

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

MAY 17, 2021

**PERMIT TO INSTALL  
64-15D**

**ISSUED TO  
WOODWORTH, INC.**

**LOCATED AT  
29753 M-60 EAST  
HOMER, MICHIGAN 49245**

**IN THE COUNTY OF  
CALHOUN**

**STATE REGISTRATION NUMBER  
P0547**

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: <b>April 22, 2021</b>	
DATE PERMIT TO INSTALL APPROVED: <b>May 17, 2021</b>	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/EGLE	Michigan Department of Environment, Great Lakes, and Energy
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
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 <sub>2e</sub>	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 <sub>2</sub> S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO <sub>x</sub>	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 <sub>2</sub>	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 Environment, Great Lakes, and Energy, 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 Environment, Great Lakes, and Energy. **(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 condition 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 SPECIAL CONDITIONS

### EMISSION UNIT SUMMARY TABLE

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))	Installation Date / Modification Date	Flexible Group ID
EUHEATTREAT1	A natural gas fired heat treat and ferritic nitrocarburizing furnace with a heat input rating of 6 MMBtu/hr.	3/30/2015	FGHEATTREAT, FGNATGAS
EUHEATTREAT2	A natural gas fired heat treat and ferritic nitrocarburizing furnace with a heat input rating of 6 MMBtu/hr.	3/30/2015	FGHEATTREAT, FGNATGAS
EUHEATTREAT3	A natural gas fired heat treat and ferritic nitrocarburizing furnace with a heat input rating of 6 MMBtu/hr.	3/30/2015	FGHEATTREAT, FGNATGAS
EUHEATTREAT4	A natural gas fired heat treat and ferritic nitrocarburizing furnace with a heat input rating of 6 MMBtu/hr.	3/30/2015	FGHEATTREAT, FGNATGAS
EUHEATTREAT5	A natural gas fired heat treat and ferritic nitrocarburizing furnace with a heat input rating of 6 MMBtu/hr.	3/30/2015	FGHEATTREAT, FGNATGAS
EUHEATTREAT6	A natural gas fired heat treat and ferritic nitrocarburizing furnace with a heat input rating of 6 MMBtu/hr.	3/30/2015	FGHEATTREAT, FGNATGAS
EUHEATTREAT7	A natural gas fired heat treat and ferritic nitrocarburizing furnace with a heat input rating of 6 MMBtu/hr.	3/30/2015	FGHEATTREAT, FGNATGAS
EUHEATTREAT8	A natural gas fired heat treat and ferritic nitrocarburizing furnace with a heat input rating of 6 MMBtu/hr.	3/30/2015	FGHEATTREAT, FGNATGAS
EUHEATTREAT9	A natural gas fired heat treat and ferritic nitrocarburizing furnace with a heat input rating of 6 MMBtu/hr.	8/10/2018	FGHEATTREAT, FGNATGAS
EUHEATTREAT10	A natural gas fired heat treat and ferritic nitrocarburizing furnace with a heat input rating of 6 MMBtu/hr.	8/10/2018	FGHEATTREAT, FGNATGAS
EUHEATTREAT11	A natural gas fired heat treat and ferritic nitrocarburizing furnace with a heat input rating of 6 MMBtu/hr.	8/10/2018	FGHEATTREAT, FGNATGAS
EUHEATTREAT12	A natural gas fired heat treat and ferritic nitrocarburizing furnace with a heat input rating of 6 MMBtu/hr.	8/10/2018	FGHEATTREAT, FGNATGAS
EUHEATTREAT13	A natural gas fired heat treat and ferritic nitrocarburizing furnace with a heat input rating of 6 MMBtu/hr.	1/17/2020	FGHEATTREAT, FGNATGAS
EUHEATTREAT14	A natural gas fired heat treat and ferritic nitrocarburizing furnace with a heat input rating of 6 MMBtu/hr.	1/23/2020	FGHEATTREAT, FGNATGAS
EUHEATTREAT15	A natural gas fired heat treat and ferritic nitrocarburizing furnace with a heat input rating of 6 MMBtu/hr.	2/27/2020	FGHEATTREAT, FGNATGAS

