

US EPA ARCHIVE DOCUMENT

**PREVENTION OF SIGNIFICANT DETERIORATION PERMIT
FOR GREENHOUSE GAS EMISSIONS
ISSUED PURSUANT TO THE REQUIREMENTS AT 40 CFR § 52.21**

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 6

PSD PERMIT NUMBER: PSD-TX-1344-GHG

PERMITTEE: voestalpine Texas LLC
800 N. Shoreline Blvd., Ste. 1600S
Corpus Christi, TX 78401

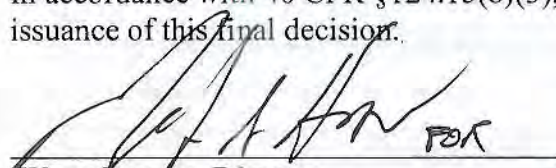
FACILITY NAME: Direct Reduced Iron and Hot Briquette Iron
Production Facility

FACILITY LOCATION: 2800 La Quinta Terminal Road
Portland, TX 78374

Pursuant to the provisions of the Clean Air Act (CAA), Subchapter I, Part C (42 U.S.C. Section 7470, *et. Seq.*), and the Code of Federal Regulations (CFR) Title 40, Section 52.21, and the Federal Implementation Plan at 40 CFR § 52.2305 (effective May 1, 2011 and published at 76 FR 25178), the U.S. Environmental Protection Agency, Region 6 is issuing a *Prevention of Significant Deterioration* (PSD) permit to voestalpine Texas, LLC (voestalpine) for Greenhouse Gas (GHG) emissions. This permit applies to voestalpine's direct reduced iron (DRI) and hot briquetting iron (HBI) production plant to be constructed on La Quinta Rd. near Portland, Texas

voestalpine is authorized to construct a direct reduced iron and hot briquette iron production plant on La Quinta Rd. near Portland, Texas as described herein, in accordance with the permit application (and plans submitted with the permit application), the federal PSD regulations at 40 CFR § 52.21, and other terms and conditions set forth in this PSD permit in conjunction with the corresponding Texas Commission on Environmental Quality (TCEQ) New Source Review (NSR) Permit No. 108113 and PSD TX1344. Failure to comply with any condition or term set forth in this PSD Permit may result in enforcement action pursuant to Section 113 of the Clean Air Act (CAA). This PSD Permit does not relieve voestalpine of the responsibility to comply with any other applicable provisions of the CAA (including applicable implementing regulations in 40 CFR Parts 51, 52, 60, 61, 72 through 75, and 98) or other federal and state requirements (including the state PSD program that remains under approval at 40 CFR § 52.2303).

In accordance with 40 CFR §124.15(b)(3), this PSD Permit becomes effective immediately upon issuance of this final decision.



Wren Stenger, Director
Multimedia Planning and Permitting Division

6-13-14

Date

**voestalpine Texas, LLC (PSD-TX-1344-GHG)
Prevention of Significant Deterioration Permit
For Greenhouse Gas Emissions
Permit Conditions**

PROJECT DESCRIPTION

This GHG PSD permit authorizes voestalpine to construct a 360 ton per hour and 2,205,000 ton per year DRI/HBI production plant. The plant will receive iron oxide pellets which will be converted to iron pellets and then pressed into iron briquettes. The DRI process consists of two main components, a reformer (to produce the reducing agent) and the DRI reactor (where the reaction occurs). The DRI process converts pre-processed iron oxide pellets into highly metallized iron. The HBI process converts the DRI pellets produced in the reactor into briquettes, which are ideal feed materials for high quality steelmaking. The plant will also have ancillary equipment and processes to include a flare, process water degassing, a diesel engine driven emergency generator, and a diesel engine driven fire pump.

The iron oxide pellets will arrive at the plant site by ship and then off-loaded. The pellets will be moved to the production facility by conveyers and ultimately fed into the reactor furnace for conversion into iron. After conversion to iron, the iron material will be discharged from the reactor furnace and fed into the briquetting process. Following briquetting, the iron briquettes will be cooled, screened, and conveyed back to the dock for shipment off-site.

The reformer that provides the reducing agent to the reactor furnace uses natural gas for fuel and converts natural gas into the reducing gases carbon monoxide (CO) and hydrogen (H₂).

