity check list. The list shall be reasonably developed and shall be based on O&M manuals.	The permittee shall comply with Condition No. 1.a.
	Condition #4, Order No. DE 01-AQIS-2005 (XIII)	O&M The permittee shall follow O&M manuals at all times. The permittee shall operate and maintain the unit(s) consistent with good air pollution control practice.	The permittee shall comply with Condition No. 1.n.
8.4 Super Cleaning Baghouses 1& 2 Discharge pt. #1 38,550 cfm 56 hrs per wk	WAC 173-400-060 [effective 3/22/91; approved into the SIP on 8/20/93] WAC-173-401-615(1)(b) & WAC 173-401-630(1)	PM Emissions of particulate material from any general process operations shall not exceed 0.1 grains/dscf.	The permittee shall conduct a source test once every two-year and upon Ecology's request. Use EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A), or another EPA approved method. Concurrently with the particulate matter emission test, conduct a visible emission observation or EPA Test Method 9 (40 CFR Part 60, Appendix A) during the time period of the particulate matter test. Record the time and duration of visible emissions during the particulate matter emission test. The permittee shall comply with Condition No. 1.a.

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II.8 Ancillary Operations			
Condition No. Emissions Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
8.5 Baghouse #480 Discharge pt. #4 23,262 cfm	Condition #1 of Order No. DE 01-AQIS-2005 (XIX) WAC-173-401-615(1)(b) & WAC 173-401-630(1) <i>WAC 173-400-060</i>	PM Emissions of particulate material from any general process operations shall not exceed 0.01 grains/dscf.	The permittee shall conduct a source test once every two-year and upon Ecology's request. Use EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A), or another EPA approved method. Concurrently with the particulate matter emission test, the permittee shall conduct a visible emission observation or EPA Test Method 9 (40 CFR Part 60, Appendix A) during the time period of the particulate matter test. Record the time and duration of visible emissions during the particulate matter emission test.
	Condition #2 of Order No. DE 01-AQIS-2005 (XIX) WAC-173-401-615(1)(b) & WAC 173-401-630(1)	VE Opacity at the stack must not exceed an average of five percent for any six consecutive minutes in any sixty-minute period.	The permittee shall conduct monthly scrubber stack observation by using EPA Test Method 9 (40 CFR Part 60, Appendix A). The permittee shall comply with Condition No. 1.a.
	Condition #3, Order No. DE 01-AQIS-2005 (XIX)	Functional Integrity Inspection Conduct inspections using functional integrity check list. The list shall be reasonably developed and shall be based on O&M manuals.	The permittee shall comply with Condition No. 1.a.
	Condition #4 of Order No. DE 01-AQIS-2005 (XIX)	O&M The permittee shall follow O&M manuals at all times. The permittee shall operate and maintain the unit(s) consistent with good air pollution control practice.	The permittee shall comply with Condition No. 1.n.

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II.8 Ancillary Operations			
Condition No. Emissions Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
8.6 Ore Screening Baghouse Discharge pt. #10 10,500 cfm	WAC 173-400-060 [effective 3/22/91; approved into the SIP on 8/20/93]	PM Emissions of particulate material from any general process operations shall not exceed 0.1 grains/dscf.	The permittee shall conduct a source upon Ecology's request. Use EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A), or another EPA approved method. The permittee shall comply with Condition No. 1.a.
8.7 Baghouse #490 Discharge pt. #8 3,100 cfm	WAC 173-400-060 [effective 3/22/91; approved into the SIP on 8/20/93]	PM Emissions of particulate material from any general process operations shall not exceed 0.1 grains/dscf.	The permittee shall conduct a source upon Ecology's request. Use EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A), or another EPA approved method. The permittee shall comply with Condition No. 1.a.
8.8 Steam Boilers Discharge pt. #33	Condition #1 of Order No. DE 01-AQIS-2005 (VII)	Emissions limits Main Boiler #3 NOx (@ 3% O ₂) 40 ppmv CO 200 ppmv Standby Boilers #1 & #2 NOx(@ 3% O ₂) 130 ppmv CO 400 ppmv Emissions from any combination of boiler operation shall not exceed: PM 1.9 tons per year SO ₂ 1.5 tons per year NOx 10.9 tons per year CO 27.8 tons per year VOC 0.8 tons per year Opacity must not exceed an average of five percent for any six consecutive minutes in any sixty-minute period.	Upon Ecology's request, the permittee shall conduct a source test (EPA Test Method 5, 17, 25A, 7E, 10, 19, 9 as appropriate in 40CFR Part 60, Appendix A or B) or another EPA approved method.

