



State of Oregon
Department of
Environmental
Quality

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY AIR CONTAMINANT DISCHARGE PERMIT

Northwest Region
700 NE Multnomah St Ste 600
Portland OR 97232-4100
Telephone: (503) 229-5263

Issued in accordance with the provisions of ORS 468A.040
and based on the land use compatibility findings included in the permit record.

ISSUED TO:

Intel Corporation
5200 NE Elam Young Parkway
MS: RS5-115
Hillsboro, OR 97124

INFORMATION RELIED UPON:

Application Number: 028014
Received: 12/31/2014
Amended: 05/19/2015

PLANT SITE LOCATION:

Aloha Campus
3585 SW 198th Avenue
Aloha, OR 97007

LAND USE COMPATIBILITY STATEMENT:

Aloha Campus
Issued by: Washington County
Dated: 09/20/1991, 12/19/2014

Ronler Acres Campus
2501 NW 229th Avenue
Hillsboro, OR 97124

Ronler Acres Campus
Issued by: City of Hillsboro
Dated: 12/19/2014

ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY

David Monro, Northwest Region Air Quality Manager

Date

Nature of Business: Semiconductor Manufacturing

SIC: 3674

RESPONSIBLE OFFICIALS

Title: Vice President Technology and
Manufacturing Group

FACILITY CONTACT PERSON

Name: Stephanie Shanley (primary)

Phone: 503-613-5950

Name: Rafe Christopherson (secondary)

Phone: 503-456-6103

TABLE OF CONTENTS

PERMITTED ACTIVITIES	4
EMISSION UNIT (EU) AND POLLUTION CONTROL DEVICE (PCD) IDENTIFICATION	4
EMISSION LIMITS AND STANDARDS - FACILITY-WIDE	5
EU-BOILERS	9
EU-HEATERS	11
EU-TMXW	12
EU-RCTOS	13
EU-SCRUBBERS	20
EU-VOCUNC	25
EU-RICE	26
INSIGNIFICANT ACTIVITIES	29
PLANT SITE EMISSION LIMITS	30
TESTING REQUIREMENTS	42
MONITORING REQUIREMENTS	43
RECORDKEEPING REQUIREMENTS	43
GENERAL RECORDKEEPING REQUIREMENTS	43
GENERAL REPORTING REQUIREMENTS	45
ANNUAL REPORTS	47
NON-APPLICABLE REQUIREMENTS	49
ACDP ADMINISTRATIVE REQUIREMENTS	51
ACDP FEES	51
ACDP GENERAL CONDITIONS AND DISCLAIMERS	52

LIST OF ABBREVIATIONS THAT MAY BE USED IN THIS PERMIT

ACDP	Air Contaminant Discharge Permit	NA	Not applicable
Act	Federal Clean Air Act	NO _x	Nitrogen oxides
Annual	Calendar Year	O ₂	Oxygen
ASTM	American Society of Testing and Materials	OAR	Oregon Administrative Rules
Btu	British thermal unit	ODEQ	Oregon Department of Environmental Quality
CAM	Compliance Assurance Monitoring	ORS	Oregon Revised Statutes
CFR	Code of Federal Regulations	O&M	Operation and maintenance
CO	Carbon Monoxide	Pb	Lead
CPMS	Continuous parameter monitoring system	PCD	Pollution Control Device
DEQ	Department of Environmental Quality	PM	Particulate matter
dscf	Dry standard cubic feet	PM ₁₀	Particulate matter less than 10 microns in size
EAL	Emission action level	PM _{2.5}	Particulate matter less than 2.5 microns in size
EF	Emission factor	POU	Point of use control device
EPA	US Environmental Protection Agency	ppm	Parts per million
EU	Emissions Unit	PSEL	Plant Site Emission Limit
FAB or Fab	Semiconductor fabrication and support facilities	PTE	Potential to Emit
FCAA	Federal Clean Air Act	psia	pounds per square inch, actual
FGR	Flue Gas Recirculation	RACT	Reasonably Available Control Technology
FSA	Fuel sampling and analysis	RCTO	Rotor concentrator thermal oxidizer
GHG	Greenhouse Gas	RICE	Reciprocating Internal Combustion Engine
gr/dscf	Grain per dry standard cubic feet (1 pound = 7000 grains)	SER	Significant Emission Rate
HAP	Hazardous Air Pollutant as defined by OAR 340-244-0040	SERP	Source emissions reduction plan
ID	Identification number or label	SO ₂	Sulfur dioxide
I&M	Inspection and maintenance	SSM	Startup, Shutdown and Malfunction
IPCC	Intergovernmental Panel on Climate Change	ST	Source test
		TACT	Typically Achievable Control Technology
		VE	Visible emissions
		VMT	Vehicle miles traveled
		VOC	Volatile organic compounds

PERMITTED ACTIVITIES

1. This permit approves construction of the permittee’s facility as described in permit application no. 28014, received on December 31, 2014 as amended on May 19, 2015. [OAR 340-218-0010, 340-0218-0120(2)]
2. Until such time as this permit expires or is modified or revoked, the permittee is allowed to discharge air contaminants from those processes and activities directly related to or associated with air contaminant source(s) in accordance with the requirements, limitations, and conditions of this permit. [OAR 340-218-0010, 340-218-0120(2)]
3. The permittee must submit any necessary revisions to the Title V permit application not more than 120 days after the issuance date of this permit. [OAR 340-218-0010, 340-218-0120(2)]
4. All conditions in this permit are federally enforceable except conditions 6, 7, 8, 43, 48.d, 48.e and G5, which are only enforceable by the state. [OAR 340-218-0060]

EMISSION UNIT (EU) AND POLLUTION CONTROL DEVICE (PCD) IDENTIFICATION

5. The emissions units regulated by this permit are the following: [OAR 340-218-0040(3)]

(RA) indicates Ronler Acres Campus
(A) indicates Aloha Campus

Emissions Unit ID	Device/ process	Emission point	Type of pollution control device
EU-Boilers	Boilers, natural gas-fired	Multiple boiler exhaust stacks, (RA) and (A),	Varies, low-NOx burners and FGR
EU-Heaters	Heaters, natural gas-fired	Multiple, (RA) and (A)	None
EU-TMXW	Ammonia wastewater treatment system	Multiple, (RA)	Thermal catalytic oxidation/reduction system
EU-RCTOs	Manufacturing processes that emit VOCs, natural gas-fired	Multiple, (RA) and (A)	RCTOs
EU-Scrubbers	Manufacturing processes that emit acid gases	Multiple, (RA) and (A)	Wet scrubbers
EU-VOCunc	VOC, uncontrolled	Multiple, (RA) and (A)	None
EU-RoadsUnpv	Unpaved roads	(RA)	None
EU-RICE	Emergency generator and fire pump engines	Multiple, (RA) and (A)	None

A full listing of the emissions units is found in the detail sheets associated with this permit.

EMISSION LIMITS AND STANDARDS - FACILITY-WIDE

The following tables and conditions contain the applicable requirements along with the testing, monitoring, and recordkeeping requirements for the emissions units to which those requirements apply.

Facility Wide Requirements

EU ID	Applicable Requirement	Condition Number	Pollutant/Parameter	Limit/Standard	Monitoring Requirements	
					Method	Condition
Facility wide	340-208-0660	6	Odors	no nuisance	Recordkeeping	8
Facility wide	340-208-0670	7	PM >250µ	no fallout	Recordkeeping	8
Facility wide	40 CFR Part 68	9	Risk management	Risk management plan	n/a	n/a
Facility wide	340-208-0210(2)	10	Fugitive VE	minimize	n/a	n/a
Facility wide	340-208-0110(2)	11	Opacity	20% (6 min block average)	Recordkeeping	14, 15
Facility wide	340-226-0210(1)(b)	12	PM/PM ₁₀	see condition 12	Recordkeeping	14, 15
Facility wide	340-228-0210(1)	13	PM/PM ₁₀	see condition 12	Recordkeeping	14, 15
Facility wide	Conditional preapproval	16	--	see condition 16	n/a	n/a
Facility wide	New control device notification	17	--	see condition 17	n/a	n/a

Nuisance Conditions

6. Applicable Requirement The permittee must not cause or allow air contaminants from any source to cause a nuisance. Nuisance conditions will be verified by DEQ personnel. [OAR 340-208-0300] [This condition is enforceable only by the State.]
7. Applicable Requirement The permittee must not cause or permit the emission of any particulate matter larger than 250 microns in size at sufficient duration or quantity as to create an observable deposition upon the real property of another person. [OAR 340-208-0450] [This condition is enforceable only by the State.]
8. Monitoring Requirement The permittee must log all complaints received that specifically refer to air pollution concerns associated to the permitted facility. [This condition is enforceable only by the State.]
 - 8.a. The permittee must investigate each complaint and, if possible, take actions to resolve the complaint.
 - 8.b. Recordkeeping Requirement The permittee must keep a log of complaints received, the results of complaint investigations, and the actions taken, if any, for complaint resolution.

Accidental Release Prevention

9. Applicable Requirement The permittee must maintain a risk management plan (RMP) and comply with the plan and all other applicable Part 68 requirements. [40 CFR Part 68].

Visible Emissions (VE)/Opacity and Particulate Matter

10. Applicable Requirement The permittee shall not allow or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired or demolished; or any equipment to be operated, without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, but not be limited to the following: [OAR 340-208-0210(2)]
- 10.a. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;
 - 10.b. Application of water, or other suitable chemicals on unpaved roads, materials stockpiles, and other surfaces which can create airborne dusts;
 - 10.c. Full or partial enclosure of materials stockpiles in cases where application of oil, water, or chemicals are not sufficient to prevent particulate matter from becoming airborne;
 - 10.d. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
 - 10.e. Adequate containment during sandblasting or other similar operations;
 - 10.f. Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne;
 - 10.g. The prompt removal from paved streets of earth or other material that does or may become airborne.
11. Applicable Requirement The permittee may not emit or allow to be emitted any visible emissions that equal or exceed an average of 20 percent opacity: [OAR 340-208-0110(2) and (4)]
- 11.a. This condition applies to sources other than wood-fired boilers, installed, constructed, or modified on or after June 1, 1970.
 - 11.b. The visible emissions standards in this condition are based on a the average of 24 consecutive observations recorded at 15-second intervals, or more frequently as allowed below, which comprise a six-minute block. Six minute blocks need not be consecutive in time and in no case may two blocks overlap. For each set of 24 observations, the six minute block average is calculated by summing the opacity of the 24 observations and dividing the sum by 24. Six minute block averages are measured by:
 - 11.b.i. EPA Method 9;
 - 11.b.ii. A continuous opacity monitoring system (COMS) installed and operated in accordance with the DEQ Continuous Monitoring Manual or 40 CFR Part 60; or
 - 11.b.iii. An alternative monitoring method approved by DEQ that is equivalent to EPA Method 9, such as EPA's ALT Method 082.

12. Applicable Requirement The permittee may not cause, suffer, allow, or permit particulate matter emissions from any non-fuel-burning equipment in excess of the following limits: [OAR 340-226-0210(2)(b) and (c)]
- 12.a. For non-fuel burning equipment installed, constructed or modified on or after April 16, 2015, 0.10 grains per dry standard cubic foot;
- 12.b. For non-fuel burning equipment installed, constructed or modified on or after June 1, 1970 but prior to April 16, 2015, 0.14 grains per dry standard cubic foot.

“Non-fuel burning equipment” means all equipment that burns fuel except boilers.