<b>Emission Unit ID</b>	<b>Emission Unit Description (Including Process Equipment &amp; Control Device(s))</b>	<b>Installation Date / Modification Date</b>	<b>Flexible Group ID</b>
EUAUXHEAT1	Natural gas fired comfort heating units with a heat input rating of 5 MMBtu/hr.	3/30/2015	FGNATGAS
EUAUXHEAT2	Natural gas fired comfort heating units with a heat input rating of 13.61 MMBtu/hr.	12/4/2017	FGNATGAS
EU-EMGEN	2,884 HP Diesel fired emergency generator engine with a model year of 2011 or later, and a displacement of 4.3 Liter/cylinder.	5/1/2015	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-EMGEN  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

2,884 HP Diesel fired emergency generator engine with a model year of 2011 or later, and a displacement of 4.3 Liter/cylinder.

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT**

NA

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. NO <sub>x</sub>	5.45 g/HP-hr	Hourly	EU-EMGEN	SC V.1	R 336.1205(1) & (3)
2. NMHC+NO <sub>x</sub>	6.4 g/kW-hr	Hourly	EU-EMGEN	SC V.1, SC VI.2, SC VI.3	40 CFR 60.4205(b), 40 CFR 60.4202(a)(2), 40 CFR 89.112(a)
3. CO	3.5 g/kW-hr	Hourly	EU-EMGEN	SC V.1, SC VI.2, SC VI.3	40 CFR 60.4205(b), 40 CFR 60.4202(a)(2), 40 CFR 89.112(a)
4. PM	0.20 g/kW-hr	Hourly	EU-EMGEN	SC V.1, SC VI.2, SC VI.3	40 CFR 60.4205(b), 40 CFR 60.4202(a)(2), 40 CFR 89.112(a)

**II. MATERIAL LIMIT(S)**

1. The permittee shall burn only diesel fuel in EU-EMGEN with a maximum sulfur content of 15 ppm (0.0015 percent) by weight and a minimum Cetane index of 40 or a maximum aromatic content of 35 volume percent. **(R 336.1205(1)(a) & (3), 40 CFR 60.4207(b), 40 CFR 80.510(b))**
2. The permittee shall not burn more than 13,800 gallons per year of diesel in EU-EMGEN on a 12-month rolling time period basis as determined at the end of each calendar month. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**

### **III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. The permittee shall not operate EU-EMGEN for more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per calendar year. **(40 CFR 60.4211(f)(2))**
2. The permittee may operate EU-EMGEN up to 50 hours per calendar year in non-emergency situations. These 50 hours are counted towards the 100 hours per calendar year provided for maintenance and testing as provided in §60.4211(f)(2). Except as provided in §60.4211(f)(3)(i), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for the permittee to supply non-emergency power as part of a financial arrangement with another entity. **(40 CFR 60.4211(f)(3))**
3. If the permittee purchased a certified engine, according to procedures specified in 40 CFR Part 60 Subpart IIII, for the same model year, the permittee shall meet the following requirements for EU-EMGEN:
  - a. Operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions.
  - b. Change only those emission-related settings that are permitted by the manufacturer.
  - c. Meet the requirements as specified in 40 CFR 89, 94 and/or 1068, as they apply to the engine.

If the permittee does not operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions, the engine will be considered an uncertified engine. **(40 CFR 60.4211(a) & (c))**

4. If EU-EMGEN becomes uncertified (if the permittee operates EU-EMGEN in an uncertified manner), the permittee shall keep a maintenance plan for EU-EMGEN and shall, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 60.4211(g)(3))**

### **IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The permittee shall equip and maintain EU-EMGEN with a non-resettable hour meter to track the operating hours prior to operation. **(R 336.1205, R 336.1224, R 336.1225, R 336.1702, R 336.1910, 40 CFR 52.21(c) & (d), 40 CFR 60.4209)**
2. The permittee shall purchase and install an engine certified to the emission standards in §60.4205(b) for the same model year and maximum engine power for EU-EMGEN. The engine must be installed and configured according to the manufacturer's emission-related specifications. **(40 CFR 60.4205, 40 CFR 60.4211)**
3. The maximum rated power output of EU-EMGEN shall not exceed 2,884 HP, as certified by the equipment manufacturer. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a), 40 CFR 60.4202, 40 CFR 60.4205, 40 CFR 89.112(a))**

### **V. TESTING/SAMPLING**

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

1. If EU-EMGEN is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee must demonstrate compliance as follows:
  - a) Conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after the permittee changes emission-related settings in a way that is not permitted by the manufacturer.

