

**Lane Regional Air Protection Agency
Construction Air Contaminant Discharge Permit**

Review Report

Bakelite Chemicals LLC

2665 Highway 99 North

Eugene, Oregon 97402

Website: <https://bakelite.com/>
Permit No. 203129
Source Information:

Primary SIC	2821
Secondary SIC	--
Primary NAICS	325211
Secondary NAICS	--

Source Categories (LRAPA title 37, Table 1)	Part B: 70. Synthetic resin manufacturing Part C: All sources electing to maintain the source's netting basis
Public Notice Category	III

Compliance and Emissions Monitoring Requirements:

Unassigned Emissions	N
Emission Credits	N
Compliance Schedule	N
Source Test [date(s)]	See Title V Operating

	Permit
COMS	N
CEMS	N
Ambient monitoring	N

Reporting Requirements

Annual Report (due date)	2/15
Semi-Annual Report (due date)	2/15, 8/15
GHG Report (due date)	3/31
Monthly Report (due date)	N

Quarterly Report (due date)	N
Excess Emissions Report	Y
Other Reports (due date)	N

Air Programs

NSPS (list subparts)	Dc
NESHAP (list subparts)	A, W, H, OOO, SS, UU, EEEE, ZZZZ, DDDDD
Compliance Assurance Monitoring (CAM)	N
Regional Haze (RH)	N
40 CFR Part 68 Risk Management	Y
Cleaner Air Oregon (CAO)	N
Synthetic Minor (SM)	N
SM-80	N
Title V	Y
Major FHAP Source	Y
Federal Major Source	N
TACT	N
Type A State New Source Review	N

Type B State New Source Review	N
Prevention of Significant Deterioration (PSD)	N
Nonattainment New Source Review (NNSR)	N

LIST OF ABBREVIATIONS THAT MAY BE USED IN THIS REVIEW REPORT

ACDP	Air Contaminant Discharge Permit	MM	Million
AQMA	Air Quality Management Area	MMBtu	Million British thermal units
ACS	Applied coating solids	MMCF	Million cubic feet
Act	Federal Clean Air Act	NA	Not applicable
ASTM	American Society of Testing and Materials	NESHAP	National Emission Standards for Hazardous Air Pollutants
BDT	Bone dry ton	NOx	Nitrogen oxides
Btu	British thermal unit	NSPS	New Source Performance Standards
CAM	Compliance Assurance Monitoring	NSR	New Source Review
CAO	Cleaner Air Oregon	O2	Oxygen
CD ID	Control device identifier	OAR	Oregon Administrative Rules
CEMS	Continuous Emissions Monitoring System	ODEQ	Oregon Department of Environmental Quality
CFR	Code of Federal Regulations	OPR	Operation
CI	Compression Ignition	ORS	Oregon Revised Statutes
CMS	Continuous Monitoring System	O&M	Operation and maintenance
CO	Carbon Monoxide	SB	Lead
CO2	Carbon dioxide	PCD	Pollution Control Device
CO2e	Carbon dioxide equivalent	PM	Particulate matter
COMS	Continuous Opacity Monitoring System	PM2.5	Particulate matter less than 2.5 microns in size
CPDS	Certified Product Data Sheet	PM10	Particulate matter less than 10 microns in size
CPMS	Continuous parameter monitoring system	ppm	Parts per million
DEQ	Department of Environmental Quality	PSEL	Plant Site Emission Limit
dscf	Dry standard cubic feet	psia	pounds per square inch, actual
EF	Emission factor	PTE	Potential to Emit
EPA	US Environmental Protection Agency	QIP	Quality Improvement Plan
EU	Emissions Unit	RICE	Reciprocating Internal Combustion Engine
EU ID	Emission unit identifier	SACC	Semi-Annual Compliance Certification
FCAA	Federal Clean Air Act	SCEMP	Surrogate Compliance Emissions Monitoring Parameter
ft2	Square foot	Scf	Standard cubic foot
FSA	Fuel sampling and analysis	SDS	Safety data sheet
gal	Gallon	SER	Significant emission rate
GHG	Greenhouse Gas	SERP	Source emissions reduction plan
gr/dscf	Grain per dry standard cubic feet (1 pound = 7000 grains)	SI	Spark Ignition
HAP	Hazardous Air Pollutants as defined by LRAPA title 12	SIC	Standard Industrial Code
HCFC	Halogenated Chlorofluorocarbons	SIP	State Implementation Plan
Hr	Hour	SO2	Sulfur dioxide
ID	Identification number or label	ST	Source test
I&M	Inspection and maintenance	TAC	Toxic air contaminant
Lb	Pound	TACT	Typically Achievable Control Technology
LRAPA	Lane Regional Air Protection Agency	TEU	Toxic Emission Unit
MACT	Maximum Achievable Control Technology	TPY	Tons per year
MBF	Thousand board feet	VE	Visible emissions
MERV	Minimum efficiency reporting values	VMT	Vehicle miles traveled
MFHAP	Metal fabrication or finishing metal hazardous air pollutants	VOC	Volatile organic compounds
		Year	A period consisting of any 12-consecutive calendar month