13. Applicable Requirement The permittee may not cause, suffer, allow, or permit particulate matter emissions from any fuel burning equipment in excess of the following limits: [OAR 340-228-0210(2)(b) and (c)]
- 13.a. For fuel burning equipment installed, constructed or modified on or after April 16, 2015, 0.10 grains per dry standard cubic foot; and
- 13.b. For all fuel burning equipment installed, constructed or modified on or after June 1, 1970 but prior to April 16, 2015, 0.14 grains per dry standard cubic foot.

“Fuel burning equipment” means boilers.

14. Monitoring Condition In lieu of visible emissions and particulate matter monitoring of all equipment that combusts natural gas, the permittee must maintain the records required by conditions 21 (boiler fuel monitoring) and 28 (RCTO fuel monitoring). [OAR 340-218-0050(3)]
15. Monitoring Condition In lieu of visible emissions and particulate matter monitoring of all exhaust points controlled by scrubbers, the permittee must maintain the records required by condition 40.c (scrubber operating parameter). [OAR 340-218-0050(3)]

Conditional Preapproval Allowance for Operational Flexibility

16. The permittee is pre-approved to make physical changes, additions, relocations of equipment, or process modifications to the manufacturing processes and support operations without prior notification to DEQ, provided the following conditions are met. Any proposed change not meeting the criteria of this condition must be made in accordance with the requirements of General Condition G20.
 - 16.a. Such changes do not result in an emission increase which exceeds one or more of the permitted PSELS. Emission increases resulting from changes approved under this condition must be offset by unused capacity within the relevant PSEL(s). This may be accomplished using emission reduction offsets achieved through a documented pollution prevention project that demonstrates permanent emission reductions in an amount compatible with the respective emission increase.
 - 16.b. Such changes must not violate or contradict any expressed permit condition within this permit.
 - 16.c. No new Fab facility may be added under this pre-approval condition.
 - 16.d. The physical changes and changes in method of operation approved under this condition must not involve changes to an existing Pollution Control Device (PCD) that would not be considered normal maintenance, cause a degradation in the performance, or result in the addition of a new PCD.
 - 16.e. The physical changes and/or changes in method of operation approved under this condition must not reduce the capture efficiency of any PCD.
 - 16.f. The permittee must re-evaluate the presumed pollutant capture efficiency (expressed as a decimal) on each occurrence of an equipment modification or addition that could potentially affect the capture efficiency used for compliance emission calculations in condition 53 (PSEL compliance calculations).
 - 16.g. The physical changes and changes in method of operation approved under this condition must not involve the installation and/or startup of a new boiler or co-generation unit with an input BTU rating of ≥ 10 million BTUs per hour.
 - 16.h. The physical changes and changes in method of operation approved under this condition must not involve the utilization of an existing or new power generator for the purpose of producing non-emergency power.
 - 16.i. Any new emitting activities and any physical changes or changes in the method of operation of existing emitting activities must be compatible with, subject to, and comply with, the compliance monitoring and recordkeeping requirements specified in this permit.

New Control Device Notification Requirements

17. Applicable Requirement The permittee must notify DEQ in accordance with General Condition G20 of this permit and must receive DEQ approval prior to commencing installation of any emission control device other than those identified in the permit application referenced on the cover page of this permit.

EU-BOILERS

EU ID	Applicable Requirement	Condition Number	Pollutant/Parameter	Limit/Standard	Monitoring Requirements	
					Method	Condition
EU-Boilers	BACT	18	NOx and CO	See condition 18	Source test	19
EU-Boilers	40 CFR Part 60, Subpart Dc	20	n/a	No requirements	Recordkeeping	21

BACT Requirements

18. Applicable Requirement The permittee must meet the following limits or equipment specifications for the listed equipment:
[BACT determination, Major NSR permit 34-2681-ST-01, application no. 28014, received 12/31/2014]

Equipment Type	Equipment Identification	NOx limit ⁽¹⁾ or other requirement	CO limit ⁽¹⁾ or other requirement
Boiler, new	All boilers with a rated capacity of more than 2.0 MMBtu/hr installed in or after 2010	0.011 lb-NOx/MMBtu	0.037 lb-CO/MMBtu
Boiler, pre-project	(3 identical boilers) F20 BLR-115-1-200 F20 BLR-115-2-200 F20 BLR-115-3-200 (3 identical boilers) CUB2-BLR-115-1-210 CUB2-BLR-115-2-210 CUB2-BLR-115-3-210 (2 identical boilers) BLR-115-2-210 BLR-115-3-210	0.011 lb-NOx/MMBtu	n/a

Note 1 Emission limits do not apply during periods of startup, shutdown or malfunction.

Boiler Testing for BACT Compliance

19. Monitoring Requirement The permittee must conduct source testing of the boilers identified in condition 18 for compliance with the limits in condition 18 as specified in this condition.
- 19.a. Within 2 years of the issuance date of this permit, a representative set of boilers that have been installed by that date must be tested;
- 19.a.i. A representative set means at least one boiler from each group of identical boilers;
- 19.a.ii. Pre-project boilers must be tested for NO_x; and
- 19.a.iii. New boilers must be tested for NO_x and CO.
- 19.b. Testing must be conducted in accordance with condition 63.
- 19.c. Any representative set of boilers that were tested in or after 2014 do not have to be tested, provided the testing was approved by DEQ and returned results that show compliance with the limits in condition 18.
- 19.d. Recordkeeping Requirement The permittee must keep records of all test results.

NSPS Subpart Dc

20. Applicable Requirement The permittee must comply with all applicable provisions and standards of 40 CFR Part 60, Subpart Dc for all boilers that meet the specifications in 20.a. [40 CFR Part 60, Subpart Dc]
- 20.a. This condition applies to each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h).
- 20.b. Boilers must be limited to the combustion of natural gas, propane or butane fuels exclusively.
- 20.c. All affected Steam Generating Units associated with this permit are fired exclusively with natural gas and as such, there are no applicable emission standards or testing or reporting requirements that these Steam Generating Units are subject to under this Subpart. [40 CFR 60.48c(g)(2)]
21. Monitoring/Recordkeeping Requirement The permittee must monitor and keep records of the amount of natural gas used each month in each boiler or group of boilers subject to condition 20.

EU-HEATERS

EU ID	Applicable Requirement	Condition Number	Pollutant/Parameter	Limit/Standard	Monitoring Requirements	
					Method	Condition
EU-Heaters	BACT	22	NOx and CO	See condition 22	Recordkeeping	23

BACT Requirements

22. Applicable Requirement The permittee must meet the following limits or equipment specifications for the listed equipment:
[BACT determination, Major NSR permit 34-2681-ST-01, application no. 28014, received 12/31/2014]

Equipment Type	NOx limit or other requirement	CO limit or other requirement
Small ⁽¹⁾ natural gas-fired units, including BSSW	Use only natural gas and operate and maintain in accordance with the manufacturer's recommendations	Use only natural gas and operate and maintain in accordance with the manufacturer's recommendations

Note 1 Rated less than or equal to 2.0 MMBtu/hr.

23. Monitoring/Recordkeeping Requirement The permittee must monitor and keep records of the amount of natural gas used each month in EU-Heaters.

EU-TMXW

EU ID	Applicable Requirement	Condition Number	Pollutant/Parameter	Limit/Standard	Monitoring Requirements	
					Method	Condition
EU-TMXW	BACT	24	NOx and CO	See condition 24	Source test and Recordkeeping	26

24. Applicable Requirement The permittee must meet the following limits or equipment specifications for the listed equipment:

[BACT determination, Major NSR permit 34-2681-ST-01, application no. 28014, received 12/31/2014]

24.a. As used in this condition:

24.a.i. “new” means equipment identified in the application and installed in or after year 2010; and

24.a.ii. “pre-project” means equipment installed before year 2010 and subject to retroactive BACT.

Equipment Type	Equipment Identification	NOx limit ⁽¹⁾ or other requirement	CO limit ⁽¹⁾ or other requirement
TMXW, new		0.34 lb NOx/hr	0.030 lb CO/MMBtu
TMXW, pre-project	Fab D1D-TMXW-1	0.34 lb NOx/hr	0.030 lb CO/MMBtu

Note 1 Emission limits do not apply during periods of startup, shutdown or malfunction.

TMXW Testing for BACT Compliance

25. Monitoring Requirement The permittee must conduct source testing of the TMXW abatement devices identified in condition 24 for compliance with the limits in condition 24 as specified in this condition.

25.a. Within 2 years of the issuance date of this permit, a representative set of TMXW abatement devices that have been installed by that date must be tested;

25.a.i. A representative set means at least one unit from each group of identical units;

25.a.ii. The representative set must be tested for NOx and CO.

25.b. Testing must be conducted in accordance with condition 63.

25.a. Any TMXW abatement devices that were tested in or after 2014 do not have to be tested, provided the testing was approved by DEQ and returned results that show compliance with the limits in condition 24.

25.b. Recordkeeping Requirement The permittee must keep records of all test results.

26. Monitoring/Recordkeeping Requirement The permittee must monitor and keep records of the following for each TMXW device or group of devices:

26.a. Monthly amount of natural gas used; and

26.b. Monthly amount of ammonia-containing compounds processed and treated in the TMXW system.

EU-RCTOS

EU ID	Applicable Requirement	Condition Number	Pollutant/Parameter	Limit/Standard	Monitoring Requirements	
					Method	Condition
EU-RCTOs	BACT	27	NOx, CO	See condition 27		35
EU-RCTOs	OAR 340-226-0130	29	New Fab TACT	See condition 29	n/a	n/a
EU-RCTOs	OAR 340-226-0120	30, 32	RCTO Operation	See conditions 30 and 32	Various	28, 31, 33, 34

BACT Requirements

27. Applicable Requirement The permittee must meet the following limits or equipment specifications for the listed equipment:
[BACT determination, Major NSR permit 34-2681-ST-01, application no. 28014, received 12/31/2014]
- 27.a. As used in this condition:
- 27.a.i. “new” means equipment identified in the application and installed in or after year 2010;
 - 27.a.ii. “pre-project” means equipment installed before year 2010 and subject to retroactive BACT.

Equipment Type	Equipment Identification	NOx limit ⁽¹⁾⁽²⁾ or other requirement	CO limit ⁽¹⁾⁽²⁾ or other requirement
RCTO, new	Fab D1C RCTOs D1C-VOC-138-4-120 D1C-VOC-138-5-120 Fab D1B RCTOs F20-VOC138-1-100 F20-VOC138-2-100 F20-VOC138-3-100 F20-VOC138-4-100 Fab D1X RCTOs Anguil RCTO D1X-1 Anguil RCTO D1X-2 Anguil RCTO D1X-3 Anguil RCTO D1X-4 Anguil RCTO D1XM2-1 Anguil RCTO D1XM2-2 Anguil RCTO D1XM2-3 Anguil RCTO D1XM2-4 Anguil RCTO D1XM2-5 Anguil RCTO D1XM3-1 Anguil RCTO D1XM3-2 Anguil RCTO D1XM3-3 Anguil RCTO D1XM3-4 Anguil RCTO D1XM3-5 --- D1X-VOC138-1-20 D1X-VOC138-2-20 D1X-VOC138-3-20 D1X-VOC138-4-20 D1XM2-VOC138-1-20 D1XM2-VOC138-2-20 D1XM2-VOC138-3-20 D1XM2-VOC138-4-20 Fab 5/15 RCTOs F15-VOC138-3 AL3-AU-138-10	0.20 lb-NOx/hr Average for this set of RCTOs --- 0.20 lb-NOx/hr Average for this set of RCTOs --- 0.78 lb-NOx/hr Average for this set of RCTOs --- 0.34 lb-NOx/hr Average for this set of RCTOs --- 0.20 lb-NOx/hr Average for this set of RCTOs	0.14 lb-CO/hr Average for this set of RCTOs --- 0.14 lb-CO/hr Average for this set of RCTOs --- 0.54 lb-CO/hr Average for this set of RCTOs --- 0.24 lb-CO/hr Average for this set of RCTOs --- 0.14 lb-CO/hr Average for this set of RCTOs
RCTO, pre-project	Fab D1C RCTOs D1C-VOC-138-1-120 D1C-VOC-138-2-120 D1C-VOC-138-3-120 Fab D1D RCTOs VOC-138-1-120 VOC-138-2-120 VOC-138-3-120 VOC-138-4-120 Fab 15 RCTOs F15-AU138-1-10 F15-AU138-2-10	0.20 lb-NOx/hr Average for this set of RCTOs --- 0.20 lb-NOx/hr Average for this set of RCTOs --- 0.20 lb-NOx/hr Average for this set of RCTOs	1.51 lb-CO/hr Average for this set of RCTOs --- 1.12 lb-CO/hr Average for this set of RCTOs --- 1.86 lb-CO/hr Average for this set of RCTOs

Note 1 Emission limits do not apply during periods of startup, shutdown or malfunction.