- b) If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4212.
- c) Conduct subsequent performance testing every 8,760 hours of engine operation or every 3 years thereafter, whichever comes first, to demonstrate compliance with the applicable emission standards.

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(1)(a) & (3), R 336.2001, R 336.2003, R 336.2004, 40 CFR 60.4211(g)(3), 40 CFR 60.4212)**

## **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 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**
2. The permittee shall keep, in a satisfactory manner, the following records for EU-EMGEN:
  - a) For a certified engine: The permittee shall keep records of the manufacturer certification documentation.
  - b) For an uncertified engine: The permittee shall keep records of testing required in SC V.1.

The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4211)**

3. The permittee shall keep, in a satisfactory manner, the following records of maintenance activity for EU-EMGEN:
  - a) For a certified engine: The permittee shall keep records of the manufacturer's emission-related written instructions, and records demonstrating that the engine has been maintained according to those instructions, as specified in SC III.3.
  - b) For an uncertified engine: The permittee shall keep records of a maintenance plan, as required by SC III.4, and maintenance activities.

The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4211)**

4. The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in EU-EMGEN, demonstrating that the fuel meets the requirement of 40 CFR 80.510(b). The certification or test data shall include the name of the oil supplier or laboratory, the sulfur content, and cetane index or aromatic content of the fuel oil. **(R 336.1205(1)(a) & (3), 40 CFR 60.4207(b), 40 CFR 80.510(b))**
5. The permittee shall monitor and record the amount of fuel burned in EU-EMGEN on a monthly and 12-month rolling time period basis, in a manner acceptable to the AQD District Supervisor. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**
6. The permittee shall monitor and record, the total hours of operation during emergency and non-emergency service that are recorded through the non-resettable hours meter for EU-EMGEN, on a monthly and calendar year basis, in a manner acceptable to the AQD District Supervisor. The permittee shall document how many hours are spent for emergency operation of EU-EMGEN, including what classified the operation as emergency and how many hours are spent for non-emergency operation. **(40 CFR 60.4211, 40 CFR 60.4214(b))**

## **VII. REPORTING**

1. If EU-EMGEN becomes uncertified, the permittee shall submit a notification specifying that EU-EMGEN will be operated in an uncertified manner to the AQD District Supervisor, in writing, within 30 days of switching the manner of operation. **(40 CFR Part 60 Subpart III)**

**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:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV-EMGEN	18	14.8	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 IIII, as they apply to EU-EMGEN. **(40 CFR Part 60 Subparts A & IIII, 40 CFR 63.6590(c))**
2. The permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR, Part 63, Subpart A and Subpart ZZZZ, as they apply to EU-EMGEN. **(40 CFR Part 63 Subparts A & ZZZZ, 40 CFR 63.6585)**

## 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
FGHEATTREAT	15 natural gas fired heat treat and ferritic nitrocarburizing (FNC) furnaces	EUHEATTREAT1, EUHEATTREAT2, EUHEATTREAT3, EUHEATTREAT4, EUHEATTREAT5, EUHEATTREAT6, EUHEATTREAT7, EUHEATTREAT8, EUHEATTREAT9, EUHEATTREAT10, EUHEATTREAT11, EUHEATTREAT12, EUHEATTREAT13, EUHEATTREAT14, EUHEATTREAT15
FGNATGAS	All natural gas fired equipment at Woodworth which includes 15 natural gas fired heat treat and ferritic nitrocarburizing furnaces and other natural gas fired comfort heating equipment.	EUHEATTREAT1, EUHEATTREAT2, EUHEATTREAT3, EUHEATTREAT4, EUHEATTREAT5, EUHEATTREAT6, EUHEATTREAT7, EUHEATTREAT8, EUHEATTREAT9, EUHEATTREAT10, EUHEATTREAT11, EUHEATTREAT12, EUHEATTREAT13, EUHEATTREAT14, EUHEATTREAT15, EUAUXHEAT1, EUAUXHEAT2