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II.8 Ancillary Operations			
Condition No. Emissions Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
	Conditions #2 of Order No. DE 01-AQIS-2005 (VII)	<p>Functional Integrity Inspection</p> <p>Conduct inspections using functional integrity check list. The list shall be reasonably developed and shall be based on O&M manuals.</p>	The permittee shall comply with Condition No. 1.a.
	Condition #5 of Order No. DE 01-AQIS-2005 (VII)	<p>Steam Generation</p> <p>If the annual average pounds per hour of steam generated by the main boiler exceeds 37,500 pounds per hour, Ecology may require more frequent source testing for carbon monoxide and nitrogen oxide.</p>	The permittee shall measure and report on an annual basis the annual average pounds per hour of steam generated by the main boiler.
	Condition #6 of Order No. DE 01-AQIS-2005 (VII)	<p>O&M</p> <p>The permittee shall follow O&M manuals at all times. The permittee shall operate and maintain the unit(s) consistent with good air pollution control practice.</p>	<p>Copies of the O&M manuals must be available to Ecology inspector's review.</p> <p>Determination of whether acceptable O&M procedures are being used will be based on information available to Ecology that may include, but is not limited to, monitoring results, opacity observations, inspections of the source, and O&M manuals.</p>
	Condition #3 and #4 of Order No. DE 01-AQIS-2005 (VII)	<p>Fuel</p> <p>The boilers should burn exclusively pipeline quality natural gas except as follows: The permittee shall be limited to no more than six (6) weeks in any consecutive twelve-month period. The alternative fuel shall be No. 2 fuel oil with no more than 0.5 weight percent sulfur.</p>	The permittee shall sample each shipment of fuel oil and determine its sulfur content or shall obtain for each shipment a certification from the fuel supplier as to the sulfur content of the fuel oil. Kaiser shall record the volume of fuel oil used in the boiler each quarter and submit a report to Ecology. The report shall be accompanied by fuel sulfur content sampling results or the fuel supplier's certifications.

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II.9 Maintenance Operations			
Condition No. Emission Unit	Citation of Authority	Emission Limit or Work Practice Requirement	Monitoring, Recordkeeping, and Reporting
9.1 Masonry/Aggregate Recycling Plant	Condition #1 of Order No. DE 01-AQIS-2005 (III)	PM Bricks have to be wetted before crushed.	The permittee shall thoroughly wet bricks to be crushed in the charge bucket prior to feeding the jaw crusher.
	Condition #2 of Order No. DE 01-AQIS-2005 (III)	VE No visible emissions shall be present during the jaw crusher operation.	If visible emissions are observed at any time, the observation shall be documented and corrective action initiated as soon as practical but not to exceed 24 hours.
	Condition #3 of Order No. DE 01-AQIS-2005 (III)	Inspection Log Conduct inspections by using approved inspection log of the emission unit.	The permittee shall conduct monthly inspections of the emission unit. The inspection log shall be properly maintained for review.
9.2 Masonry Saw Baghouse Discharge pt. #7 1,054 cfm	WAC 173-400-060 [effective 3/22/91; approved into the SIP on 8/20/93]	PM Emissions of particulate material from any general process operations shall not exceed 0.1 grains/dscf.	The permittee shall conduct a source upon Ecology's request. Use EPA Test Method 5 or 17 (40 CFR Part 60, Appendix A), or another EPA approved method. The permittee shall comply with Condition No. 1.a.