Fugitive emissions of GHG pollutants, including methane, may result from piping equipment leaks. The piping components that may leak include valves, flanges, pump seals, etc. voestalpine will implement an audio/visual/olfactory (AVO) program to monitor for leaks.

EQUIPMENT LIST

The following devices are subject to this GHG PSD permit:

EPN Name	EPN	Description
Reformer Main Flue Ejector Stack	29	Reformer Furnace (Combustion Unit) has a maximum design heat input rate of 1591 mmBtu/hr and combusts pipeline quality natural gas and top gas.
Hot Pressure Relief Vent-Flare	38	Flare controlling emissions from the reactor furnace during startup and shutdown.
Charge Hopper Scrubber Vent	17	Seal gas exhausts from the top of the furnace through the charge hopper.
Bottom Seal Gas Scrubber Vent	8	Seal gas escapes from the bottom of the furnace.
Briquetting Dedusting Wet Scrubber Vent	9	Wet scrubber used to clean exhaust gas which contains seal gas from the reactor furnace.
Process Water Degasser Vent	30	Degasser vessel vent.
Emergency Generator	34	2500 KW diesel engine driven generator.
Emergency Fire Pump	35	175 KW/240 HP diesel engine firewater pump.
Fugitive Components	FUG	Natural gas and reducing gas piping.

I. GENERAL PERMIT CONDITIONS

A. Permit Expiration

As provided in 40 CFR §52.21(r), this PSD Permit shall become invalid if construction:

1. is not commenced (as defined in 40 CFR §52.21(b)(9)) within 18 months after the approval takes effect; or,
2. is discontinued for a period of 18 months or more; or,
3. is not completed within a reasonable time.

Pursuant to 40 CFR §52.21(r), EPA may extend the 18-month period upon a written satisfactory showing that an extension is justified.

B. Permit Notification Requirements

Permittee shall notify EPA Region 6 in writing or by electronic mail of the:

1. date construction is commenced, postmarked within 30 days of such date;
2. actual date of initial startup, as defined in 40 CFR §60.2, postmarked within 15 days of such date; and,
3. date upon which initial performance tests will commence, in accordance with the provisions of Section IV, postmarked not less than 30 days prior to such date.
Notification may be provided with the submittal of the performance test protocol required pursuant to Condition IV.B.

C. Facility Operation

At all times, including periods of startup, shutdown, and malfunction, Permittee shall maintain and operate the facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the EPA, which may include, but is not limited to, monitoring results, review of operating maintenance procedures and inspection of the facility.

D. Malfunction Reporting

1. Permittee shall notify EPA by mail within 48 hours following the discovery of any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in GHG emissions above the allowable emission limits stated in Section II of this permit.
2. Within 10 days of the restoration of normal operations after any failure described in I.D.1., Permittee shall provide a written supplement to the initial notification that includes a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed in Section II and III, and the methods utilized to mitigate

emissions and restore normal operations.

3. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violation of this permit or any law or regulation such malfunction may cause.

E. Right of Entry

EPA authorized representatives, upon the presentation of credentials, shall be permitted:

1. to enter the premises where the facility is located or where any records are required to be kept under the terms and conditions of this PSD Permit;
2. during normal business hours, to have access to and to copy any records required to be kept under the terms and conditions of this PSD Permit;
3. to inspect any equipment, operation, or method subject to requirements in this PSD Permit; and,
4. to sample materials and emissions from the source(s).

F. Transfer of Ownership

In the event of any changes in control or ownership of the facilities to be constructed, this PSD Permit shall be binding on all subsequent owners and operators. Permittee shall notify the succeeding owner and operator of the existence of the PSD Permit and its conditions by letter; a copy of the letter shall be forwarded to EPA Region 6 within thirty days of the letter signature.

G. Severability

The provisions of this PSD Permit are severable, and, if any provision of the PSD Permit is held invalid, the remainder of this PSD Permit shall not be affected.

H. Adherence to Application and Compliance with Other Environmental Laws

Permittee shall construct and operate this project in compliance with this PSD Permit, the application on which this permit is based and all other applicable federal, state, and local air quality regulations. This PSD permit does not release the Permittee from any liability for compliance with other applicable federal, state and local environmental laws and regulations, including the Clean Air Act.