PERMITTEE IDENTIFICATION

1. Bakelite Chemicals, LLC ("Bakelite", or "the facility") operates a synthetic resin manufacturing plant located at 2665 Highway 99 North in Eugene, Oregon.

GENERAL BACKGROUND

2. Bakelite Chemicals LLC ("Bakelite" or "the facility") manufactures four (4) different liquid resins; urea-formaldehyde (UF) resin, phenol-formaldehyde (PF) resin, wet strength resin (WSR), and RESI-MIX® Phenolic Impregnating resin. Formaldehyde is reacted with either phenol or urea in three resin batch reactors (K1, K2, and K3) to manufacture these four types of liquid resins. Additionally, other raw materials are added to the reactors to manufacture differing varieties of resins. The primary liquid raw materials are stored in on-site, above-ground storage tanks and are added to the reactors using mass flow metering systems. The solid raw materials are added to the reactors using automated pneumatic transfer or mechanical conveyor (urea, salt and melamine) systems, or by pulling the raw materials into the reactors which operate under vacuum. Other raw materials used in smaller quantities are stored in containers such as drums, tote tanks, "super-sacks", or paper or plastic bags.

REASON FOR PERMIT ACTION AND FEE BASIS

3. On September 9th, 2025 LRAPA received an application for a Construction Air Contaminant Discharge Permit (C-ACDP) to replace the existing natural-gas fired boiler (EU: B-1) with two new identical 15.753 MMBtu/hr natural-gas fired boilers (EU: B-2 and B-3). The application included the use of a temporary 34.15 MMBtu/hr skid-mounted boiler (EU: CIA-TB) to support regular facility operations during the construction.
4. This modification is considered a Type 3 change under subsection 34-035(3) because the facility will be required to obtain a permit modification to incorporate new applicable requirements for the new boilers.
5. Because the existing facility is subject to the Title V Operating Permit program, a Construction ACDP is required for Type 3 changes under paragraph 37-0025(1)(b).
6. A Construction ACDP is subject to the initial permitting application fee listed under section 37-8020, Table 2, Part 1. Initial Permitting Application Fees.

ATTAINMENT STATUS

7. The facility is located in an area that has been designated as attainment or unclassified for all criteria pollutants. The facility is inside the Eugene-Springfield Urban Growth Boundary (UGB) as defined in LRAPA 29-0010 which designates the Eugene-Springfield CO and PM10 maintenance areas. The facility is also located inside the Eugene-Springfield UGB as described in the current Eugene-Springfield Metropolitan Area General Plan, as amended. The facility is located within 100 kilometers of three (3) Class I air quality protection areas: Diamond Peak Wilderness, Mount Washington Wilderness and Three Sisters Wilderness area.