SECTION III: STANDARD TERMS AND CONDITIONS OF THE PERMIT

III.1. Duty to comply WAC 173-401-620(2)(a)

The permittee must comply with all conditions of this chapter 401 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.

III.2. Need to halt or reduce activity not a defense WAC 173-401-620(2)(b)

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.”

III.3. Permit actions WAC 173-401-620(2)(c)

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.

III.4. Property rights WAC 173-401-620(2)(d)

This permit does not convey any property rights of any sort, or any exclusive privilege.

III.5. Duty to Provide Information WAC 173-401-620(2)(e)

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.

III.6. Permit fees WAC 173-401-620(2)(f)

The permittee shall pay fees as a condition of this permit in accordance with Ecology’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

III.7 Emissions Trading WAC 173-401-620(2)(g)

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.

III.8 Severability Clause WAC 401-620(2)(h)

If any provision of this permit is held to be invalid, all unaffected provisions of the permit shall remain in effect and be enforceable.

III.9 Permit Appeals WAC 173-401-620(2)(i)

The permittee may appeal this permit or any conditions in it only by filing an appeal with the pollution control hearings board and serving it on the permitting authority within thirty 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.

III.10 Permit Continuation WAC 173-401-620(2)(j)

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.

III.11 Federally Enforceable Requirements WAC 173-401-625

All terms and conditions of this permit, including any provisions designed to limit potential to emit, are enforceable by EPA and citizens under the FCAA, unless they are specifically designated as not federally enforceable.

III.12 Reopening for Cause WAC 173-401-730

This permit shall be reopened and revised under any of the following circumstances:

- (a) Additional applicable requirements become applicable when the remaining permit term is greater than three years. Such 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 under the acid rain program. Upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated in the permit.

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- (c) Ecology 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) Ecology 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.

III.13 Tampering and False Statements WAC 173-400-105(7) and (8) and 40 CFR 70.11(a)

No person shall make any false materials statement, representation or certification in any form, notice or report required in this permit. No person shall render inaccurate any monitoring device or method required under this permit.

III.14 Section 112(j) Industrial Boiler and Process Heater Phase II MACT Application 40 CFR 63.50(c) and WAC 173-400-075(5)

On or before April 28, 2004 the Permittee shall file a Part 2 application for a MACT determination, if by that date EPA has not promulgated a generally applicable federal MACT standard for the Industrial Boiler and Process Heater source category. The application need only cover those emission points and hazardous air pollutants that would be subject to control under the MACT standard proposed for comment at 68 Fed.Reg. 1660 (January 13, 2003).

SECTION IV: GENERAL TERMS AND CONDITIONS OF THE PERMIT:

Recordkeeping Terms & Conditions

IV.1 Monitoring Records WAC 173-401-615(2)(a) and WAC 173-400-105

The permittee shall keep records of any periodic and continuous monitoring required by this permit. These records shall include the following, where applicable:

- (i) The date, place as defined in the permit, and time of sampling or measurements;
- (ii) The date(s) analyses were performed;
- (iii) The company or entity that performed the analyses;
- (iv) The analytical techniques or methods used;
- (v) The results of such analyses; and
- (vi) The operating conditions existing at the time of sampling or measurement;

IV.2 Inspection Checklists WAC 173-401-615(1)(b)

Where the permittee is required to use and maintain an inspection checklist, the checklist must contain, at a minimum, the following information:

- (i) The person conducting the inspection
- (ii) The date/time of the inspection
- (iii) Location of the inspection
- (iii) The observations made during the inspection
- (iv) Corrective actions taken if any
- (v) The date and time corrective action was initiated and completed

IV.3 Changes at Source WAC 173-401-615(2)(b)

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.