Note 2 From application amendment received 5/19/15, Attachment 2 Table A-1 (NEW)

28. Monitoring/Recordkeeping Requirement The permittee must monitor and keep records of the amount of natural gas used each month in each RCTO or group of RCTOs.

New RCTO TACT

29. Applicable Requirement Each RCTO group controlling VOC emissions from Fab production operations must be operated in a manner such that it achieves a minimum VOC destruction/removal efficiency (DRE) of at least 95% by weight when its inlet VOC concentration (measured as propane) is 90 ppm or greater. If/when the inlet VOC concentration falls below 90 ppm, the outlet concentration must not exceed 10 ppm. [OAR 340-226-0130]

Note: for the purpose of this condition, a new production Fab is one which commenced operations after November 15, 1990.

Rotor Concentrator Thermal Oxidizer (RCTO) Operations

30. Applicable Requirement For all Fab operations that are served by a VOC abatement system, the abatement system must be operated whenever production is occurring in the Fab processes served by the abatement system. The abatement system must be operated in accordance with this condition. [OAR 340-226-0120]
- 30.a. When operation of the VOC abatement system is required, the VOC abatement system must be operated without bypassing the VOC abatement system.
- 30.b. For the purpose of this condition, bypassing means to emit all or part of the exhaust stream directly to atmosphere without treatment by the abatement system.
- 30.c. Bypassing is not a violation of this condition provided that:
- 30.c.i. Bypassing is the result of a malfunction or emergency as defined in OAR 340-200-0020; and
 - 30.c.ii. The permittee takes all reasonable steps to end the period of bypassing as quickly as possible.
- 30.d. Within 15 days of any period of bypassing that lasted more than 60 minutes, submit a written report that contains the following information: [OAR 340-214-0340(1)]
- 30.d.i. The date and time of the beginning of bypassing and the duration or best estimate of the time until bypassing will cease;
 - 30.d.ii. The equipment involved;
 - 30.d.iii. The reason for bypassing;
 - 30.d.iv. Steps taken to mitigate emissions and corrective action taken, including whether the approved procedures for a planned startup, shutdown, or maintenance activity were followed;
 - 30.d.v. The magnitude and duration of the increase over normal emission rates or concentrations as determined by continuous monitoring or best estimate (supported by operating data and calculations);
 - 30.d.vi. Where applicable, evidence supporting any claim that emissions in excess of technology-based limits were due to any emergency pursuant to OAR 340-214-0360.
31. Monitoring/Recordkeeping Requirement The permittee must maintain records for each VOC abatement system of each period of bypassing, including:
- 31.a. The date and time of the beginning of bypassing and the duration or best estimate of the time until bypassing will cease;
 - 31.b. The equipment involved;
 - 31.c. The reason for bypassing;
 - 31.d. Steps taken to mitigate emissions and corrective action taken, including whether the approved procedures for a planned startup, shutdown, or maintenance activity were followed;
 - 31.e. The magnitude and duration of the increase over normal emission rates or concentrations as determined by continuous monitoring or best estimate (supported by operating data and calculations);
 - 31.f. Where applicable, evidence supporting any claim that emissions in excess of technology-based limits were due to any emergency pursuant to OAR 340-214-0360.

32. Applicable Requirement The permittee must observe the following conditions pertaining to the operation of its rotor concentrator thermal oxidizer(s) [RCTO(s)]: [OAR 340-226-0120]

32.a. Each RCTO must meet the following requirements:

32.a.i. Each RCTO must provide at least a 0.5 second retention time, unless an alternate retention time has been demonstrated and approved by DEQ as being equal or more effective;

32.a.ii. Each RCTO must be operated with a minimum temperature set-point of 1375°F, unless an alternate minimum set-point has been demonstrated and approved by DEQ as being equal or more effective and able to comply with the applicable limits in condition 27;

Emission Action Level (EAL)

32.a.iii. The emission action level (EAL) for each RCTO is 25°F below the set point.

32.a.iii.1. If the monitored hourly average operating temperature of any RCTO is at or below the EAL, the permittee must take expeditious action to return the operating temperature to the EAL or more.

32.a.iii.2. The temperature falling to or below the EAL is not a violation of this permit condition; however, it is a violation of this permit condition if the permittee fails to expeditiously take action to correct the operating temperature.

32.b. The regenerator air temperature of each rotor concentrator thermal oxidizer must be maintained within the range designated in the manufacturers design specifications.

32.b.i. If the regenerator air temperature for any RCTO should fall outside the specifications established in Condition 32.b above, the permittee must take expeditious action to return the respective operating parameter to the established operating range.

32.b.ii. Operating outside the identified operating range is not a violation of this permit condition; however, it is a violation of the permit condition if the permittee fails to expeditiously take action to return the operating parameter to its established operating range.

Rotor Concentrator Thermal Oxidizer (RCTO) Monitoring

33. Monitoring Requirement The permittee must monitor the following for each RCTO:
- 33.a. The following must be monitored for each RCTO whenever it is operating:
- 33.a.i. The temperature in the combustion zone of each RCTO must be continuously monitored and reduced to an hourly average (one hour block average); and
 - 33.a.ii. The regenerator air temperature of each RCTO must be continuously monitored.
 - 33.a.iii. For the purpose of this condition, “continuously monitored” means that measurements are taken at a frequency of not less than once every 15 minutes.
- 33.b. Recordkeeping Requirement The permittee must maintain the following records:
- 33.b.i. Hourly block average temperature in the combustion zone of each RCTO;
 - 33.b.ii. The regenerator air temperature of each RCTO;
 - 33.b.iii. Quality assurance activities for continuous temperature monitoring systems (such as quality control activities, audits, calibration, calibration drift checks);
 - 33.b.iv. All excess emissions, recorded in an Excess Emissions and Upset log;
 - 33.b.v. All upsets or breakdowns of emission control equipment, recorded in an Excess Emissions and Upset log;
 - 33.b.vi. Actions taken to restore emission control equipment to normal operation, recorded in an Excess Emissions and Upset log; and
 - 33.b.vii. Records of major maintenance performed on air pollution control equipment.
- 33.c. Definitions: [OAR 340-200-0020]
"Excess emissions" means emissions in excess of a permit limit or any applicable air quality rule.
"Upset" or "Breakdown" means any failure or malfunction of any pollution control equipment or operating equipment that may cause excess emissions.

Note: Excess emissions must be reported in accordance with condition 71.

Rotor Concentrator Thermal Oxidizer (RCTO) Seal Gap Monitoring

34. Monitoring Requirement The permittee must monitor the seal gap tolerance of each zeolite rotor concentrator wheel for each “in service” RCTO annually, with no more than 13 months between tests.
- 34.a. Recordkeeping Requirement The permittee must maintain records of the seal gap of each zeolite rotor concentrator wheel monitored as above.

RCTO Testing

35. Monitoring Requirement The permittee must conduct source tests of the RCTOs as specified below:
- 35.a. RCTOs must be tested at least once every five calendar years, and may either all be tested in the same calendar year, or subsets may be tested in different years and then retested not less than every five years thereafter. The five years must be counted from the date of testing for any RCTOs that were tested prior to the issuance date of this permit.
 - 35.b. A newly operational RCTO, as defined below, must be tested no later than the calendar year following the calendar year in which the RCTO became operational, and not less than every five years thereafter. For the purpose of this condition:
 - 35.b.i. “Newly operational RCTO” means an RCTO that has been put into regular service for the first time since the issuance date of this permit, and
 - 35.b.ii. “Regular service” means the RCTO is being used to treat a VOC exhaust stream, and excludes periods of testing prior to being put into regular service.
 - 35.c. Source testing must be for CO, NO_x and VOC. Exhaust gas VOC concentrations must be sampled before and after the control device (both exhaust stacks must be sampled) to demonstrate the system's VOC destruction/removal efficiency (DRE).
 - 35.d. DEQ may approve an alternate testing deadline from those established in this condition if the permittee provides adequate justification for the extension.
 - 35.e. The temperature set-point of the RCTO throughout the test must be equal to the temperature set-point specified in condition 32.a.ii, unless the test protocol intent is to establish a different set-point.
 - 35.f. Test results for VOC must be reported as propane, unless an alternate test method is approved that is capable of measuring the actual mass of VOC.
 - 35.g. Source testing must be performed in accordance with condition 63, except that in lieu of the requirements in condition 63.c, the tests must be performed while the production equipment that exhausts to each RCTO system is operating at 80 percent or more of the average production rate during the two months preceding the source test.
 - 35.h. Recordkeeping Requirement For each source test the following parameters must be monitored and recorded:
 - 35.h.i. The shift production rate during the test as a percentage of the average production rate during the two months preceding the source test;
 - 35.h.ii. Combustion temperature of the abatement unit during the test;
 - 35.h.iii. Natural gas consumption rate in ft³/hr or MMBtu/hr during the test;
 - 35.h.iv. Regenerator air temperature during the test; and
 - 35.h.v. Other facility/process operating parameters identified prior to the test.
 - 35.h.vi. The following need not be submitted to DEQ but must be retained at the site for agency review:
 - 35.h.vi.1. The average production rate during the two months preceding the source test; and
 - 35.h.vi.2. The shift production rate during the test.

EU-SCRUBBERS

EU ID	Applicable Requirement	Condition Number	Pollutant/Parameter	Limit/Standard	Monitoring Requirements	
					Method	Condition
EU-Scrubbers	BACT	36	NOx, CO	See condition 36		41
EU-Scrubbers	OAR 340-226-0120	39	Scrubber Operation	See condition 39	Various	40

BACT Requirements

36. Applicable Requirement The permittee must meet the following limits or equipment specifications for the listed equipment:

[BACT determination, Major NSR permit 34-2681-ST-01, application no. 28014, received 12/31/2014]

36.a. As used in this condition:

36.a.i. “new” means equipment identified in the application and installed in or after year 2010;

36.a.ii. “pre-project” means equipment installed before year 2010 and subject to retroactive BACT.