**FGHEATTREAT  
 FLEXIBLE GROUP CONDITIONS**

**DESCRIPTION**

15 natural gas fired heat treat and ferritic nitrocarburizing (FNC) furnaces.

**Emission Unit:** EUHEATTREAT1, EUHEATTREAT2, EUHEATTREAT3, EUHEATTREAT4, EUHEATTREAT5, EUHEATTREAT6, EUHEATTREAT7, EUHEATTREAT8, EUHEATTREAT9, EUHEATTREAT10, EUHEATTREAT11, EUHEATTREAT12, EUHEATTREAT13, EUHEATTREAT14, EUHEATTREAT15

**POLLUTION CONTROL EQUIPMENT**

Burnoff tower for ammonia control.

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. NO <sub>x</sub>	32.3 lb/FNC cycle	Per cycle	FGHEATTREAT	SC V.1, SC VI.2	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)
2. Ammonia	0.58 pph average	Hourly	Average of units in FGHEATTREAT	SC V.2, SC VI.2	R 336.1205(1)(a) & (3), R 336.1224, R 336.1225

**II. MATERIAL LIMIT(S)**

1. The permittee shall burn only natural gas fuel in FGHEATTREAT. **(R 336.1205, R 336.1224, R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**

**III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. The permittee shall not perform more than 1900 FNC type heat treat cycles in FGHEATTREAT per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, 40 CFR 52.21(c) & (d))**
2. The permittee shall submit a malfunction abatement plan (MAP) as described in Rule 911(2), for the burnoff towers. The permittee shall not operate any heat treat furnaces in FGHEATTREAT if the MAP has not been submitted, and is not being 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.
    - i. At a minimum, this shall include how flame presence in the burnoff tower will be monitored.
  - 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(1)(a) & (3), R 336.1224, R 336.1225, R 336.1910, R 336.1911)**

3. The permittee shall not operate any heat treat furnaces in FGHEATTREAT in FNC cycles unless a flame is present in the burnoff tower. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1910)**

#### **IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The permittee shall not operate any heat treat furnaces in FGHEATTREAT in FNC cycles unless its respective burnoff tower is installed, maintained, and operated in a satisfactory manner. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1910)**

#### **V. TESTING/SAMPLING**

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

1. Before November 30, 2022, the permittee shall verify NO<sub>x</sub> emission rates from FNC cycles from representative units of FGHEATTREAT by testing at the owner's expense, in accordance with Department requirements. Test results shall be based upon an average of the results of three test runs on representative units with one run per unit during the FNC step of the cycle, unless otherwise specified by the AQD. If test results are above 75% of the emission limit for NO<sub>x</sub>, then subsequent testing shall be performed within five years of the previous test. If a test result is below 75% of the emission limit for NO<sub>x</sub>, then subsequent testing shall be performed upon request of the AQD District Supervisor. 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 45 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(1)(a) & (3), R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**
2. Before November 30, 2022, the permittee shall verify ammonia emission rates from FNC cycles from representative units of FGHEATTREAT by testing at the owner's expense, in accordance with Department requirements. Test results shall be based upon an average of the results of three test runs on representative units with one run per unit during the FNC step of the cycle, unless otherwise specified by the AQD. At least one run shall be completed on a unit in the middle of the building, unless otherwise specified by the AQD. Subsequent testing for ammonia shall be performed upon request of the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 63, 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 45 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(1)(a) & (3), R 336.1224, R 336.1225, 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 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(1)(a) & (3), R 336.1224, R 336.1225, 40 CFR 52.21(c) & (d))**