PERMITTING HISTORY

8. LRAPA has reviewed and issued the following permitting actions to this facility since the last permit renewal on December 21, 2022:

Date Approved/Valid	Permit Action Type	Description
5/2/2023	Approval to Construct, NC-203129-A23	Demolition of five resin storage tanks, modification of one resin storage tank, and construction of one resin storage tank.
Upon Issuance	Construction ACDP	Replace existing boiler (B-1) with two new identical 15.753 MMBtu/hr natural-gas fired boilers.

EMISSIONS UNIT DESCRIPTION

9. The modified emission units regulated by this Construction ACDP are the following:

Emission Unit ID	Emission Unit Description	Pollution Control Device Description
B-2	North Boiler: Clayton 15.753 MMBtu/hr, natural gas	None
B-3	South Boiler: Clayton 15.753 MMBtu/hr, natural gas	None
CIA-TB	Categorically Insignificant Activity: Temporary Boiler: Cole Industrial 34.14 MMBtu/hr natural gas with #2 fuel oil backup	None

10. B-2 and B-3: Two identical Clayton 15.753 MMBtu/hr natural-gas fired boilers.
11. CIA-TB: One temporary Cole Industrial 34.14 MMBtu/hr natural gas boiler with #2 fuel oil backup. This emission unit is considered categorically insignificant under LRAPA 12-005(29)(d) as it will be on site for six months or less and operated within the source's existing PSEL.

NUISANCE, DEPOSITION AND OTHER LIMITATIONS

12. There are no changes to the nuisance, deposition, and other limitation requirements as a result of this Construction ACDP.

EMISSION LIMITATIONS

13. B-2 and B-3 are subject to the visible emission limitations under LRAPA 32-010(3). For sources, other than wood-fired boilers, no person may emit or allow to be emitted any visible emissions that equal or exceed an average of 20 percent opacity. Compliance demonstration is based on a quarterly visible emissions survey performed on this process.
14. B-2 and B-3 are subject to the particulate matter weight standard in LRAPA 32-030(2). For fuel burning equipment sources installed, constructed or modified on or after April 16, 2015, except solid fuel burning devices that have been certified under OAR 340-262-0500, no person may cause, suffer, allow, or permit particulate matter emissions in excess of 0.10 grains per dry standard cubic foot. Compliance demonstration is based on a quarterly visible emissions survey performed on this process.

OPERATING LIMITATIONS

15. The facility has requested that the combined natural gas combustion in B-2 and B-3 be limited to 657,000 scf/day in order to avoid exceeding the significant emission threshold (SET) for PM_{2.5}.

TYPICALLY ACHIEVABLE CONTROL TECHNOLOGY (TACT)

16. Subsection 32-008(2) requires new units installed or existing emission units modified on or after January 1, 1994, meet TACT if the emission unit meets the following criteria: The emission unit is not subject to Major NSR or Type A State NSR in title 38, and applicable NSPS in title 46, or any other standard applicable to only new or modified sources in title 30, title 33, title 39, or title 46 for the regulated pollutant; the source is required to have a permit; if new, the emission unit has emissions of any criteria pollutant equal to or greater than one (1) ton per year of any criteria pollutant; if modified, the emission unit would have an increase in emissions of any criteria pollutant equal to or greater than one (1) ton per year; and LRAPA determines that the proposed air pollution control devices and emission reduction processes do not represent TACT.
- 16.a. The boilers in B-2 and B-3 are not subject to TACT because they are subject to an applicable NSPS in title 46 – *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (NSPS) – 40 CFR part 60 subpart Dc*.