Equipment Type	Equipment Identification	NOx limit or other requirement	CO limit or other requirement
Fab tools including POU devices	EU-Scrubbers	Maintain good work practices in operation of the Fab	Maintain good work practices in operation of the Fab

Scrubber Operation and Maintenance

37. Applicable Requirement For all Fab operations that are served by a scrubber abatement system, the abatement system must be operated whenever production is occurring in the Fab processes served by the abatement system. The abatement system must be operated in accordance with this condition. [OAR 340-226-0120]
- 37.a. When operation of the scrubber abatement system is required, the scrubber abatement system must be operated without bypassing the scrubber abatement system.
- 37.b. For the purpose of this condition, bypassing means to emit all or part of the exhaust stream directly to atmosphere without treatment by the abatement system.
- 37.a. Bypassing is not a violation of this condition provided that:
- 37.a.i. Bypassing is the result of a malfunction or emergency as defined in OAR 340-200-0020; and
 - 37.a.ii. The permittee takes all reasonable steps to end the period of bypassing as quickly as possible.
- 37.b. Within 15 days of any period of bypassing that lasted more than 60 minutes, submit a written report that contains the following information: [OAR 340-214-0340(1)]
- 37.b.i. The date and time of the beginning of bypassing and the duration or best estimate of the time until bypassing will cease;
 - 37.b.ii. The equipment involved;
 - 37.b.iii. The reason for bypassing;
 - 37.b.iv. Steps taken to mitigate emissions and corrective action taken, including whether the approved procedures for a planned startup, shutdown, or maintenance activity were followed;
 - 37.b.v. The magnitude and duration of the increase over normal emission rates or concentrations as determined by continuous monitoring or best estimate (supported by operating data and calculations);
 - 37.b.vi. Where applicable, evidence supporting any claim that emissions in excess of technology-based limits were due to any emergency pursuant to OAR 340-214-0360.
38. Monitoring/Recordkeeping Requirement The permittee must maintain records for each scrubber abatement system of each period of bypassing, including:
- 38.a. The date and time of the beginning of bypassing and the duration or best estimate of the time until bypassing will cease;
 - 38.b. The equipment involved;
 - 38.c. The reason for bypassing;
 - 38.d. Steps taken to mitigate emissions and corrective action taken, including whether the approved procedures for a planned startup, shutdown, or maintenance activity were followed;
 - 38.e. The magnitude and duration of the increase over normal emission rates or concentrations as determined by continuous monitoring or best estimate (supported by operating data and calculations);
 - 38.f. Where applicable, evidence supporting any claim that emissions in excess of technology-based limits were due to any emergency pursuant to OAR 340-214-0360.

39. Applicable Requirement The permittee must observe the following scrubber operation and maintenance requirements for all scrubbers treating acid gas exhaust from process equipment: [OAR 340-226-0120]

39.a. Each scrubber must be operated with a minimum scrubber solution pH set point of 7.0, unless an alternate minimum scrubber solution pH set point has been demonstrated and approved by DEQ as being equal or more effective;

Emission Action Level (EAL)

39.b. The emission action level (EAL) for each scrubber is 1.0 pH unit below the set point.

39.b.i. If the monitored hourly average operating pH of any scrubber is at or below the EAL, the permittee must take expeditious action to return the operating pH to the EAL or more.

39.b.ii. The pH falling to or below the EAL is not a violation of this permit condition; however, it is a violation of this permit condition if the permittee fails to expeditiously take action to correct the operating pH.

Scrubber Monitoring

40. Monitoring Requirement The permittee must monitor the following for each acid gas scrubber:
- 40.a. All periods of operation or non-operation. The monitoring required in condition 40.b may be used to show operation and non-operation.
 - 40.b. The following must be monitored for each scrubber whenever it is operating:
 - 40.b.i. the scrubber solution pH of each scrubber treating acid gas exhaust from process equipment must be continuously monitored and reduced to an hourly average; and
 - 40.b.ii. the scrubber recirculation flow rate must be continuously monitored.
 - 40.c. Recordkeeping Requirement The permittee must maintain the following records:
 - 40.c.i. Hourly pH averages;
 - 40.c.ii. Scrubber recirculation flow rate, either continuous as monitored, or reduced to an hourly average;
 - 40.c.iii. The pH set point of each scrubber;
 - 40.c.iv. All excess emissions, recorded in an Excess Emissions and Upset log;
 - 40.c.v. All upsets or breakdowns of emission control equipment, recorded in an Excess Emissions and Upset log;
 - 40.c.vi. Actions taken to restore emission control equipment to normal operation, recorded in an Excess Emissions and Upset log; and
 - 40.c.vii. Records of major maintenance performed on air pollution control equipment.
 - 40.d. Definitions: [OAR 340-200-0020]
 - 40.d.i. "Excess emissions" means emissions in excess of a permit limit or any applicable air quality rule.
 - 40.d.ii. "Upset" or "Breakdown" means any failure or malfunction of any pollution control equipment or operating equipment that may cause excess emissions.

Note: Excess emissions must be reported in accordance with condition 71.

Scrubber Testing Requirements

41. Monitoring Requirement The permittee must conduct source tests of acid gas scrubbers as specified below:
- 41.a. Scrubbers must be tested at least once every five calendar years, and may either all be tested in the same calendar year, or subsets may be tested in different years and then retested not less than every five years thereafter.
 - 41.b. A newly operational Scrubber, as defined below, must be tested no later than the calendar year following the calendar year in which the Scrubber became operational, and not less than every five years thereafter. For the purpose of this condition:
 - 41.b.i. “newly operational Scrubber” means an Scrubber that has been put into regular service for the first time since the issuance date of this permit, and
 - 41.b.ii. “regular service” means the Scrubber is being used to treat a process exhaust stream, and excludes periods of testing prior to being put into regular service.
 - 41.c. Exhaust gas concentrations must be tested for fluorides and HF. For each scrubber or group of scrubbers:
 - 41.c.i. Testing may be of each individual scrubber exhaust before the exhaust is combined with other scrubber exhausts, or
 - 41.c.ii. If multiple scrubbers discharge to the atmosphere through a single exhaust stack, the single exhaust stack may be tested and all operating scrubbers that exhaust through that stack will be considered to be tested.
 - 41.d. DEQ may approve an alternate testing deadline from those established in this condition if the permittee provides adequate justification for the extension.
 - 41.e. Scrubbers must be operated within their normal pH and recirculation rate operating ranges.
 - 41.f. Test results for fluorides do not include HF must be reported as F, and results for HF must be reported as HF.
 - 41.g. Source testing must be performed in accordance with condition 63, except that in lieu of the requirements in condition 63.c, the tests must be performed while the production equipment that exhausts to each scrubber system is operating at 80 percent or more of the average production rate during the two months preceding the source test.
 - 41.h. Recordkeeping Requirement For each source test the following parameters must be monitored and recorded:
 - 41.h.i. The shift production rate during the test as a percentage of the average production rate during the two months preceding the source test;
 - 41.h.ii. Scrubber operating parameters; and
 - 41.h.iii. Other facility/process operating parameters identified prior to the test.
 - 41.h.iv. The following need not be submitted to DEQ but must be retained at the site for agency review:
 - 41.h.iv.1. The average production rate during the two months preceding the source test; and
 - 41.h.iv.2. The shift production rate during the test.

EU-VOCUNC

EU ID	Applicable Requirement	Condition Number	Pollutant/Parameter	Limit/Standard	Monitoring Requirements	
					Method	Condition
EU-VOCunc	n/a	n/a	VOC	n/a	Recordkeeping	42

42. Monitoring Requirement The permittee must monitor uncontrolled VOC emissions as specified in this condition.
- 42.a. For the purpose of this permit, uncontrolled VOC emissions means emissions of VOCs that are not directed to VOC abatement devices, but are used in or to clean and maintain manufacturing processes and operations that directly support manufacturing processes, such as but not limited to boilers, abatement equipment and wastewater treatment. Uncontrolled VOC emissions do not include emissions from categorically insignificant activities.
- 42.b. Monitor the monthly use of all products that contain more than 1 percent VOC by weight and contribute to uncontrolled VOC emissions as defined in this condition.
- 42.c. Recordkeeping Requirement The permittee must maintain the following records pertaining to uncontrolled VOC emissions:
- 42.c.i. The identification of all products that contain more than 1 percent VOC by weight and contribute to uncontrolled VOC emissions as defined in this condition;
 - 42.c.ii. The monthly use of all such products; and
 - 42.c.iii. The VOC content of all such products.

EU-RICE

EU ID	Applicable Requirement	Condition Number	Pollutant/Parameter	Limit/Standard	Monitoring Requirements	
					Method	Condition
EU-RICE	Voluntary	43	See condition 43	Limit operation	Recordkeeping	47
EU-RICE	BACT	44	CO and NOx	See condition 44	Recordkeeping	47
EU-RICE	40 CFR Part 63, Subpart ZZZZ	45, 46	Operation and Maintenance	See conditions 45, 46	Recordkeeping	47

43. **Applicable Requirement** On days when an air quality advisory is received for PM_{2.5}, the permittee must limit the operation of emergency RICE for maintenance checks and readiness (M&R) testing as specified in this condition. [Voluntary condition] [This condition is enforceable only by the State.]
- 43.a. This condition applies only to M&R testing; this condition does not limit the use of emergency stationary RICE in emergency situations, which includes curtailment and imminent curtailment.
- 43.b. For the purpose of this permit condition, the following terms apply:
- 43.b.i. “Advisory” means an announcement by DEQ, the City of Hillsboro or Washington County advising that activities that emit PM_{2.5} should be curtailed. Such activities include but are not limited to burning wood for home heating or open burning of yard debris.
- 43.b.ii. “Advisory day” means the day that an advisory applies to.
- 43.c. For advisories given on a day that follows a day with no advisory:
- 43.c.i. If the advisory is received by the Facility Contact at email box AQN@Intel.com before 6:00 am of the advisory day, the permittee may not operate any RICE for M&R testing on the advisory day.
- 43.d. For advisories given on a day that follows an advisory day
- 43.d.i. Second consecutive advisory day: the permittee may not operate any emergency RICE for M&R testing.
- 43.d.ii. Third, fourth, etc. consecutive advisory day: the permittee will refrain from operating emergency RICE for M&R testing if the M&R testing schedule allows; however, if M&R testing must be conducted, no more than 5 emergency RICE may be tested on a single day, and only one RICE may be operated at a time for M&R testing.
- 43.d.iii. If advisories continue beyond five consecutive days, the permittee may request, and DEQ may approve, M&R testing of more than 5 RICE per day.
- 43.d.iii.1. A request to test more than 5 RICE per day must include a description of the reasonable measures the permittee will take to minimize PM_{2.5} emissions.
- 43.d.iii.2. If the permittee submits a written request to test under this provision and DEQ does not respond, the request shall be deemed approved 2 business days after the request was submitted.
- 43.e. Following one or more days with advisories, the permittee may resume normal M&R testing on the first day with no advisory; however, the permittee will make an effort to ensure that there have been no advisories issued before resuming normal M&R testing.

BACT Requirements

44. Applicable Requirement The permittee must meet the following limits or equipment specifications for the listed equipment:

[BACT determination, Major NSR permit 34-2681-ST-01, application no. 28014, received 12/31/2014]

44.a. As used in this condition:

44.a.i. “new” means equipment identified in the application and installed in or after year 2010;

44.a.ii. “pre-project” means equipment installed before year 2010 and subject to retroactive BACT.

Equipment Type	Equipment Identification	NOx limit ⁽¹⁾ or other requirement	CO limit ⁽¹⁾ or other requirement
RICE, new		6.0 ⁽⁶⁾ g/hp-hr	3.25 ⁽⁶⁾ g/hp-hr
RICE, preproject		Emergency engine-specific hourly NOx emission limits equal to the hourly emission rates specified in the emission detail sheets	none

Note 1 Emission limits do not apply during periods of startup, shutdown or malfunction.