IV.4 Records Retention WAC 173-401-615(2)(c)

The permittee shall retain records of all required monitoring data and support information for a period of 5 years from the date of monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all data from continuous monitoring instrumentation, and copies of all reports required by this permit.

IV.5 Recording of Permit Deviations WAC 173-401-615(3)(b)

The source shall maintain a contemporaneous record of all deviations including the date and nature of the deviation.

Reporting Terms & Conditions

IV.6 Certifications

WAC 173-401-520

Any application form, report, or compliance certification submitted pursuant to Chapter 173-401 WAC shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under Chapter 173-401 WAC shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

IV.7 Monthly Reports

WAC 173-401-615(3)(a) and WAC 173-415-060

Results of monitoring shall be reported within 30 days of the last calendar day of each month. All instances of deviations from permit requirements must be clearly identified in such reports.

IV.8 Permit Deviations/Excess Emissions

WAC 173-401-615(3)(b) and WAC 173-400-107

The permittee shall promptly submit a report of any deviations from permit conditions.

- A. For purposes of this permit, submitting a report “promptly” means the following: (1) 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; (2) 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. The permittee may include in its reports demonstrations that excess emissions were unavoidable, consistent with the requirements of WAC 173-400-107.

IV.9 Emission Inventory

WAC 173-415-080 and WAC 173-400-105(1)

The permittee shall submit an inventory of emissions, as specified in WAC 173-415-080, from the source each year no later than 105 days after the end of the calendar year. The permittee shall maintain records of information necessary to substantiate any reported emissions.

IV.10 Compliance Requirements/Certification

WAC 173-401-510(2)(h)(iii), WAC 173-401-600, WAC 173-401-630(3), and WAC 173-401-630 (5)

- A. The permittee shall continue to comply with applicable requirements with which the permittee is in compliance;
- B. The permittee shall meet applicable requirements that will become effective during the permit period on a timely basis;
- C. The permittee shall submit a report to the Department of Ecology and to Region 10 of EPA 12 months after the effective date of this permit and annually thereafter certifying

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compliance with the terms and conditions contained in this permit. The certification shall describe the following:

- i. the permit term or condition that is the basis of the certification;
- ii. the compliance status;
- iii. whether compliance was continuous or intermittent; and
- iv. the methods used for determining compliance, currently and over the reporting period consistent with required monitoring.

D. The permittee is not required to certify compliance for insignificant emission units or activities. [WAC 173-401-530(2)(d)]

IV.11 Report Address

All reports, renewal applications, and compliance certifications required by this permit shall be submitted to:

Department of Ecology
Industrial Section
P.O. Box 47706
Olympia, WA 98504-7706

Compliance certification shall also be submitted to:

Environmental Protection Agency
Air Operating Permits, Region 10
1200 Sixth Avenue, OAQ-108
Seattle, WA 98101-1128

Other Terms & Conditions of the Permit

IV.12 Asbestos

WAC 173-400-075

The permittee shall comply with 40 CFR Part 61, subpart M (asbestos NESHAP) and WAC 173-400-075 when conducting any renovation or demolition at the facility.

IV.13 Concealment and Masking

WAC 173-400-040(7)

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.

IV.14 Inspection and Entry

WAC 173-401-630(2)

The permittee shall allow the permitting authority or an authorized representative to perform the following upon presentation of credentials and other documents as may be required by law:

- (a) Enter upon the permittee's premises where a chapter 401 source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- (c) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the 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 applicable requirements.

IV. 15 Application and Issuance of a
Renewal Permit

WAC 173-401-710(1)&(2)

The permittee shall submit a complete permit renewal application to Ecology no later than six months, but no earlier than 18 months, prior to the expiration date of the existing permit. Permits being renewed are subject to the same procedural requirements, including those for public participation, affected state and EPA review that apply to the initial permit.