I. ACRONYMS AND ABBREVIATIONS

BACT	Best Available Control Technology	LDAR	Leak Detection and Repair
bbl	Barrel	LHV	Lower Heating Value
Btu	British Thermal Unit	Lb	Pound
CAA	Clean Air Act	mmBtu	Million British Thermal Units
CEMS	Continuous Emissions Monitoring System	MMSCF	Million Standard Cubic Feet per Day
CFR	Code of Federal Regulations	MSS	Maintenance, Start-up and Shutdown
CGA	Cylinder Gas Audit	NGL	Natural Gas Liquids
CH ₄	Methane	N ₂ O	nitrous Oxides
CO ₂	Carbon Dioxide	NSPS	New Source Performance Standards
CO ₂ e	Carbon Dioxide Equivalent	PSD	Prevention of Significant Deterioration
DRE	Destruction and Removal Efficiency	QA/QC	Quality Assurance and/or Quality Control
DRI	Direct Reduced Iron	RATA	Relative Accuracy Test Audit
dscf	Dry Standard Cubic Foot	SCFH	Standard Cubic Feet per Hour
EPN	Emission Point Number	SCR	Selective Catalytic Reduction
FR	Federal Register	TAC	Texas Administrative Code
GHG	Greenhouse Gas	TCEQ	Texas Commission on Environmental Quality
gr	Grains	TO	Thermal Oxidizer
HBI	Hot Briquette Iron	tpy	tons per year
HHV	High Heating Value	VRU	Vapor Recovery Unit
hp	Horsepower	USC	United States Code
hr	Hour		
IFR	Internal Floating Roof		

II. ANNUAL FACILITY EMISSION LIMITS

- A. The sources listed in Table 1 are authorized to emit GHG pollutants up to the amounts listed in that Table for each respective individual source through the referenced emissions point numbers (EPNs).
- B. The mass emissions rate limitations are based on rolling 12-month total emissions for each source and include all authorized operating scenarios, including normal operations and planned MSS emissions.
- C. Annual CO₂e per source is calculated by summing the product of the mass emission rate for the air pollutant by the Global Warming Potential (GWP) found in Table A-1 of Subpart A of 40 CFR Part 98 (78 FR 71904) for each pollutant. The relevant GWP values include: CO₂=1; CH₄ = 25; N₂O = 298.
- D. Table 1 lists the BACT summary requirements upon which the annual emissions limitations found in Table 1 are based. The BACT element summary listed in this Table and related details found in the relevant Special Conditions applies to each respective individual facility and must be adhered to.
- E. Details of the BACT requirements summarized in this table are found in the relevant Special Conditions of this permit.

Table 1. Emissions Limitations and BACT Requirements Summary

Source Name	EPN	GHG Mass Basis		TPY CO ₂ e ^{1,2,3}	BACT Requirements Summary ⁴
		Pollutant	TPY ¹		
Sitewide					Limit natural gas use to no more than 13 decatherms /tonne HBI 12-month rolling average.
Reformer Main Flue Ejector Stack	29	CO ₂	1,679,829	1,683,316	Energy efficient equipment. Enhanced Process Control. Natural gas for fuels and process gas raw material Good combustion practices. Heat recovery and energy integration.
		CH ₄	32.20		
		N ₂ O	9.00		
Hot Pressure Relief Vent Flare	38	CO ₂	2,236	2,462	Natural gas for pilot. Good combustion practices, design, operate, and maintain consistent with 40 CFR §60.18.
		CH ₄	9.05		
		N ₂ O	0.01		
Charge Hopper	17	CO ₂	54,689	54,802	Enhanced process control. Heat recovery and energy integration.
		CH ₄	1.05		
		N ₂ O	0.29		
Bottom Seal Gas Wet Scrubber	8	CO ₂	54,689	54,802	Enhanced process control. Heat recovery and energy integration.
		CH ₄	1.05		
		N ₂ O	0.29		
Briquetter Dedusting	9	CO ₂	27,345	27,403	Enhanced process control. Heat recovery and energy integration.
		CH ₄	0.52		
		N ₂ O	0.15		
Process Water Degasser	30	CO ₂	1,104	1,636	Enhanced process control (good operating practices and proper maintenance).
		CH ₄	21.25		
		N ₂ O	Negligible		