Note 6 Not to exceed at full load

45. Applicable Requirement The permittee must operate all emergency stationary reciprocating internal combustion engines (RICE) in accordance with the requirements below: [40 CFR 63.6640(f)]

45.a. You must maintain records of when each emergency stationary RICE is operated, and the reasons for operation, as required by condition 47.

45.b. There is no time limit on the use of emergency stationary RICE in emergency situations.

45.c. Operation of emergency stationary RICE for the purpose of maintenance checks and readiness testing (M&R testing) must be limited as follows: [See Note 1, below]

45.c.i. for M&R testing, each emergency generator RICE may be operated for no more than 30 hours per year; [BACT, see Note 2, below]

45.c.ii. for M&R testing, each fire pump RICE may be operated for no more than 50 hours per year; [BACT, see Note 2, below]

45.c.iii. for M&R testing, a maximum of 10 emergency stationary RICE may be operated in any single day; and

45.c.iv. for M&R testing, emergency stationary RICE may only be operated during daytime between the times of sunrise and sunset.

Note 1: Condition 45.c is in lieu of the maintenance and readiness testing limit of 100 hours per year specified in 40 CFR 63.6640(f). Condition 45.c may not be revised without first reviewing the air quality analysis, and if necessary conducting an air quality analysis to demonstrate that the change will continue to be protective of the short-term PM2.5 ambient air quality standard. [OAR 340-226-0120(1)]

Note 2: Conditions 45.c.i and 45.c.ii are BACT limits; BACT determination, Amendment to Major NSR permit 34-2681-ST-01 application no. 28014. Application received 12/31/2014, Amendment received 5/19/2015.

46. Applicable Requirement Starting no later than October 19, 2013, any stationary spark ignition (SI) RICE are subject to the following management practices, or Starting no later than May 3, 2013, any stationary compression ignition (CI) RICE are subject to the following management practices: [40 CFR Part 63.6595(a), 63.6603(a) and 40 CFR Part 63 Subpart ZZZZ, Table 2d and Table 6]
- 46.a. You must install a non-resettable hour meter if one is not already installed. [40 CFR 63.6625(f)];
 - 46.b. Change the oil and filter every 500 hours of operation or annually, whichever comes first, unless an oil analysis program is performed as described in 40 CFR 63.6625(i) and (j);
 - 46.c. For Compression Ignition RICE, inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first; or
 - 46.d. For Spark Ignition RICE inspect the spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;
 - 46.e. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary;
 - 46.f. Operate and maintain the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; [40 CFR 63.6625(e)(3)] or
 - 46.g. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions; [40 CFR 63.6625(e)(3)] and
 - 46.h. If it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in 46.b through 46.g because the emergency engine(s) is operating during an emergency, the management practice can be delayed until the emergency is over. The management practice should be performed as soon as practicable after the emergency has ended.
47. Monitoring and Recordkeeping The permittee must keep the following records for emergency generator or fire pump RICE:
- 47.a. For each emergency generator or fire pump RICE, record the following each time it is operated:
 - 47.a.i. Date of operation
 - 47.a.ii. Time of engine start (clock time);
 - 47.a.iii. Time of engine stop (clock time);
 - 47.a.iv. Elapsed time from engine start to engine stop;
 - 47.a.v. Reason for operation.
 - 47.b. For each emergency generator or fire pump RICE, record the total annual time of operation for maintenance checks and readiness testing (M&R testing);
 - 47.c. Each day that emergency RICE are operated, record the total number of emergency RICE operated that day.
 - 47.d. The date and time an advisory is received, and the date that the advisory applies to.
 - 47.e. Maintenance records for any emergency RICE as required in Condition 46.

INSIGNIFICANT ACTIVITIES

48. DEQ acknowledges that insignificant emissions units (IEUs) identified by rule as either categorically insignificant activities or aggregate insignificant emissions [OAR 340-200-0020] exist at facilities required to obtain an Oregon Title V Operating Permit. IEUs must comply with all applicable requirements. In general, the requirements that could apply to IEUs are incorporated as follows:
- 48.a. OAR 340-208-0110 (20% opacity)
 - 48.b. OAR 340-226-0210 (0.14 gr/dscf for non-fugitive, non-fuel burning equipment installed before April 17, 2015)
 - 48.c. OAR 340-226-0210 (0.10 gr/dscf for non-fugitive, non-fuel burning equipment installed on or after April 17, 2015)
 - 48.d. OAR 340-208-0610 (0.1 gr/dscf for non-fugitive, non-fuel burning equipment) [This condition is enforceable only by the State.]
 - 48.e. OAR 340-208-0630 (1000 ppm SO₂, non-natural gas burning equipment) [This condition is enforceable only by the State.]
 - 48.f. OAR 340-226-0310 (process weight limit for non-fugitive, non-fuel burning process equipment)
 - 48.g. OAR 340-228-0210 (0.14 gr/dscf corrected to 12% CO₂ or 50% excess air for fuel burning equipment installed before April 17, 2015).
 - 48.h. OAR 340-228-0210 (0.10 gr/dscf corrected to 12% CO₂ or 50% excess air for fuel burning equipment installed on or after April 17, 2015).

Unless otherwise specified in this permit or an applicable requirement, DEQ is not requiring any testing, monitoring, recordkeeping, or reporting for the applicable emissions limits and standards that apply to IEUs. However, if testing were performed for compliance purposes, the permittee would be required to use the test methods identified in the definitions of “opacity” and “particulate matter” in OAR 340-208-0010 and perform the testing in accordance with DEQ’s Source Sampling Manual.

PLANT SITE EMISSION LIMITS

49. Applicable Requirement The permittee must not exceed the following plant site emission limits for any 12 consecutive month period: [OAR 340-222-0040 through OAR 340-222-0043]

Pollutant	Plant Site Emission Limit (tons/12 mo)	Netting Basis (tons/12 mo)	Unassigned Emissions (tons/12 mo)	Emission Reduction Credit (tons/12 mo)
PM	41	0	0	0
PM ₁₀	35	0	0	0
PM _{2.5}	31	0	0	0
SO ₂	39	14	0	0
NO _x	197	197	0	0
CO	229	229	0	0
VOC	178	139	0	0
Fluorides	6.4	0.5	0	0
GHG*	819,000 tons**	227,000	0	0

* CO₂e basis

** Equivalent to 742,997 metric tons; short tons x 0.9072 = metric tons

- 49.a. Plant Site Emission Limits includes 2,756 tpy for GHG and 1.0 tpy aggregate insignificant emissions for the other pollutants except Fluorides.
- 49.b. Monitoring for the Plant Site Emission Limits is included in condition 53.
- 49.c. The permittee may only use Unassigned Emissions after any necessary construction (OAR 340-218-0190) and permit revision applications (OAR 340-218-0120 through 340-218-0180) have been approved by DEQ. [OAR 340-222-0045]
- 49.d. Any unassigned emissions that are greater than the SER will be reduced to the SER when this permit is renewed unless used before that date. [OAR 340-222-0045]
- 49.e. The GHG emissions calculations are based on the Global Warming Potentials specified in 40 CFR Part 98, 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantially Revised Data Elements; Final Rule (71904 Federal Register / Vol. 78, No. 230 / Friday, November 29, 2013).
- 49.f. Accounting months may be used in lieu of calendar months.

Netting Basis Reset for CO and NOx

50. Applicable Requirement This Major NSR permit (application no. 28014) establishes the netting basis for CO and NOx at the PTE of the facility because the permittee had not begun normal operations during the applicable baseline period, but was approved to construct and operate in accordance with OAR 340 division 224. [OAR 340-222-0046 (netting basis) and OAR 340-222-0051(3) (actual emissions)]
- 50.a. The netting basis for CO and NOx will be reset to actual emissions as follows: [OAR 340-200-0020(3)(c)]
- 50.a.i. Except as provided in condition 50.a.iii, 10 years after the date this permit is issued, or an earlier time if requested by the source in a permit application involving public notice, DEQ will reset actual emissions to equal the highest actual emission rate during any consecutive 12-month period during the ten year period or any shorter period if requested by the source.
 - 50.a.ii. Any emission reductions achieved due to enforceable permit conditions based on OAR 340-226-0110 and 0120 (highest and best practicable treatment and control) are not included in the reset calculation required in condition 50.a.i.
 - 50.a.iii. DEQ may extend the date of resetting by five additional years upon satisfactory demonstration by the source that construction is ongoing or normal operation has not yet been achieved.
- 50.b. The CO and NOx netting basis or PSEL (or both) that was set based on PTE must be excluded from the tests in OAR 340-224-0025(2) until the netting basis is reset. [OAR 340-224-0025(2)(b)(C) (major modification)]
51. Monitoring Requirement The permittee must monitor the actual monthly emissions of CO and NOx from the date this permit is issued through the time the CO and NOx netting basis is reset in accordance with condition 50.a. This monitoring is required for the purpose of resetting the CO and NOx netting bases.
- 51.a. Recordkeeping Requirement The permittee must maintain records of actual monthly CO and NOx emissions from the date this permit is issued through the time the CO and NOx netting bases are reset in accordance with condition 50.a. Records must be kept for each emissions unit identified in condition 5.

Plant Site Emissions Limits for Hazardous Air Pollutants

52. Applicable Requirement The permittee must not exceed the following plant site emission limits of Hazardous Air Pollutants for any 12 consecutive month period: [OAR 340-222-0060]

Pollutant	Plant Site Emission Limit (tons/12 mo)
Any individual HAP	9
Aggregate of all HAPs	24

- 52.a. Accounting months may be used in lieu of calendar months.

Plant Site Emission Limits Monitoring. [OAR 340-218-0050(3)(a) and (b)]

53. Monitoring Requirement Compliance with the PSEL is determined for each 12-consecutive month period based on the following calculations in conditions 54 through 62, performed for each pollutant listed in condition 49 (Plant Site Emission Limits), and condition 52 (Plant Site Emission Limits for Hazardous Air Pollutants):
- 53.a. The term “detail sheets” refers to the emissions detail sheets associated with this permit.
 - 53.b. The detail sheets may be updated by DEQ, and the most recent version must be used for the emission calculations specified in this condition.
 - 53.c. The permittee may request approval of updated emission factors and may use the updated emission factors upon approval by DEQ.
 - 53.d. For the purpose of emissions monitoring, emissions of PM=PM10=PM2.5, except where different values or calculations are specified (such as Scrubbers and Unpaved Roads).

BOILERS

54. Calculate monthly emissions for each boiler or group of boilers used during the reporting year.
- 54.a. Calculate emissions of PM, PM10, PM2.5, CO, NOx, SO2 and VOC as follows:
 - 54.a.i. Monthly emissions = Monthly natural gas usage x EF x appropriate unit conversions, where EF means the pollutant-specific emission factor used in the Detail Sheets for EU-Boilers, or an approved updated emission factor.
 - 54.b. Calculate monthly emissions of HAPs as specified in condition 54.a.i.
 - 54.c. Calculate GHG emissions as specified in condition 62.
 - 54.d. Calculate the rolling 12-month emissions by summing the emissions for the most recent month with the emissions for the preceding 11 months.
 - 54.e. Recordkeeping Requirement Keep records of the monthly emissions and the rolling 12-month emissions for each month.

HEATERS

55. Calculate monthly emissions for each heater or group of heaters used during the reporting year.
- 55.a. Calculate emissions of PM, PM10, PM2.5, CO, NOx, SO2 and VOC as follows:
 - 55.a.i. Monthly emissions = Monthly natural gas usage x EF x appropriate unit conversions, where EF means the pollutant-specific emission factor used in the Detail Sheets for EU-Heaters, or an approved updated emission factor.
 - 55.b. Calculate monthly emissions of HAPs as specified in condition 55.a.i.
 - 55.c. Calculate GHG emissions as specified in condition 62.
 - 55.d. Calculate the rolling 12-month emissions by summing the emissions for the most recent month with the emissions for the preceding 11 months.
 - 55.e. Recordkeeping Requirement Keep records of the monthly emissions and the rolling 12-month emissions for each month.