IV.16 Stratospheric Ozone Protection

40 CFR Section 82 and RCW 70.94.970 (the
RCW is a state-only requirement)

- A. The permittee shall comply with applicable standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for Motor Vehicle Air Conditions (MVACs) in Subpart B:
 - i. Persons opening appliances for maintenance, service, repair or disposal must comply with the required practices pursuant to § 82.156.
 - ii. Equipment used during the maintenance, service, repair or disposal must comply with the standards for recycling and recovery equipment pursuant to § 82.158.
 - iii. Persons performing maintenance, service, repair or disposal of appliances must be certified by an approved technical certification program pursuant to § 82.161.
 - iv. 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.)
 - v. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to § 82.156.
 - vi. Owners/operators of appliances normally containing 50 or more pounds or refrigerant purchased and added to such appliances pursuant to § 82.166.”
- B. Permittee may switch from any ozone-depleting substance to any alternative approved pursuant to the Significant New Alternatives Program (SANP), 40 CFR Part 82, Subpart G, without a permit revision but shall not switch to a substitute listed as unacceptable pursuant to such program. [40 CFR 82.174]

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- C. Any certified technician employed by Permittee shall keep a copy of their certification at their place of employment. [40 CFR 82.166(1)]
- D. The Permittee shall not willfully release any regulated refrigerant and shall use refrigerant extraction equipment to recover regulated refrigerant that would otherwise be released into the atmosphere. [RCW 7070.94.970(2), 970(4)] State Only
- E. Compliance with this term and condition will be demonstrated by using a certified contractor or employee.

IV.17 Insignificant Emission Units

WAC 173-401-530(2)(b)

The generally applicable requirements that apply to IEUs are, WAC 173-415-030, WAC 173-400-040, WAC 173-400-050(1) & (3), and WAC 173-400-060.

IV.18 Providing Additional Data

WAC 173-415-060(2)

For Ecology to evaluate a plant's emissions or emission control program, each primary aluminum plant shall furnish other data requested by Ecology.

IV.19 Section 112(j) Industrial Boiler and
Process Heater Phase II MACT
Application

40 CFR 63.50(c) and WAC 173-400-075(5)

On or before April 28, 2004 the Permittee shall file a Part 2 application for a MACT determination, if by that date EPA has not promulgated a generally applicable federal MACT standard for the Industrial Boiler and Process Heater source category. The application need only cover those emission points and hazardous air pollutants that would be subject to control under the MACT standard proposed for comment at 68 Fed.Reg. 1660 (January 13, 2003).

SECTION V: PERMIT SHIELD/ INAPPLICABLE REQUIREMENTS

Pursuant to WAC 173-401-640(1), compliance with the terms and conditions of this permit shall be deemed compliance with the applicable requirements identified in this permit, as of the date of permit issuance. This permit shield does not exempt the permittee from requirements 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]

Pursuant to WAC 173-401-640(2), the Department of Ecology has determined that the requirements listed below do not apply to the facility, as of the date of permit issuance, for the reasons specified.

The permit shield shall apply to the inapplicable requirements listed in the table below:

INAPPLICABLE REQUIREMENTS	
Regulatory Citation	Reason for Inapplicability
40 CFR 60, Subpart S Standards of Performance for Primary Aluminum Reduction Plants	The facility was constructed before October 23, 1974 and was not modified or reconstructed after that date.
RCW 70.94.610 Burning Used Oil Fuel in Land-based Facilities	The facility does not burn used oil.
RCW 70.94.650 Burning Permits for Weed Abatement, Fire Fighting Instruction and Agricultural Activities	The facility does not engage in any of the covered burning activities.
RCW 70.94.743 Outdoor Burning--Areas Where Prohibited	The facility does not conduct outdoor burning
RCW 70.94.775 Outdoor Burning--Fires Prohibited—Exceptions	The facility does not conduct outdoor burning
WAC 173-400-115 New Source Performance Standards in 40 CFR Part 60 Subpart S	
WAC 173-400-050(2) (9/20/93) Emission Standards for Incinerators	None of the facility’s emission units are “incinerators” as that term is defined in WAC 173-400-030.
WAC 173-400-120 Bubble Rules	The facility has not applied for a bubble.
WAC 173-400-131 Issuance of Emission Reduction Credits	The facility has not applied for emission reduction credits.
WAC 173-400-136 Use of Emission Reduction Credits	The facility does not have and has not used emission reduction credits.
WAC 173-400-151 (9/20/93) Retrofit Requirements For Visibility Protection	The facility has not been determined to cause or contribute to a visibility impairment.
Chapter 173-421 WAC Emission Control Systems	The facility does not perform work on motor vehicle emission systems.
Chapter 173-425 WAC (9/17/90) Open Burning	The facility’s operations do not include open burning.
Chapter 173-433 WAC (9/17/90) Solid Fuel Burning Device Standards	The facility’s emission units are “solid fuel burning devices” as defined in WAC 173-433-030(9).