NEW SOURCE PERFORMANCE STANDARDS (NSPS)

17. The two new boilers (B-2 and B-3) are subject to Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (NSPS) – 40 CFR part 60 subpart Dc because they are constructed after June 9, 1989 and have a heat input capacity between 10 MMBtu/hr and 100MMBtu/hr.
18. The 40 CFR part 60 subpart Dc requirements that are applicable to B-2 and B-3 are identified in the table below:

40 CFR part 60 subpart Dc Citation	Description	Applicable to Source (Yes/No)	Comments	Permit Condition
60.40c	Applicability and delegation of authority	Yes	The boiler has a maximum heat input capacity between 10 and 100 MMBtu per hour.	NA
60.41c	Definitions	Yes	The boiler meets the definition of a <i>steam generating unit</i> .	NA
60.42c	Standards for sulfur dioxide (SO ₂)	No	The boilers are natural gas-fired only.	NA
60.43c	Standard for particulate matter (PM)	Yes	The boilers are natural gas-fired only.	NA
60.44c	Compliance and performance test methods and procedures for sulfur dioxide	No	--	NA
60.45c	Compliance and performance test methods and procedures for particulate matter	No	--	NA

40 CFR part 60 subpart Dc Citation	Description	Applicable to Source (Yes/No)	Comments	Permit Condition
60.46c	Emission monitoring for sulfur dioxide	No	--	NA
60.47c	Emission monitoring for particulate matter	No	The facility is required to perform visible emission testing on a schedule when combusting fuel oil.	NA
60.48c	Reporting and recordkeeping requirements	Yes	The permittee must submit initial notification of the date of construction and actual startup, as provided by 40 CFR 60.7 and maintain records of the amount of fuel combusted in each boiler.	13 - 15

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP)

19. Upon removal of the existing boiler in B-1, the facility will no longer be subject to 40 CFR 63 Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters.

COMPLIANCE ASSURANCE MONITORING (CAM)

20. Title 40, part 64 of the Code of Federal Regulations (CFR) contains Compliance Assurance Monitoring (CAM) requirements. These regulations are also codified in LRAPA 35-0200 through 35-0280. CAM requirements apply to any Pollutant Specific Emissions Unit (PSEU) at a part 70 source that meets the following criteria:
- 20.a. The unit is subject to an emission limitation or standard for a regulated air pollutant;
 - 20.b. The unit uses a control device to achieve compliance with that emission limitation or standard;
 - 20.c. The unit, by itself, has potential pre-control emissions of the regulated air pollutant that would make it a major source (i.e. greater than 100 tons per year for criteria pollutants; greater than 10 tons per year for individual Federal HAPs); and
 - 20.d. The exemptions in 40 CFR 64.2(b) and LRAPA 35-0200(2) do not apply. The exemptions include
 - 20.d.i. Emission limitations or standards proposed by EPA after November 15, 1990 under section 111 (NSPS) or section 112 (NESHAPs);
 - 20.d.ii. Stratospheric ozone protection requirements under Title VI;
 - 20.d.iii. Acid Rain Program requirements;
 - 20.d.iv. Emission limitations or standards or other applicable requirements that apply solely under an emissions trading program approved or promulgated by US EPA;
 - 20.d.v. An emissions cap that meets the requirements in 40 CFR 70.4(b)(12);
 - 20.d.vi. Emission limitations or standards for which a part 70 permit specifies a continuous compliance demonstration method, as defined in 40 CFR 64.1 and LRAPA title 12; and
 - 20.d.vii. Municipally-owned backup utility emission units meeting the requirements under 40 CFR 64.2(b)(2).
21. The new boilers in B-2 and B-3 are not subject to CAM because they do not use a control device to achieve compliance with an emission limitation or standard.

PLANT SITE EMISSION LIMITS (PSELS)

22. There are no changes to the PSELS as a result of this Construction ACDP.

SIGNIFICANT EMISSION RATE

23. There are no proposed increases to the PSELS as a result of this Construction ACDP. All PSELS will remain below the significant emission rates for each pollutant.

UNASSIGNED EMISSIONS AND EMISSION REDUCTION CREDITS

24. The facility does not have any unassigned emissions or emission reduction credits at this time.

NEW SOURCE REVIEW

25. The proposed project is not subject to Major NSR or Type A/B State NSR because the facility is not requesting an increase to any PSEL.