TMXW

56. Calculate monthly emissions for each TMXW device or group of devices used during the reporting year.

PM, PM10, PM2.5, CO, SO2 and VOC

56.a. Calculate emissions of PM, PM10, PM2.5, CO, SO2 and VOC as follows:

56.a.i. Monthly emissions = Monthly natural gas usage x EF x (1-RE) x appropriate unit conversions, where EF means the pollutant-specific emission factor used in the Detail Sheets for EU-TMXW, or an approved updated emission factor, and RE means the pollutant-specific removal efficiency.

NOx

56.b. Calculate emissions of NOx as follows:

56.b.i. Monthly emissions = The sum of the following for all chemicals used in or that exhaust to TMXW systems:

Monthly chemical usage rate x EF x (1-RE) x appropriate unit conversions, where EF means the pollutant-specific emission factor approved by DEQ, and RE means the pollutant-specific removal efficiency.

56.c. Calculate monthly emissions of HAPs as follows:

56.c.i. Monthly emissions = Monthly natural gas usage x EF x appropriate unit conversions, where EF means the pollutant-specific emission factor used in the Detail Sheets for EU-TMXW, or an approved updated emission factor.

56.d. Calculate GHG emissions as specified in condition 62.

56.e. Calculate the rolling 12-month emissions by summing the emissions for the most recent month with the emissions for the preceding 11 months.

56.f. Recordkeeping Requirement Keep records of the monthly emissions and the rolling 12-month emissions for each month.

RICE

57. Calculate monthly emissions for each RICE used during the reporting year.

57.a. Calculate monthly emissions of PM, PM10, PM2.5, CO, NOx, SO2 and VOC from each RICE using Option 1 or Option 2. Only one calculation option may be used in any calendar year:

Option 1

57.a.i. Monthly emissions = Monthly hours of operation x EF x appropriate unit conversions, where EF means the pollutant-specific emission factor used in the Detail Sheets for EU-RICE, or an approved updated emission factor.

Option 2

57.a.ii. The permittee may propose to base emissions calculations on the amount of fuel used. This option may only be used if the method and emission factors are approved by DEQ.

57.a.iii. Monthly emissions = Monthly fuel usage x EF x appropriate unit conversions, where EF means the pollutant-specific emission factor approved by DEQ.

57.b. Calculate monthly emissions of HAPs as specified in condition 57.a.

57.c. Calculate GHG emissions as specified in condition 62.

- 57.d. Calculate the rolling 12-month emissions by summing the emissions for the most recent month with the emissions for the preceding 11 months.
- 57.e. Recordkeeping Requirement Keep records of the following:
- 57.e.i. The calculation option used for each RICE; and
 - 57.e.ii. Monthly emissions and the rolling 12-month emissions for each month.

UNPAVED ROADS

58. Determine monthly emissions from unpaved roads as follows:
- 58.a. Report the following monthly unpaved roads emissions of PM, PM10 and PM2.5:
- 58.a.i. $PM = (3.53 \text{ tons per year})/12$;
 - 58.a.ii. $PM_{10} = (0.95 \text{ tons per year})/12$;
 - 58.a.iii. $PM_{2.5} = (0.10 \text{ tons per year})/12$.
- 58.b. If the permittee makes changes to reduce emissions from unpaved areas DEQ may approve revised emissions estimates, and the permittee may use the revised emissions estimates upon approval by DEQ.

SCRUBBERS

59. Calculate monthly emissions for each scrubber or scrubber system used during the reporting year.

FLUORIDES

- 59.a. Calculate monthly emissions of fluorides from each scrubber or scrubber system, using Option 1 or Option 2.

Option 1

- 59.a.i. Monthly emissions = Monthly production rate x EF x appropriate unit conversions, where EF means the pollutant-specific emission factor approved by DEQ.

Option 2

- 59.a.ii. Calculate emissions of fluorides as follows:
- 59.a.iii. Monthly emissions = The sum of the following for all chemicals used in production processes that generate fluorides and exhaust to scrubbers:
- Monthly chemical usage rate x EF x (1-RE) x appropriate unit conversions, where EF means the pollutant-specific emission factor approved by DEQ, and RE means the pollutant-specific removal efficiency).
- 59.a.iv. Only one calculation option may be used in any month, and the selected option must be used for the entire month.
- 59.a.iv.1. Upon issuance of this permit, the permittee may select which option will be used. Thereafter, the permittee may change options at any time provided that DEQ approves the change.
 - 59.a.iv.2. A request to change options must be submitted in writing, and must include the reason for the requested change.
 - 59.a.iv.3. The permittee may not implement the change until DEQ approves the change.

HAPs

59.b. Calculate monthly emissions of HAPs from each scrubber or scrubber system, using Option 1 or Option 2.

Option 1

59.b.i. Monthly emissions = Monthly production rate x EF x (1-RE) appropriate unit conversions, where EF means the pollutant-specific emission factor approved by DEQ.

Option 2

59.b.ii. Monthly emissions = The sum of the following for all chemicals used in production processes that generate HAP emissions and exhaust to scrubbers:

Monthly chemical usage rate x EF x (1-RE) x appropriate unit conversions, where EF means the pollutant-specific emission factor approved by DEQ, and RE means the pollutant-specific removal efficiency).

59.b.iii. For each individual HAP, only one calculation option may be used in any month, and the selected option must be used for the entire month.

59.b.iii.1. Upon issuance of this permit, the permittee may select which option will be used. Thereafter, the permittee may change options at any time provided that DEQ approves the change.

59.b.iii.2. A request to change options must be submitted in writing, and must include the reason for the requested change.

59.b.iii.3. The permittee may not implement the change until DEQ approves the change.

PM, PM10, PM2.5, SO2 and VOC

59.c. Calculate emissions of PM, PM10, PM2.5, SO2, and VOC as follows:

Process Emissions

59.c.i. Monthly emissions = Monthly chemical usage rate x EF x appropriate unit conversions, where EF means the pollutant-specific emission factor approved by DEQ, and RE means the pollutant-specific removal efficiency); and

Natural Gas Combustion Emissions

59.c.ii. Monthly emissions = Monthly natural gas usage x EF x appropriate unit conversions, where EF means the pollutant-specific emission factor used in the Detail Sheets for EU-Scrubbers, or an approved updated emission factor.

CO, NO_x

59.d. Calculate monthly emissions of CO and NO_x using Option 1 or Option 2.

Option 1

59.d.i. Monthly emissions = Monthly production rate x EF x appropriate unit conversions, where EF means the pollutant-specific emission factor approved by DEQ.

Option 2

Process Emissions

59.d.ii. Monthly emissions = Monthly chemical usage rate x EF x appropriate unit conversions, where EF means the pollutant-specific emission factor approved by DEQ, and RE means the pollutant-specific removal efficiency); and

Natural Gas Combustion Emissions

59.d.iii. Monthly emissions = Monthly natural gas usage x EF x appropriate unit conversions, where EF means the pollutant-specific emission factor used in the Detail Sheets for EU-Scrubbers, or an approved updated emission factor.

59.d.iv. Only one calculation option may be used in any month, and the selected option must be used for the entire month.

59.d.iv.1. Upon issuance of this permit, the permittee may select which option will be used. Thereafter, the permittee may change options at any time provided that DEQ approves the change.

59.d.iv.2. A request to change options must be submitted in writing, and must include the reason for the requested change.

59.d.iv.3. The permittee may not implement the change until DEQ approves the change.

PM, PM10 and PM2.5

Drift Loss Emissions

59.e. Calculate monthly emissions of PM, PM10 and PM2.5 from scrubber drift loss as:

59.e.i. Monthly PM scrubber drift loss = (6.26 tons per year)/12.

59.e.ii. Monthly PM10 scrubber drift loss = (3.48 tons per year)/12.

59.e.iii. Monthly PM2.5 scrubber drift loss = (0.012 tons per year)/12.

59.f. If the permittee makes changes that change scrubber drift loss emissions, DEQ may approve revised emissions estimates, and the permittee may use the revised emissions estimates upon approval by DEQ.

59.g. If the permittee conducts the study under condition **Error! Reference source not found.**, DEQ may approve revised drift loss emissions estimates, and the permittee may use the revised emissions estimates upon approval by DEQ.

Total Emissions of PM, PM10 and PM2.5

59.h. Calculate total monthly emissions of PM, PM10 and PM2.5 from each scrubber or scrubber system by summing the Process Emissions, Natural Gas Combustion Emissions and Drift Loss Emissions for PM, PM10 and PM2.5, as appropriate.

- 59.i. Calculate GHG emissions as specified in condition 62.
- 59.j. Calculate the rolling 12-month emissions by summing the emissions for the most recent month with the emissions for the preceding 11 months.
- 59.k. By no later than 60 days after issuance of this permit, the permittee must notify DEQ if the study described in this condition will be conducted.
 - 59.k.i. The permittee must conduct a study to verify the wet scrubber PM2.5 and PM10 emission factors, unless the permittee finds that the study is not technically feasible.
 - 59.k.ii. If the permittee finds that the study is not technically feasible, the notification must include an explanation of why the study is not technically feasible.
 - 59.k.iii. If the permittee finds that the study is technically feasible, the notification must include a plan for verifying the wet scrubber PM2.5 and PM10 emission factors for DEQ review and approval. The plan must include:
 - 59.k.iii.1. An explanation of the proposed methodology(ies);
 - 59.k.iii.2. Interim milestones; and
 - 59.k.iii.3. A proposed date for submittal of a final report on the results of the study.
- 59.l. Recordkeeping Requirement Keep records of the following:
 - 59.l.i. For each month, which reporting option was used for fluorides, HAPs, CO and NOx;
 - 59.l.ii. If Option 1 was used, production data, emission factors used and monthly emissions
 - 59.l.iii. If Option 2 was used, natural chemical usage, production data, emission factors used and monthly emissions and the rolling 12-month emissions for each month.
 - 59.l.iv. Calculate total monthly emissions from each scrubber or scrubber system by summing the process, combustion and drift loss emissions.
 - 59.l.v. Calculate the rolling 12-month emissions by summing the emissions for the most recent month with the emissions for the preceding 11 months.

RCTOs

60. Calculate monthly emissions for each RCTO or RCTO system used during the reporting year.

CO, NOx and SO2

60.a. Calculate monthly emissions of: CO, NOx and SO2 as follows:

60.a.i. Monthly emissions = Monthly natural gas usage rate x EF x appropriate unit conversions, where EF means the pollutant-specific emission factor in the detail sheets, or an approved updated emission factor.

VOC

60.b. Calculate monthly emissions of VOC from each RCTO or RCTO system, using Option 1 or Option 2.

Option 1

60.b.i. Monthly emissions = The sum of the following for all VOCs used in production processes that exhaust to RCTOs:

The total monthly amount of each VOC used x EF x (1-DRE for the RCTO or RCTO system) x appropriate unit conversions, where DRE is the destruction and removal efficiency of the RCTO or RCTO system as determined by the most recent source test, and EF means the emission factor approved by DEQ.

Option 2

60.b.ii. Monthly emissions = Monthly production rate x EF x appropriate unit conversions, where EF means the emission factor based on source testing and approved by DEQ.

60.b.iii. Only one calculation option may be used in any month, and the selected option must be used for the entire month.