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INAPPLICABLE REQUIREMENTS	
Regulatory Citation	Reason for Inapplicability
Chapter 173-434 WAC (9/17/90) Solid Waste Incinerator Facilities	None of the facility's emission units are incinerators burning a solid waste fuel, within the meaning of WAC 173-434-030.
WAC 173-490-030 (2/19/91) Registration and Reporting-- Petroleum liquid storage tanks.	The facility does not have any petroleum liquid storage tanks.
WAC 173-490-040(2) (2/19/91) Petroleum Liquid Storage Tanks	The facility does not have any petroleum liquid storage tanks.
WAC 173-490-040(6) (2/19/91) Surface Coaters	It does not apply to any of the emission units at the facility.
WAC 173-490-040(7) (2/19/91) Open Top Vapor Degreasers	It does not apply to any of the emission units at the facility.
WAC 173-490-040(8) (2/19/91) Conveyorized Degreasers	It does not apply to any of the emission units at the facility.
WAC 173-490-040(9) (2/19/91) Cutback Asphalt Paving	The facility does not engage in the activity subject to requirements of this subsection.
WAC 173-490-040(10) (2/19/91) Cold Cleaners	It does not apply to any of the emission units at the facility.
WAC 173-490-080 (2/19/91) Exceptions and Alternative Methods	Subsection (1) not applicable because facility has not applied for an alternative emission reduction method. Subsection (2) The facility does not have a gas-fired incinerator used to comply with the requirements of this chapter.
WAC 173-490-201 (2/19/91) Petroleum Liquid Storage In External Floating Roof Tanks	The facility does not have any petroleum liquid storage tanks.
WAC 173-490-205 (2/19/91) Surface Coating of Miscellaneous Metal Parts and Products	The facility does not engage in the surface coating of metal parts or products.

SECTION VI: GLOSSARY

acfm	actual cubic feet per minute
avg	average
BACT	best available control technology
BTU	British thermal unit
CEM	continuous emission monitor
CO	carbon monoxide
DOE	Department of Ecology
dscf	dry standard cubic foot
EPA	Environmental Protection Agency
FCAA	Federal Clean Air Act
gpm	gallons per minute
gt&c	general terms and conditions
g/m^3	grams per cubic meter
gr	grain
HAP	hazardous air pollutant
HF	hydrogen fluoride (gaseous fluoride)
IEU	insignificant emission unit
kg	kilogram
lbs	pounds
MACT	maximum available control technology
$\mu\text{g/m}^3$	micrograms per cubic meter
MMBTU	million British thermal units
NO _x	nitrogen oxides
NSPS	new source performance standards
PM	particulate matter
PM ₁₀	particulate matter less than 10 microns in diameter
POM	polycyclic organic matter
ppm	parts per million
ppmdv	part per million dry volume
PSD	prevention of significant deterioration
RCW	Revised Code of Washington
RACT	reasonable available control technology
SERP	source emission reduction plan
SIP	state implementation plan
SO ₂	sulfur dioxide
tpy	tons per year
U.S.C.	United States Code
VOC	volatile organic compound
VE	visible emissions
WAC	Washington Administrative Code