SHORT TERM NAAQS COMPLIANCE

26. In accordance with LRAPA 34-036(3), a facility proposing a Type 3 change must demonstrate that any pollutants emitted above the de minimis emission level for a new or replaced device or activity will not cause or contribute to a new exceedance of a National Ambient Air Quality Standard adopted under title 50.

As shown in the table below, the emission rates for the proposed modification are below the thresholds established in the Oregon Department of Environmental Quality (ODEQ) Notice of Intent to Construct Screening Tool Documentation. A short-term NAAQS demonstration is therefore not required for the proposed modification.

Pollutant	Significant Emission Threshold (SET)	Emission Rate ¹	Units
NO ₂	3	1.29	lbs/hr
SO ₂	3	0.02	lbs/hr
PM _{2.5}	5	4.99	lbs/day

1. The NO₂ and SO₂ emissions rates are based on the worst-case scenario for both boilers. The PM_{2.5} emission rate is based on a fuel restriction of 657,000 total standard cubic feet of natural gas per day being applied to both boilers (B-2 and B-3).

FEDERAL HAZARDOUS AIR POLLUTANTS (HAP) AND CLEANER AIR OREGON TOXIC AIR CONTAMINANTS (TAC)

27. Under the Cleaner Air Oregon program, only existing sources that have been notified by LRAPA and new sources are required to perform risk assessments. The facility has not been notified by LRAPA and is therefore not yet required to perform a risk assessment or report annual emissions of toxic air contaminants. LRAPA required reporting of approximately 600 toxic air contaminants in 2023 and regulates approximately 260 toxic air contaminants that have Risk Based Concentrations established in rule. All FHAPs are on the list of approximately 600 toxic air contaminants. The FHAPs and toxic air contaminants listed below are based upon source testing and/or standard emission factors for the types of emission units at this facility. After the source is notified by LRAPA, they must update their inventory and perform a risk assessment to see if they

must reduce risk from their toxic air contaminant emissions. Until then, sources will be required to report toxic air contaminant emissions triennially.

28. The table below represents the potential emissions of FHAP from the modified facility, excluding potential emissions from Categorically Insignificant Activities. The highest single FHAP emitted by the facility is hydrochloric acid.

CAS Number	Pollutant	PTE (tpy)	CAO TAC	FHAP
75-07-0	Acetaldehyde	3.30E-05	Y	Y
107-02-8	Acrolein	1.03E-05	Y	Y
7664-41-7	Ammonia	0.77	Y	N
7440-38-2	Arsenic	2.46E-05	Y	Y
71-43-2	Benzene	1.28E-03	Y	Y
7440-43-9	Cadmium	1.35E-04	Y	Y
18540-29-9	Chromium	1.72E-04	Y	Y
7440-48-4	Cobalt	1.03E-05	Y	Y
95-50-1	Dichlorobenzene	1.48E-04	Y	N
106-89-8	Epichlorohydrin	1.50	Y	Y
50-00-0	Formaldehyde	2.66	Y	Y
110-54-3	Hexane	0.22	Y	Y
7647-01-0	Hydrochloric Acid	7.41	Y	Y
7664-39-3	Hydrogen fluoride	4.92E-03	Y	Y
67-63-0	Isopropyl alcohol	1.88	Y	N
7439-92-1	Lead compounds	6.15E-05	Y	Y
7439-96-5	Manganese Compounds	4.67E-05	Y	Y
7439-97-6	Mercury Compounds	3.20E-05	Y	Y
67-56-1	Methanol	2.68	Y	Y
91-20-3	Naphthalene	2.45E-04	Y	Y
7440-02-0	Nickel Compounds	2.59E-04	Y	Y
108-95-2	Phenol	2.31	Y	Y
401	Polycyclic Organic Matter	3.59E-04	Y	Y
108-88-3	Toluene	7.86E-04	Y	Y
1330-20-7	Xylene	2.53E-04	Y	Y
Total (tpy):			19.4	16.8

TOXIC RELEASE INVENTORY

29. The Toxics Release Inventory (TRI) is federal program that tracks the management of certain toxic chemicals that may pose a threat to human health and the environment, over which LRAPA has no regulatory authority. It is a resource for learning about toxic chemical releases and pollution prevention activities reported by certain industrial facilities. Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) created the TRI Program. In general, chemicals covered by the TRI Program are those that cause:

- Cancer or other chronic human health effects;
- Significant adverse acute human health effects; or
- Significant adverse environmental effects.

