

**MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION**

October 12, 2023

**PERMIT TO INSTALL
17-19A**

ISSUED TO
American Chemical Solutions LLC

LOCATED AT
2406 Roberts Street
Muskegon, Michigan 49444

IN THE COUNTY OF
Muskegon

STATE REGISTRATION NUMBER
B4302

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environment, Great Lakes, and Energy. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: August 18, 2023	
DATE PERMIT TO INSTALL APPROVED: October 12, 2023	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

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COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/department	Michigan Department of Environmental Quality
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MDEQ	Michigan Department of Environmental Quality
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO _{2e}	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H ₂ S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO _x	Oxides of Nitrogen
ng	Nanogram
PM	Particulate Matter
PM10	Particulate Matter equal to or less than 10 microns in diameter
PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
pph	Pounds per hour
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
scf	Standard cubic feet
sec	Seconds
SO ₂	Sulfur Dioxide
TAC	Toxic Air Contaminant
Temp	Temperature
THC	Total Hydrocarbons
tpy	Tons per year
µg	Microgram
µm	Micrometer or Micron
VOC	Volatile Organic Compounds
yr	Year

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to Rule 210 (R 336.1210), operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to Rule 219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of Rule 219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of Rule 301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with Rule 303 (R 336.1303). **(R 336.1301)**
 - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
 - b) A visible emission limit specified by an applicable federal new source performance standard.
 - c) A visible emission limit specified as a condition of this Permit to Install.
12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2). **(R 336.1370)**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

EMISSION UNIT SUMMARY TABLE

EMISSION UNIT SPECIAL CONDITIONS

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Flexible Group ID
EU-BuMAP	BuMAP and butyl bromide regeneration processes including tanks, reactors, and pumps. The emissions from this process are controlled by heat exchangers and a caustic scrubber.	FG-Production
EU-KetoAcids	Keto acids process including tanks, reactors, pumps, filter, and a dryer. The emissions from this process are controlled by the VOC condenser system.	FG-Production
EU-ColorformA	Color former production process including tanks, reactors, and pumps. The emissions from this process are controlled by the VOC condenser system.	FG-Production
EU-ColorformB	Color former production process including tanks, reactors, and pumps. The emissions from this process are controlled by the VOC condenser system.	FG-Production
EU-TolRecov	Toluene recovery still, including pumps, receivers, and other auxiliary equipment.	NA
EU-MeOHRecov	Methanol recovery still, including pumps, receivers, and other auxiliary equipment.	NA
EU-MainBoiler	Johnston Boiler natural gas-fired boiler installed in 1996 with fuel input capacity of 20,510 cubic feet per hour.	FG-Boilers
EU-BackupBoiler	Johnston Boiler natural gas-fired boiler installed in 1976 with fuel input capacity of 12,485 cubic feet per hour.	FG-Boilers
EU-CausticTanks	Storage tanks for 50% sodium hydroxide.	NA
EU-AcidTank	Storage tank for sulfuric acid, up to 100%.	NA
EU-OrganicsTks	Storage tanks for raw and recovered organic materials: butyl bromide, toluene, methanol, heptane, and butyl alcohol.	NA
EU-WasteSolvTks	Storage tanks for waste solvent.	NA
EU-RunoffVault	Vault to capture runoff from manufacturing area floor drains.	NA
EU-Furnaces	Natural gas-fired heating furnaces for offices and work areas.	NA
EU-WWStripper	Two air stripping towers operated in series, for removing contaminants from wastewater and non-contact cooling water to facilitate compliance with wastewater discharge limitations that utilizes a thermal oxidizer (RTO1) as the control device.	NA

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1291.

**EU-WWStripper
EMISSION UNIT CONDITIONS**

DESCRIPTION

Two air stripping towers operated in series, for removing contaminants from wastewater, non-contact cooling water, and stormwater to facilitate compliance with wastewater discharge limitations that utilizes a thermal oxidizer as a control device.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

The control equipment is a thermal oxidizer (RTO1) that operates at 2.2 MMBTU using natural gas.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. VOC	5.0 tpy	12-month rolling time period as determined at the end of each calendar month	EU-WWStripper	SC VI.3	R 336.1205 R 336.1702(a)

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. On and after May 1, 2024, the permittee shall not operate EU-WWStripper unless thermal oxidizer RTO1 is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the thermal oxidizer includes maintaining a minimum temperature of 1400°F, or as determined during the most recent performance test. **(R 336.1205, R 336.1225, R 336.1702(a), R 336. 1910)**
2. The permittee shall not operate EU-WWStripper unless a malfunction abatement plan (MAP) as described in Rule 911(2), for the thermal oxidizer (RTO1), has been submitted within 90 days of permit issuance, and is implemented and maintained. The MAP shall, at a minimum, specify the following:
 - a) A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
 - b) An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
 - c) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District

Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1910, R 336.1911)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, acceptable to the AQD District Supervisor, a temperature monitoring device in the combustion chamber of the thermal oxidizer to monitor and record the temperature, on a continuous basis, during operation of EU-WWStripper. **(R 336.1205, R 336.1225, R 336.1702, R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Within 180 days after installation of the thermal oxidizer (RTO1) the permittee shall determine VOC emission rates from RTO1 by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205, R 336.1225, R 336.1702(a), R 336.2001, R 336.2003, R 336.2004)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required records and calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205, R 336.1225, R 336.1702(a))**
2. Prior to the installation of RTO1, the permittee shall monitor and record, in a satisfactory manner, the water flow rate and the toluene concentration of the influent water stream for EU-WWStripper on a calendar month basis. **(R 336.1225, R 336.1702(a))**
3. The permittee shall calculate the VOC emission rate from EU-WWStripper for each calendar month and for the 12-month rolling time period ending that month, using emission factors from stack testing or an alternate method acceptable to the AQD District Supervisor. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205, R 336.1702(a))**
4. The permittee shall monitor and record, in a satisfactory manner acceptable to the AQD District Supervisor, the temperature in the combustion chamber of the thermal oxidizer, on a continuous basis, during operation of EU-WWStripper. Temperature data recording shall consist of measurements made at equally spaced intervals, not to exceed 15 minutes per interval. **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1910)**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than the installation of the thermal oxidizer (RTO1) in EU-WWStripper. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-WWStripper1	24 ^b	46 ^b	R 336.1225, 40 CFR 52.21(c)&(d)
2. SV-WWStripper2	24 ^b	46 ^b	R 336.1225, 40 CFR 52.21(c)&(d)
3. SV-RTO1	22 ^a	28 ^a	R 336.1225, 40 CFR 52.21(c)&(d)

^a This requirement applies on and after installation of the thermal oxidizer.
^b These requirements apply prior to the installation of the thermal oxidizer.

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FLEXIBLE GROUP SPECIAL CONDITIONS

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-Production	Color former production processes	EU-BuMAP, EU-KetoAcids, EU-ColorformA, EU-ColorformB
FG-Boilers	Natural gas-fired boilers to supply steam to the process equipment	EU-MainBoiler, EU-BackupBoiler

**FG-Production
FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Color former production and raw material production processes including emission units EU-KetoAcids, EU-BuMAP, EU-ColorformA, and EU-ColorformB.

Emission Unit: EU-KetoAcids, EU-BuMAP, EU-ColorformA, EU-ColorformB

POLLUTION CONTROL EQUIPMENT

VOC condenser system for EU-KetoAcids, EU-ColorformA, and EU-ColorformB
Heat exchangers and a caustic scrubber for EU-BuMAP

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. VOC	17.8 tpy	12-month rolling time period as determined at the end of each calendar month	FG-Production	SC VI.2, VI.3, VI.4, VI.5, VI.6	R 336.1205, R 336.1702(a)

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate FG-Production unless a malfunction abatement plan (MAP) as described in Rule 911(2), for operation of FG-Production, the VOC condenser system, and the condenser and caustic scrubber train, has been submitted within 90 days of permit issuance, and is implemented and maintained. The MAP shall, at a minimum, specify the following:
 - a) A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
 - b) An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
 - c) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1224, R 336.1225, R 336.1702(a), R 336.1910, R 336.1911)**

2. The permittee shall not operate EU-KetoAcids, EU-ColorformA, or EU-ColorformB unless the VOC condenser is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the VOC condenser includes maintaining operating parameters within the ranges identified in the MAP as constituting satisfactory operation. **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1910)**
3. The permittee shall not operate EU-BuMAP unless the heat exchangers and caustic scrubber are installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the heat exchangers and caustic scrubber includes maintaining operating parameters within the ranges identified in the MAP as constituting satisfactory operation. **(R 336.1205, R 336.1224, R 336.1225, R 336.1702(a), R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain the VOC condenser system with a device to indicate the vapor outlet temperature from the system. **(R 336.1910)**
2. The permittee shall equip and maintain each heat exchanger for EU-BuMAP with a device to continuously indicate the vapor outlet temperature from the heat exchanger. **(R 336.1910)**
3. The permittee shall equip and maintain the caustic scrubber with a device to continuously indicate the liquid flow rate of the scrubbing liquid. **(R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205, R 336.1702(a), R 336.1910)**
2. The permittee shall record, in a satisfactory manner, the vapor outlet temperature for the VOC condenser system once each shift when any equipment in EU-KetoAcids, EU-ColorformA, or EU-ColorformB operates. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1910)**
3. The permittee shall monitor and record, in a satisfactory manner, the following information for the caustic scrubber and the heat exchangers in EU-BuMAP:
 - a) The scrubber liquid flow rate, once per EU-BuMAP batch
 - b) The scrubber liquid pH determined from a pre-batch sample for each EU-BuMAP batch
 - c) The vapor outlet temperature for each heat exchanger once per EU-BuMAP batch that emissions are exhausted to that heat exchanger.