60.b.iii.1. Upon issuance of this permit, the permittee may select which option will be used. Thereafter, the permittee may change options at any time provided that DEQ approves the change.

60.b.iii.2. A request to change options must be submitted in writing, and must include the reason for the requested change.

60.b.iii.3. The permittee may not implement the change until DEQ approves the change.

VOHAPs (volatile organic HAPs)

60.c. Calculate monthly emissions of VOHAPs from each RCTO or RCTO system, using Option 1 or Option 2.

Option 1

60.c.i. Monthly emissions = The sum of the following for all VOHAPs used in production processes that exhaust to RCTOs:

The total monthly amount of each VOHAP used x EF x (1-DRE for the RCTO or RCTO system) x appropriate unit conversions, where DRE is the destruction and removal efficiency of the RCTO or RCTO system as determined by the most recent source test, and EF means the VOHAP-specific emission factor approved by DEQ.

Option 2

60.c.ii. Monthly emissions = Monthly production rate x EF x appropriate unit conversions, where EF means the VOHAP-specific emission factor based on source testing and approved by DEQ.

60.c.iii. Only one calculation option for each individual VOHAP may be used in any month, and the selected option must be used for the entire month.

60.c.iii.1. Upon issuance of this permit, the permittee may select which option will be used. Thereafter, the permittee may change options at any time provided that DEQ approves the change.

60.c.iii.2. A request to change options must be submitted in writing, and must include the reason for the requested change.

60.c.iii.3. The permittee may not implement the change until DEQ approves the change.

Combustion HAPs

60.d. Calculate monthly emissions of combustion HAPs as specified in condition 60.e.iii.

PM, PM10 and PM2.5

60.e. Calculate monthly emissions of PM, PM10 and PM2.5 as follows:

Process Emissions

60.e.i. Monthly emissions = Monthly chemical usage rate x EF x appropriate unit conversions, where EF means the emission factor used in the Detail Sheets for EU-RCTOs, or as approved by DEQ.

Natural Gas Combustion Emissions

60.e.ii. Calculate monthly emissions of PM, PM10 and PM2.5 from natural gas combustion in RCTOs.

60.e.iii. Monthly emissions = Monthly natural gas usage x EF x appropriate unit conversions, where EF means the pollutant-specific emission factor used in the Detail Sheets for EU-RCTOs, or as approved by DEQ.

Total Emissions of PM, PM10 and PM2.5

60.e.iv. Calculate total monthly emissions of PM, PM10 and PM2.5 from each RCTO or RCTO system by summing the Process Emissions and Natural Gas Combustion Emissions for PM, PM10 and PM2.5, as appropriate.

60.f. Calculate GHG emissions as specified in condition 62.

- 60.g. Calculate the rolling 12-month emissions by summing the emissions for the most recent month with the emissions for the preceding 11 months.
- 60.h. Recordkeeping Requirement Keep monthly records of the following:
 - 60.h.i. Which VOC reporting option was used;
 - 60.h.ii. Natural gas usage;
 - 60.h.iii. Production rate;
 - 60.h.iv. Identification and amount of each VOC used;
 - 60.h.v. Emissions of CO, NOx, SO2, VOC, PM, PM10 and PM2.5.

UNCONTROLLED VOC

- 61. Calculate monthly emissions of uncontrolled VOC, where uncontrolled VOC means VOC usage that is not routed to a VOC or scrubber abatement system.
 - 61.a. Monthly emissions = The sum of the following for all VOCs used in production processes that do not exhaust to a VOC abatement device:
(The total monthly amount of each VOC used minus any of that VOC that is shipped offsite) x EF x appropriate unit conversions, where EF means the VOC-specific emission factor approved by DEQ.
 - 61.b. Calculate the rolling 12-month emissions by summing the emissions for the most recent month with the emissions for the preceding 11 months.
 - 61.c. Recordkeeping Requirement Keep monthly records of the following:
 - 61.c.i. The identification and amount of each uncontrolled VOC used; and
 - 61.c.ii. The following information for any VOC shipped offsite:
 - 61.c.ii.1. Amount shipped offsite;
 - 61.c.ii.2. How the amount was determined; and
 - 61.c.ii.3. Destination of the VOC shipped offsite.

GREENHOUSE GAS CALCULATION PROCEDURE

- 62. The following procedure must be used to calculate GHG emissions:
 - 62.a. Not later than March 15 of each year, calculate emissions of GHG for the preceding year for each applicable emissions unit using the protocols specified in OAR 340 Division 215;
 - 62.b. For each applicable emissions unit, estimate the monthly GHG emissions for the preceding year by apportioning the annual GHG emissions as follows:
$$\text{GHG estimate for month } K = \frac{\text{annual GHG emissions}}{12} \times \frac{\text{production parameter value for month } X}{\text{total annual production parameter value}}$$

Where “production parameter” is the parameter that best represents GHG emissions from each applicable emissions unit, such as but not limited to: production rate, fuel usage rate, or hours of operation.
 - 62.c. Calculate the rolling 12-month emissions by summing the emissions for each month with the emissions for the preceding 11 months.

62.d. Recordkeeping Requirement Keep records of the following:

- 62.d.i. The annual facility-wide GHG emissions for each applicable emissions unit;
- 62.d.ii. The estimated monthly GHG emissions for each emissions unit;
- 62.d.iii. The rolling 12-month facility total GHG emissions, using the estimated monthly GHG emissions.

TESTING REQUIREMENTS

63. Monitoring Requirement Unless otherwise specified in this permit, the permittee must conduct all testing in accordance with DEQ’s Source Sampling Manual. [OAR 340-212-0120]
- 63.a. Unless otherwise specified in this permit or by a state or federal regulation, the permittee must submit a source test plan to DEQ at least 30 days prior to the date of the test. The test plan must be prepared in accordance with the Source Sampling Manual and address any planned variations or alternatives to prescribed test methods. A test method modification/variance or substitution of an alternative test method must be pre-approved by DEQ. The permittee should be aware that if significant variations are requested, it may require more than 30 days for DEQ to grant approval and may require EPA approval in addition to approval by DEQ.
 - 63.b. Only regular operating staff may adjust the processes or emission control device parameters during a compliance source test and within two (2) hours prior to the tests. Any operating adjustments made during a compliance source test, which are a result of consultation during the tests with source testing personnel, equipment vendors, or consultants, may render the source test invalid.
 - 63.c. Unless otherwise specified by permit condition or DEQ approved source test plan, all compliance source tests must be performed as follows:
 - 63.c.i. At least 90% of the design capacity for new or modified equipment;
 - 63.c.ii. At least 90% of the maximum operating rate for existing equipment; or
 - 63.c.iii. At 90 to 110% of the normal maximum operating rate for existing equipment.
 - 63.c.iv. For purposes of this permit, the normal maximum operating rate is defined as the 90th percentile of the average hourly operating rates during a 12 month period immediately preceding the source test. Data supporting the normal maximum operating rate must be included with the source test report.
 - 63.d. Each source test must consist of at least three (3) test runs and the emissions results must be reported as the arithmetic average of all valid test runs. If for reasons beyond the control of the permittee a test run is invalid, DEQ may accept two (2) test runs for demonstrating compliance with the emission limit or standard.
 - 63.e. Source test reports prepared in accordance with DEQ’s Source Sampling Manual must be submitted to DEQ within 45 days of completing any required source test, unless a different time period is approved in the source test plan submitted prior to the source test.

Tested Pollutant	Reference Test Method⁽¹⁾
NO _x	EPA Method 7E
CO	EPA Method 10 Note: Method 10 must be modified to include improved quality assurance procedures of Method 6C - contact Source Test Coordinator for details.
VOC	EPA Method 25A
Opacity	EPA Method 9

Note (1) - Substitution of alternative test method(s) must be pre-approved by DEQ.

MONITORING REQUIREMENTS

The monitoring conditions in this section are based on OAR 340-218-0050(3)(a); unless otherwise specified.

General Monitoring Requirements

64. The permittee must not knowingly render inaccurate any required monitoring device or method. [OAR 340-218-0050(3)(a)(E)]
65. Permittee must use the same methods to determine compliance as those used to determine actual emissions for fee purposes and can be no less rigorous than the requirements of OAR 340-218-0050(3)(a)(F)
66. Monitoring requirements must commence on the date of permit issuance unless otherwise specified in the permit or an applicable requirement. [OAR 340-218-0050(3)(a)(G)]

RECORDKEEPING REQUIREMENTS

The recordkeeping conditions in this section are based on OAR 340-218-0050(3)(b); unless otherwise specified.

GENERAL RECORDKEEPING REQUIREMENTS

67. The permittee shall maintain the following general records of testing required by this permit: [OAR 340-218-0050(3)(b)(A)]
 - 67.a. the date, place as defined in the permit, and time of sampling or measurements;
 - 67.b. the date(s) analyses were performed;
 - 67.c. the company or entity that performed the analyses;
 - 67.d. the analytical techniques or methods used;
 - 67.e. the results of such analyses;
 - 67.f. the operating conditions as existing at the time of sampling or measurement; and
 - 67.g. the records of quality assurance for continuous monitoring systems (including but not limited to quality control activities, audits, calibration drift checks).
68. Unless otherwise specified by permit condition, the permittee shall make every effort to maintain 100 percent of the records required by the permit. If information is not obtained or recorded for legitimate reasons (e.g., the monitor or data acquisition system malfunctions due to a power outage), the missing record(s) shall not be considered a permit deviation provided the amount of data lost does not exceed 10% of the averaging periods in a reporting period or 10% of the total operating hours in a reporting period, if no averaging time is specified. Upon discovering that a required record is missing, the permittee shall document the reason for the missing record. In addition, any missing record that can be recovered from other available information shall not be considered a missing record. [340-212-0160, OAR 340-214-0110, and 340-218-0050(3)(b)]
69. Recordkeeping requirements shall commence on the date of permit issuance unless otherwise specified in the permit or an applicable requirement. [OAR 340-218-0050(3)(b)(C)]

70. Unless otherwise specified, the permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. All existing records required by the previous Air Contaminant Discharge Permit shall also be retained for five (5) years from the date of the monitoring sample, measurement, report, or application.
[OAR 340-218-0050(b)(B)]

GENERAL REPORTING REQUIREMENTS

The reporting conditions in this section are based on OAR 340-218-0050(3)(c); unless otherwise specified.