Table 1. Emissions Limitations and BACT Requirements Summary					
Source Name	EPN	GHG Mass Basis		TPY CO _{2e} ^{1,2,3}	BACT Requirements Summary ⁴
		Pollutant	TPY ¹		
Emergency Generator	34	CO ₂	197	197	Good combustion practices and proper maintenance. Engine must comply with NSPS Subpart IIII based on manufacturer's specifications.
		CH ₄	Negligible		
		N ₂ O	0.01		
Fire Pump	35	CO ₂	13	13	Good combustion practices and proper maintenance. Engine must comply with NSPS Subpart IIII based on manufacturer's specifications.
		CH ₄	Negligible		
		N ₂ O	Negligible		
Fugitive Components ⁵	FUG	CO ₂	Negligible	100	Use of an AVO program to monitor for leaks.
		CH ₄	4.01		
		N ₂ O	Negligible		
Totals⁶		CO₂	1,820,102	1,824,731	
		CH₄	69.13		
		N₂O	9.73		

1. Compliance with the annual emission limits (tons per year) is based on a 12 month rolling total unless otherwise specified.
2. The TPY emission limits specified in this table are not to be exceeded for this facility and include emissions from the facility during all operations and include MSS activities
3. Annual CO_{2e} per facility is calculated by summing the product of the mass emission rate for the air pollutant by the Global Warming Potential (GWP) found in Table A-1 of Subpart A of 40 CFR Part 98 (78 FR 71904) for each pollutant. The relevant GWP values include: CO₂ = 1; CH₄ = 25; N₂O = 298
4. Specific supporting BACT requirements are found in Section III. Permit Special Conditions.
5. Total fugitive emissions are an estimate, and not a BACT emissions limit. Compliance is through the AVO program workpractice.
6. Sitewide totals for informational purposes only.

III. Special Permit Conditions

A. Emission Unit Work Practice Standards, Operational Requirements, and Monitoring

1. Facility Wide Conditions

- a. The facility shall combust as fuel and use as relevant raw material pipeline quality natural gas in all sources except for the emergency engines.
- b. The Permittee shall determine the pipeline quality natural gas fuel gross calorific value (GCV) [high heat value (HHV)], carbon content and, if applicable, molecular weight, shall be determined, at a minimum, monthly by the procedures contained in 40 CFR § 98.34(b)(3). Records of the fuel GCV shall be maintained for a minimum period of five years. Upon request, Permittee shall provide a sample and/or analysis of the fuel that is fired in any unit covered by this permit at the time of the request, or shall allow a sample to be taken for analysis by EPA or any air pollution control program personnel with jurisdiction.
- c. Pipeline quality natural gas shall be exempt from the requirement of subparagraph b of this paragraph provided Permittee receives and maintains

quarterly records of the vendor's analysis, and the data is of sufficient quality to yield further analysis as required above.

- d. Permittee shall utilize insulation materials where feasible to reduce heat loss.
- e. The Permittee shall maintain a minimum overall efficiency of less than or equal to 13 decatherms of natural gas/tonne (11.79 mmBtu/ton) of HBI produced on a 12-month rolling average basis, calculated monthly. Heat input is on the higher heating value basis. Natural gas use includes all uses of natural gas at the site, including during periods of start-up, shutdown, maintenance, and idle time, any time when natural gas is used shall be included. Total HBI production shall include all HBI passing thru the shaft furnace, including commercial, off specification or unsaleable product. The calculations to demonstrate compliance shall be made each month and the 12-month rolling values shall be update by the last day of the following month.
- f. Permittee shall calibrate and perform preventative maintenance checks of the natural gas flow meters and document at the minimum frequency established per the manufacturer's recommendation, or at the interval specified per 40 CFR § 98.34(b)(1)(ii). The flow meters must be located at the natural gas receiving station and prior to natural gas distribution to the facility.
- g. Permittee shall calculate, on a monthly basis, the amount of CO₂ emitted from the consumption (fuel and raw material) of natural gas in tons/yr using equation C-2a in 40 CFR Part 98 Subpart C, converted to short tons. Compliance shall be based on a 12-month rolling basis to be updated by the last day of the following month.
- h. Permittee shall calculate the CO₂e emissions on a 12-month rolling basis, based on the procedures and Global Warming Potentials (GWP) contained in Greenhouse Gas Regulations, 40 CFR Part 98, Subpart A, Table A-1, as published on November 29, 2013 (74 FR 71948). The record shall be updated by the last day of the following month.
- i. Permittee shall determine the entire HBI production quantity for each month by the last day of the following month. Such production data shall include subtotals by type of HBI produced, including all on-spec and off-spec material that passes through the shaft furnace.