There are currently over 650 chemicals covered by the TRI Program. Facilities that manufacture, process or otherwise use these chemicals in amounts above established levels must submit

annual TRI reports on each chemical. NOTE: The TRI Program is a federal program over which LRAPA has no regulatory authority. LRAPA does not guarantee the accuracy of any information copied from EPA's TRI website.

In order to report emissions to the TRI program, a facility must operate under a reportable NAICS code, meet a minimum employee threshold, and manufacture, process, or otherwise use chemicals in excess of the applicable reporting threshold for the chemical. Bakelite operates under a reportable NAICS code (325211 – Plastics Material and Resin Manufacturing). The facility has reported the following data for the 2023 reporting year.

Reporting Year	Pollutant	Cas No.	Total On- and Off- Site Disposal and Other Releases (lbs)
2023	Epichlorohydrin	106-89-8	1,380
	Ethylene glycol	107-21-1	0
	Formaldehyde	50-00-0	1,393
	Formic acid	64-18-6	61
	Methanol	67-56-1	2,050
	Phenol	108-95-2	1,771

COMPLIANCE HISTORY

30. This facility is regularly inspected by LRAPA. The following table indicates the inspection history of this facility since the issuance of the Title V operating permit in 2003:

Type of Inspection	Date	Results
LRAPA - Full Compliance Evaluation	9/30/2003	No evidence of non-compliance
LRAPA - Full Compliance Evaluation	9/26/2005	No evidence of non-compliance
LRAPA - Full Compliance Evaluation	9/30/2007	No evidence of non-compliance
LRAPA - Full Compliance Evaluation	9/30/2009	No evidence of non-compliance
LRAPA - Full Compliance Evaluation	8/31/2011	No evidence of non-compliance
LRAPA - Full Compliance Evaluation	9/19/2013	No evidence of non-compliance
LRAPA - Full Compliance Evaluation	9/21/2015	No evidence of non-compliance
LRAPA - Full Compliance Evaluation	9/21/2017	No evidence of non-compliance
LRAPA - Full Compliance Evaluation	10/23/2019	No evidence of non-compliance
LRAPA - Full Compliance Evaluation	9/7/2021	No evidence of non-compliance
LRAPA - Full Compliance Evaluation	8/7/2023	No evidence of non-compliance
LRAPA – Full Compliance Evaluation	8/21/2025	No evidence of non-compliance

SOURCE TESTING HISTORY

31. There are no source test results applicable to the proposed Construction ACDP.

RECORDKEEPING REQUIREMENTS

32. The permittee must maintain daily and monthly records of the amount of natural gas combusted in each boiler in B-2 and B-3.
33. The permittee must maintain records of all quarterly visible emission surveys conducted for B-2 and B-3.

REPORTING REQUIREMENTS

34. The permittee must include the following process parameter records with the annual report:

Process Parameter	Units	Pollutants	Measurement Technique	Measurement Frequency
Natural gas combusted in B-2	scf	PM, PM ₁₀ , PM _{2.5} , CO, NO _x , SO ₂ , VOC, HAPs	Recordkeeping	Daily, Monthly
Natural gas combusted in B-3	scf	PM, PM ₁₀ , PM _{2.5} , CO, NO _x , SO ₂ , VOC, HAPs	Recordkeeping	Daily, Monthly

PUBLIC NOTICE

35. Pursuant to paragraph 37-0052(5)(a), issuance of a Construction ACDP requires a Category III public notice under title 31. In accordance with paragraph 31-0033(3)(c), LRAPA will provide public notice of the proposed permit action and a minimum of 35 days for interested persons to submit written comments.