The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1910)**

4. The permittee shall record, in a satisfactory manner, all alarms for low liquid flow rate for the caustic scrubber. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1910)**
5. The permittee shall keep, in a satisfactory manner, monthly records of the number of batches of all products manufactured in FG-Production. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1225, R 336.1702(a), R 336.1910)**

6. The permittee shall calculate the VOC emission rate from FG-Production for each calendar month and for the 12-month rolling time period ending that month, using batch emission factors for the products manufactured or an alternate method acceptable to the AQD District Supervisor. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205, R 336.1702(a))**
7. The permittee shall keep a record, in a satisfactory manner, of maintenance activities conducted under the MAP on a calendar month basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1910, R 336.1911)**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of any reactor in FG-Production. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVCONDENSER (VOC condenser vent)	2	54	R 336.1225, 40 CFR 52.21(c)&(d)
2. SVSCRUBBER (Scrubber vent)	6	82	R 336.1225, 40 CFR 52.21(c)&(d)

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FG-Boilers
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Natural gas-fired boilers to supply steam to the process equipment.

Emission Unit: EU-MainBoiler, EU-BackupBoiler

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

1. The permittee shall burn only pipeline quality natural gas in FG-Boilers. **(R 336.1225, 40 CFR 52.21(c)&(d))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The natural gas-firing capacity of the boilers in FG-Boilers shall not exceed the following:

	Boiler	Maximum natural gas-firing capacity
a.	EU-MainBoiler	20,510 cubic feet per hour
b.	EU-BackupBoiler	12,485 cubic feet per hour

(R 336.1225, 40 CFR 52.21(c)&(d))

2. The permittee shall not operate EU-MainBoiler and EU-BackupBoiler simultaneously for more than 160 hours per month.¹ **(R 336.1225)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall record the amount of natural gas combusted in EU-MainBoiler on a calendar month basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(40 CFR 60.48c(g), 40 CFR 52.21(c)&(d))**
2. The permittee shall keep, in a satisfactory manner, a log of the monthly hours of simultaneous operation of EU-MainBoiler and EU-BackupBoiler. The log shall indicate the beginning and ending dates and times of each period of simultaneous operation. The permittee shall keep all records on file at the facility and make them available to the Department upon request.¹ **(R 336.1225)**

VII. REPORTING

1. The permittee shall provide written notification of construction and operation of EU-MainBoiler to comply with the federal Standards of Performance for New Stationary Sources, 40 CFR 60.7. The permittee shall submit this notification to the AQD District Supervisor within the time frames specified in 40 CFR 60.7. **(40 CFR 60.7)**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-MainBoiler	22	24	R 336.1225, 40 CFR 52.21(c)&(d)
2. SV-BackupBoiler	22	30	R 336.1225, 40 CFR 52.21(c)&(d)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and Dc, as they apply to EU-MainBoiler. **(40 CFR Part 60 Subparts A & Dc)**

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FGFACILITY CONDITIONS

DESCRIPTION:

The following conditions apply source-wide to all process equipment including equipment covered by other permits, grand-fathered equipment, and exempt equipment.

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Individual HAP	Less than 8.9 tpy ^a	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205
2. Aggregate HAPs	Less than 22.4 tpy ^a	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205

^a This requirement applies on and after installation of the thermal oxidizer RTO1.

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205)**
2. The permittee shall keep the following information on a calendar month basis for FGFACILITY:
 - a) Individual and aggregate HAP emission calculations determining the monthly emission rate of each in tons per calendar month.
 - b) Individual and aggregate HAP emission calculations determining the cumulative emission rate of each during the first 12-months and the annual emission rate of each thereafter, in tons per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep the records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request. **(R 336.1205)**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).