71. Excess Emissions Reporting The permittee must report all excess emissions as follows: [OAR 340-214-0300 through 340-214-0360]
- 71.a. Immediately (not later than 9:00 am on the first business day following the date on which an excess emission occurred-business days are Monday through Friday, excluding holidays observed by DEQ) notify DEQ of an excess emission event by phone, e-mail, or facsimile; and
 - 71.b. Within 15 days of the excess emissions event, submit a written report that contains the following information: [OAR 340-214-0340(1)]
 - 71.b.i. The date and time of the beginning of the excess emissions event and the duration or best estimate of the time until return to normal operation;
 - 71.b.ii. The date and time the owner or operator notified DEQ of the event;
 - 71.b.iii. The equipment involved;
 - 71.b.iv. Whether the event occurred during planned startup, planned shutdown, scheduled maintenance, or as a result of a breakdown, malfunction, or emergency;
 - 71.b.v. Steps taken to mitigate emissions and corrective action taken, including whether the approved procedures for a planned startup, shutdown, or maintenance activity were followed;
 - 71.b.vi. The magnitude and duration of each occurrence of excess emissions during the course of an event and the increase over normal rates or concentrations as determined by continuous monitoring or best estimate (supported by operating data and calculations);
 - 71.b.vii. The final resolution of the cause of the excess emissions; and
 - 71.b.viii. Where applicable, evidence supporting any claim that emissions in excess of technology-based limits were due to any emergency pursuant to OAR 340-214-0360.
 - 71.c. In the event of any excess emissions which are of a nature that could endanger public health and occur during non-business hours, weekends, or holidays, the permittee must immediately notify DEQ by calling the Oregon Accident Response System (OARs). The current number is 1-800-452-0311.
 - 71.d. If startups, shutdowns, or scheduled maintenance may result in excess emissions, the permittee must submit startup, shutdown, or scheduled maintenance procedures used to minimize excess emissions to DEQ for prior authorization, as required in OAR 340-214-0310 and 340-214-0320. New or modified procedures must be received by DEQ in writing at least 72 hours prior to the first occurrence of the excess emission event. The permittee must abide by the approved procedures and have a copy available at all times.
 - 71.e. The permittee must continue to maintain a log of all excess emissions in accordance with OAR 340-214-0340(3). However, the permittee is not required to submit the detailed log with the semi-annual and annual monitoring reports. The permittee is only required to submit a brief summary listing the date, time, and the affected emissions units for each excess emission that occurred during the reporting period. [OAR 340-218-0050(3)(c)]

72. Permit Deviations Reporting: The permittee must promptly report deviations from permit requirements that do not cause excess emissions, including those attributable to upset conditions, as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. “Prompt” means within 15 days of the deviation. Deviations that cause excess emissions, as specified in OAR 340-214-0300 through 340-214-0360 must be reported in accordance with Condition 71. [OAR 340-218-0050(3)(c)(B)]
73. The permittee shall submit any required source test report within 45 days after the source test; unless otherwise approved in the source test plan. [OAR 340-218-0050(3)(c)(C) and 340-212-0120]
74. All required reports must be certified by a responsible official consistent with OAR 340-218-0040(5); [OAR 340-218-0050(3)(c)(D)]
75. Reporting requirements are in effect on the date of permit issuance unless otherwise specified in the permit. [OAR 340-218-0050(3)(c)(E)]

Addresses of regulatory agencies are the following, unless otherwise instructed:

DEQ – Northwest Region
700 NE Multnomah St., Suite 600,
Portland, OR 97232
Phone: (503) 229-5263

DEQ – Air Quality Division
811 SW Sixth Avenue
Portland, OR 97204
(503) 229-5359

Air Operating Permits
US Environmental Protection Agency
Mail Stop OAQ-108
1200 Sixth Avenue
Seattle, WA 98101

ANNUAL REPORTS

76. The permittee must report GHG emissions to DEQ as required by OAR 340, Division 215.
77. The permittee must submit three (3) copies of reports required by this condition, completed on forms approved by DEQ. <reserved for Title V requirement> All instances of deviations from permit requirements must be clearly identified in such reports: [OAR 340-218-0050(3)(c)(A) and 340-218-0080(6)(d)]
- 77.a. < reserved for Title V requirement >;
- 77.b. The annual report is due on March 15 and must consist of the following:
- 77.b.i. < reserved for Title V requirement >
 - 77.b.ii. The emission fee report. [OAR 340-220-0100]
 - 77.b.iii. A summary of the Excess Emissions and Upset log (per conditions 33.b, 40.c and 71.e). [OAR 340-214-0340]
 - 77.b.iv. The annual certification that the risk management plan is being properly implemented, if applicable (condition 9, OAR 340-244-0230). [OAR 340-218-0080(7)]
 - 77.b.v. The type and amount of fuel combusted.
 - 77.b.vi. The calculated 12-month rolling emission rates for
PM, PM10, PM2.5, SO2,
CO, NOx, VOC, Fluorides,
GHG, combined HAPs and individual HAPs,
for each month of the previous year. Emissions must be calculated using the methods described in Condition 53 (PSEL monitoring).
Note: reporting for individual HAPs is only required for pollutants with emission rates of 0.1 or more tons/yr
 - 77.b.vii. Revisions of the pollutant capture efficiency function used for compliance emission calculations in condition 60.
 - 77.b.viii. A summary of the physical changes, additions, and/or process modifications as well as pollution prevention project(s) performed to offset emission increases associated with these changes/modifications, pre-approved pursuant to Condition 16. In addition, the permittee must identify and summarize any change with an associated emission increase of five (5) or more tons of VOC or one (1) or more tons of any HAP on a yearly basis.
 - 77.b.ix. Summary of complaints relating to air quality received by permittee during the year.
 - 77.b.x. List major maintenance performed on pollution control equipment.
 - 77.b.xi. There are no applicable Subpart Dc specific reporting requirements for affected facilities that are exclusively natural gas fired.

78. < reserved for Title V requirement >

79. < reserved for Title V requirement >

NON-APPLICABLE REQUIREMENTS

80. State and Federal air quality requirements (e.g., rules and regulations) currently determined not applicable to the permittee are listed below along with the reason for the non-applicability: [OAR 340-218-0110]

Applicable Requirement	Reason Code	Applicable Requirement	Reason Code	Applicable Requirement	Reason Code
OAR Chapter 340:					
Division 202		Division 232:		Division 264	
all rules	i	0050	e	0100-0120	d
Division 206		0080-0230	b	0140-0170	d
0040	i	Division 234:		Division 266	
0050	c	all rules	b	all rules	b,h
0060	i	Division 236:		40 CFR:	
0070	i	all rules	b	Part 55	b
Division 208		Division 238:		Part 57	b
0570	e	0080	e	Part 60,	b
Division 210:		0090	i	except	
0100-0120	b	0100	e	subparts A,	
Division 214:		Division 240:		Dc, III and	
0210-0220	c	all rules	d	appendices	
0420-0430	k	Division 242:		Part 61,	b
Division 218:		0500-0520	e	except	
0050(4)	b	0600-0630	b	subpart A, M,	
0050(8)	h	0740	b	and	
0090	b	0760-0790	b	appendices	
0100	b	Division 244:		Part 63,	b
0250	i	0232-0252	e	except	
Division 222		Division 250		subparts A,	
0042	c	all rules	i,k	ZZZZ and	
Division 224		Division 252		appendices	
all rules	b	all rules	b,k	Part 72	b
Division 226:		Division 256:		through 76	
0400	h	0130	b	Part77	b
Division 228:		0140	b	Part78	b
0100	f	0200-0470	b	Part 82,	b
0120	f	Division 258:	b	except	
0200	e	0120 through	b	subpart F and	
0300	b	0310		appendices	
0400-0639	b	0400	b	Part 85	b
Appendix A	b	Division 260:		through 89	
Division 230:		0030	b		
all rules	e	Division 262			
		all rules	b		

Reason code definitions:

- a this pollutant is not emitted by the facility
- b the facility is not in this source category
- c the facility is not in a special control/nonattainment area
- d the facility is not in this county
- e the facility does not have this emissions unit
- f the facility does not use this fuel type
- g the rule does not apply because no changes have been made at the facility that would trigger these procedural requirements
- h this method/procedure is not used by the facility
- i this rule applies only to DEQ and regional authorities
- j there are no emissions units with add-on control devices or the pre-controlled potential emissions are less than 100 tons per year or the emissions units with add-on control devices and pre-controlled emissions greater than 100 tons per year are subject to emissions standards promulgated after November of 1990
- k other

ACDP ADMINISTRATIVE REQUIREMENTS

Permit Renewal	The completed application package for a Title V permit is due not more than 120 days after the issuance date of this permit. Two (2) copies of the application must be submitted to the DEQ Permit Coordinator.
Permit Modification	Application for a modification of this permit must be submitted not less than 60 days prior to the source modification. A special activity fee must be submitted with an application for the permit modification. The fees and two (2) copies of the application must be submitted to the Business Office of the Department.
Permit Coordinator Address	All reports, notices, and applications (without associated fees) should be directed to the Permit Coordinator of the Department's Northwest Regional Office. The address is as follows:
	DEQ – Northwest Region 700 NE Multnomah St., Suite #600, Portland, OR 97232 Telephone: (503) 229-5582
Department Contacts - Internet	Information about air quality permits and the Department's regulations may be obtained from the DEQ web page at www.deq.state.or.us .
Department Contacts - General	All inquiries about this permit should be directed to the Department's Northwest Regional Office. The address and phone number are as follows:
	DEQ – Northwest Region 700 NE Multnomah St., Suite #600, Portland, OR 97232 Telephone: (503) 229-5263

ACDP FEES

Annual Compliance Fee	There is no annual compliance fee for this permit. The permittee must pay Title V fees under OAR 340 Division 220.
Change of Ownership or Company Name Fee	The non-technical permit modification fee specified in OAR 340-216-0020, Table 2, Part 3(a) is due with an application for changing the ownership or the name of the company.
Special Activity Fees	The special activity fees specified in OAR 340-216-0020, Table 2, Part 3 (b through i) are due with an application to modify the permit.
Where to Submit Fees	Fees and any associated permit modification application must be submitted to: Department of Environmental Quality Business Office 811 SW Sixth Avenue Portland, Oregon 97204-1390

ACDP GENERAL CONDITIONS AND DISCLAIMERS

Permitted Activities	This permit allows the permittee to discharge air contaminants from processes and activities related to the air contaminant source(s) listed on the first page of this permit until this permit expires, is modified, or is revoked.
Other Regulations	In addition to the specific requirements listed in this permit, the permittee must comply with all other legal requirements enforceable by the Department.
Conflicting Conditions	In any instance in which there is an apparent conflict relative to conditions in this permit, the most stringent conditions apply.
Masking of Emissions	The permittee must not cause or permit the installation of any device or use any means designed to mask the emissions of an air contaminant that causes or is likely to cause detriment to health, safety, or welfare of any person or otherwise violate any other regulation or requirement.
Department Access	The permittee must allow the Department's representatives access to the plant site and pertinent records at all reasonable times for the purposes of performing inspections, surveys, collecting samples, obtaining data, reviewing and copying air contaminant emissions discharge records and conducting all necessary functions related to this permit in accordance with ORS 468-095.
Permit Availability	The permittee must have a copy of the permit available at the facility (one at each campus) at all times.
Open Burning	The permittee may not conduct any open burning except as allowed by OAR 340 Division 264.
Asbestos	The permittee must comply with the asbestos abatement requirements in OAR 340, Division 248 when conducting any demolition, renovation, repair, construction, and maintenance activities at the facility.
Property Rights	The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
Termination, Revocation, or Modification	The Commission may modify or revoke this permit pursuant to OAR 340-216-0060(3) and (4).

General Conditions

G13. Fee Payment [OAR 340-220-0010, and 340-220-0030 through 340-220-0190]

The permittee must pay an annual base fee and an annual emission fee for particulates, sulfur dioxide, nitrogen oxides, and volatile organic compounds. The permittee must submit payment to the Department of Environmental Quality, Business Office, 811 SW 6th Avenue, Portland, OR 97204, within 30 days of the date the Department mails the fee invoice or August 1 of the year following the calendar year for which emission fees are paid, whichever is later. Disputes must be submitted in writing to the Department of Environmental Quality. Payment must be made regardless of the dispute. User-based fees will be charged for specific activities (e.g., computer modeling review, ambient monitoring review, etc.) requested by the permittee.

G20. Construction/Operation Modification [OAR 340-218-0190]

The permittee must obtain approval from the Department prior to construction or modification of any stationary source or air pollution control equipment in accordance with OAR 340-210-0200 through OAR 340-210-0250.

ALL INQUIRIES SHOULD BE DIRECTED TO:

DEQ – Northwest Region
700 NE Multnomah St., Suite #600,
Portland, OR 97232
Phone: (503) 229-5263