The draft permit will be on public notice from November 12, 2025 to December 17, 2025. Written comments may be submitted during this public comment period. If requested by at least ten (10) persons or an organization representing at least ten (10) persons, LRAPA will schedule a public hearing on the proposed permit action. LRAPA will provide a minimum of 30 days notice for a public hearing. After the public comment period and public hearing, if requested, LRAPA will respond to comments received and then take final action to issue or deny the permit.

AD 11/7//2025

PLANT SITE EMISSION LIMITS										
Emission Units	PM	PM ₁₀	PM _{2.5}	CO	NO _x	SO ₂	VOC	Single HAP ¹	Aggregate HAP	GHG (CO ₂ e)
	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy
B-2, B-3: Boilers	0.23	0.91	0.91	10.24	5.04	0.09	0.66	0.01	0.24	14405.64
OX-1: Resin Reactors	0.01	0.01	0.01	11.39	1.31	0.01	0.53	7.40	7.92	384.67
Urea	6.21E-06	6.21E-06	6.21E-06	-	-	-	-	-	-	-
RESI-MIX	9.00E-05	9.00E-05	9.00E-05	-	-	-	-	-	-	-
Salt	9.00E-05	9.00E-05	9.00E-05	-	-	-	-	-	-	-
WRP: Waste Resin Pile	-	-	-	-	-	-	4.20E-03	-	4.20E-03	-
CT-1: Cooling Tower	0.10	0.10	0.10	-	-	-	1.07	-	-	-
LOAD-1: UFC and MeOH Lading	-	-	-	-	-	-	0.04	-	0.04	-
LOAD-2: Truck and Railcar Loading	-	-	-	-	-	-	0.52	-	0.38	-
Tanks	-	-	-	-	-	-	3.12	-	3.02	-
TW-1: Truck Washing	-	-	-	-	-	-	0.56	-	0.26	-
LDAR: Process Piping and Component Leaks	-	-	-	-	-	-	6.64	-	4.92	-
PR-1: Paved Roads	0.34	0.07	0.02	-	-	-	-	-	-	-
Potential to Emit (PTE)	0.68	1.09	1.04	21.6	6.36	0.10	13.1	7.4	16.8	14790
PSELS	24	14	9	99	39	39	39	9.00	24.00	74000

1. Single highest HAP for facility is Hydrochloric Acid.

Boilers B-2 (North) and B-3 (South)			
Mfg:	Two identical Clayton, SE-404 Models		
Fuel Fired:	Natural gas only		
Maximum Hourly Heat Input for 1 boiler:	15.753	MMBtu/hr	
HHV of Natural gas:	1,026	Btu/scf	
Annual Hours of Operation:	8,760	hours/year	
Fuel Consumption (natural gas)	Maximum Rating: (B-2 & B-3 combined)	736,992	scf/day
	Permit Limit: (B-2 & B-3 combined)	657,000	scf/day

Boilers B-2 (North) and B-3 (South) Emissions					
Pollutant	EF	Units	EF Reference	Emission Rate	
				lb/hr	tpy
PM	0.00185	lb/MMBtu	1	0.052	0.228
PM10	0.00741	lb/MMBtu	1, 2	0.208	0.912
PM2.5	0.00741	lb/MMBtu	1, 2	0.208	0.912
SO2	0.000742	lb/MMBtu	3	0.021	0.091
NOx	0.041	lb/MMBtu	3	1.152	5.044
CO	0.0832	lb/MMBtu	3	2.337	10.235
VOC	0.00536	lb/MMBtu	1	0.151	0.659
GHG (CO2e)	117.1	lb/MMBtu	4	3289	14406
1. AP-42, Section 1.4, Natural Gas Combustion (July 1998), Table 1.4-2, converted from lb/MMscf to lb/MMBtu using the higher heating value of 1,026 Btu/scf. 2. PM10 and PM2.5 includes filterable PM10/PM2.5 and condensable PM. The condensable PM emission factor is from AP-42 Section 1.4, Natural Gas Combustion (July 1998), Table 1.4-2, converted from lb/MMscf to lb/MMBtu using the higher heating value of 1,026 Btu/scf. Condensable PM = 5.56E-03 lb/MMBtu 3. Emission guarantees provided by the boiler vendor. Emission factors were converted from ppm @ 3% O2 to lb/MMBtu using the F-Factor for natural gas (8,710 dscf/MMBtu). 4. EPA's Mandatory Reporting Rule for Greenhouse Gases, 40 CFR Part 98, Subpart C, Tables C-1 and C-2.					