2. The permittee shall keep, in a satisfactory manner, test reports for FGHEATTREAT required by SC V.1 and SC V.2 on file at the facility. The permittee shall make the records available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.2001, 40 CFR 52.21(c) & (d))**
3. The permittee shall monitor and record, in a satisfactory manner, the total number of FNC heat treat cycles in FGHEATTREAT on a monthly and 12-month rolling time period basis. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, 40 CFR 52.21(c) & (d))**
4. The permittee shall keep records of control equipment inspections and maintenance conducted, malfunctions, corrective actions, and repairs needed to demonstrate compliance with the MAP. **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1910, R 336.1911)**

**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:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV-FNC1	34	47.0	R 336.1225, 40 CFR 52.21(c) & (d)
2. SV-FNC2	34	47.0	R 336.1225, 40 CFR 52.21(c) & (d)
3. SV-FNC3	34	47.0	R 336.1225, 40 CFR 52.21(c) & (d)
4. SV-FNC4	34	47.0	R 336.1225, 40 CFR 52.21(c) & (d)
5. SV-FNC5	34	47.0	R 336.1225, 40 CFR 52.21(c) & (d)
6. SV-FNC6	34	47.0	R 336.1225, 40 CFR 52.21(c) & (d)
7. SV-FNC7	34	47.0	R 336.1225, 40 CFR 52.21(c) & (d)
8. SV-FNC8	34	47.0	R 336.1225, 40 CFR 52.21(c) & (d)
9. SV-FNC9	34	47.0	R 336.1225, 40 CFR 52.21(c) & (d)
10. SV-FNC10	34	47.0	R 336.1225, 40 CFR 52.21(c) & (d)
11. SV-FNC11	34	47.0	R 336.1225, 40 CFR 52.21(c) & (d)
12. SV-FNC12	34	47.0	R 336.1225, 40 CFR 52.21(c) & (d)
13. SV-FNC13	34	47.0	R 336.1225, 40 CFR 52.21(c) & (d)
14. SV-FNC14	34	47.0	R 336.1225, 40 CFR 52.21(c) & (d)

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
15. SV-FNC15	34	47.0	R 336.1225, 40 CFR 52.21(c) & (d)

**IX. OTHER REQUIREMENT(S)**

NA

**FGNATGAS  
 FLEXIBLE GROUP CONDITIONS**

**DESCRIPTION**

All natural gas fired equipment at Woodworth which includes 15 natural gas fired heat treat and ferritic nitrocarburizing furnaces and other natural gas fired comfort heating equipment.

**Emission Unit:** EUHEATTREAT1, EUHEATTREAT2, EUHEATTREAT3, EUHEATTREAT4, EUHEATTREAT5, EUHEATTREAT6, EUHEATTREAT7, EUHEATTREAT8, EUHEATTREAT9, EUHEATTREAT10, EUHEATTREAT11, EUHEATTREAT12, EUHEATTREAT13, EUHEATTREAT14, EUHEATTREAT15, EUAUXHEAT1, EUAUXHEAT2

**POLLUTION CONTROL EQUIPMENT**

NA

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. NO <sub>x</sub>	37.40 tpy*	12-month rolling time period as determined at the end of each calendar month.	FGNATGAS	SC VI.2	R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d)

\*As restricted by the natural gas usage limit in SC II.1 and the limited number of FNC cycles for FGHEATTREAT.

**II. MATERIAL LIMIT(S)**

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Natural Gas Usage	216.15 MMscf/yr	12-month rolling time period as determined at the end of each calendar month.	FGNATGAS	SC VI.3	R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 52.21(c) & (d)

**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(1)(a) & (3), R 336.1225, 40 CFR 52.21(c) & (d))**
2. The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling NO<sub>x</sub> emission calculation records for FGNATGAS. These emissions shall include all NO<sub>x</sub> emissions from the FNC process and all combustion of natural gas. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), 40 CFR 52.21(c) & (d))**
3. The permittee shall monitor and record, in a satisfactory manner, the natural gas usage for FGNATGAS on a monthly and 12-month rolling time period basis. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 52.21(c) & (d))**

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTION(S)**

NA

**IX. OTHER REQUIREMENT(S)**

NA