B-2 and B-3 Short-term NAAQs Compliance Demonstration			
Pollutant	SET	Emission Rate	Units
NO ₂	3	1.15	lbs/hour
SO ₂	3	0.02	lbs/hour
PM _{2.5}	5	4.99	lbs/day

Boilers B-2 (North) and B-3 (South) HAPs							
Cas No.	Pollutant	HAP	TAC	Emission Factor		Emission Rate	
				(lb/MMBtu)	Reference	lb/hr	tpy
71-43-2	Benzene	Y	Y	2.05E-06	1	5.76E-05	2.52E-04
95-50-1	Dichlorobenzene	Y	Y	1.17E-06	1	3.29E-05	1.44E-04
50-00-0	Formaldehyde	Y	Y	7.31E-05	1	2.05E-03	8.99E-03
7647-01-0	Hydrochloric Acid	Y	Y	5.00E-05	2	1.40E-03	6.15E-03
7664-39-3	Hydrogen fluoride	Y	Y	4.00E-05	2	1.12E-03	4.92E-03
110-54-3	Hexane	Y	Y	1.75E-03	1	4.92E-02	2.15E-01
91-20-3	Naphthalene	Y	Y	5.95E-07	1	1.67E-05	7.32E-05
401	Polycyclic Organic Matter	Y	Y	6.45E-07	1	1.81E-05	7.93E-05
108-88-3	Toluene	Y	Y	3.31E-06	1	9.30E-05	4.07E-04
7440-38-2	Arsenic Compounds	Y	Y	1.95E-07	3	5.48E-06	2.40E-05
7440-43-9	Cadmium Compounds	Y	Y	1.07E-06	3	3.01E-05	1.32E-04
18540-29-9	Chromium Compounds	Y	Y	1.36E-06	3	3.82E-05	1.67E-04
7440-48-4	Cobalt Compounds	Y	Y	8.19E-08	3	2.30E-06	1.01E-05
7439-92-1	Lead Compounds	Y	Y	4.87E-07	4	1.37E-05	5.99E-05
7439-96-5	Manganese Compounds	Y	Y	3.70E-07	3	1.04E-05	4.55E-05
7439-97-6	Mercury Compounds	Y	Y	2.53E-07	3	7.11E-06	3.11E-05
7440-02-0	Nickel Compounds	Y	Y	2.05E-06	3	5.76E-05	2.52E-04
7664-41-7	Ammonia	N	Y	4.67E-05	2	1.31E-03	5.75E-03
Total HAP:						0.05	0.24

- AP-42 Section 1.4, Natural Gas Combustion (July 1998), Table 1.4-3, converted from lb/MMscf to lb/MMBtu using the higher heating value of 1,026 Btu/scf.
- Based on stack test data from a similar natural gas fired boiler at a GP mill. The selected emission factor is an average of the individual runs.
- AP-42 Section 1.4, Natural Gas Combustion (July 1998), Table 1.4-4, converted from lb/MMscf to lb/MMBtu using the higher heating value of 1,026 Btu/scf.
- AP-42 Section 1.4, Natural Gas Combustion (July 1998), Table 1.4-2, converted from lb/MMscf to lb/MMBtu using the higher heating value of 1,026 Btu/scf.
- Polycyclic Organic Matter (POM) emission factor includes naphthalene. To avoid double counting, naphthalene emissions were subtracted from Total HAP.