2. Reformer Main Flue Ejector Stack (EPN 29)

- a. The reformer furnace shall have fuel metering for natural gas (auxiliary fuel) and top gas. The Permittee shall measure and record the fuel flow rates using an operational non-resettable elapsed flow meter or by recording the flow rate data in an electronic format with individual flow measurements being taken no less frequently than once every 15 minutes. Electronic data may be reduced to hourly averages for recordkeeping.
- b. Permittee shall install, operate, and maintain an O₂ analyzer in the furnace flue gas at a location downstream of the radiant sections of the furnace.
- c. The oxygen analyzer shall:

- (1) be zeroed and spanned daily and corrective action taken when the 24-hour span drift exceeds two times the amounts specified Performance Specification No. 3, 40 CFR Part 60, Appendix B. Zero and span is not required on weekends and plant holidays if instrument technicians are not normally scheduled on those days.
- (2) be quality-assured at least semiannually using cylinder gas audits (CGAs) in accordance with 40 CFR Part 60, Appendix F, Procedure 1, § 5.1.2, with the following exception: a relative accuracy test audit is not required once every four quarters (i.e., two successive semiannual CGAs may be conducted). An equivalent quality-assurance method approved by the EPA may also be used.
 - Successive semiannual audits shall occur no closer than four months.
 - Necessary corrective action shall be taken for all CGA exceedances of ± 15 percent accuracy and any continuous emissions monitoring system downtime in excess of 5 percent of the incinerator operating time. These occurrences and corrective actions shall be reported to the EPA Region 6 on a quarterly basis.
 - Supplemental stack concentration measurements may be required at the discretion of the EPA Region 6.
- d. the fuel gas meters and oxygen analyzer shall have a minimum 95% on-stream time or greater when the reformer is being fired. Missing data shall be supplied using good engineering practices and documenting methods used.
- e. The reformer furnace shall not exceed the one-hour maximum firing rate of 1,591 mmBtu/hr. This one-hour maximum firing rates shall be determined daily.
- f. Natural gas to the reformer fuel supply and as raw material to the reformer shall be recorded daily and summed monthly.
- g. Permittee shall on a monthly basis, determine the total CO₂ and CO_{2e} emissions from EPN 29 based on flue gas composition and the actual measured flows through EPN 29.
- h. Permittee shall calculate, on a monthly basis, the amount of CH₄ and N₂O emitted from combustion of natural gas in tons/yr using CH₄ and N₂O emission factors from AP-42, Chapter 1 Section 4, Table 1.4-2, converted to short tons. This emission rate includes the reformer and the seal gas system and will be apportioned according to the total auxiliary fuel emissions excluding the seal gas system emissions (III.A.4.b).

3. Hot Pressure Relief Vent Flare (EPN 38)

The flare controlling emissions from the Hot Pressure Relief Vent (EPN 38) shall be designed and operated in accordance with the following requirements:

- a. The flare shall have a minimum destruction and removal efficiency (DRE) for methane, CO, and VOC of 98%.
- b. The flare systems shall be designed such that the combined assist natural gas and waste stream to each flare meets the 40 CFR § 60.18 specifications of minimum heating value and maximum tip velocity under normal, upset, and maintenance flow conditions. The heating value and velocity requirements shall be satisfied

during operations authorized by this permit. Flare testing per 40 CFR § 60.18(f) may be requested by the appropriate regional office to demonstrate compliance with these requirements.

- c. The flare shall be operated with a flame present at all times and/or have a constant pilot flame. The pilot flame shall be fueled using pipeline quality natural gas and be continuously monitored by a thermocouple or an infrared monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Infrared monitors shall be accurate to, and shall be calibrated at a frequency in accordance with, the manufacturer's specifications.
- d. The flare shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours.
- e. The permit holder shall install a continuous flow monitor and composition analyzer that provide a record of the vent stream flow and composition (total VOC or Btu content) to the flare. Readings shall be taken at least once every 15 minutes and the average hourly values of the flow and composition shall be recorded each hour.
- f. The monitors shall be calibrated on an annual basis to meet the following accuracy specifications: the flow monitor shall be $\pm 5.0\%$, temperature monitor shall be $\pm 2.0\%$ at absolute temperature, and pressure monitor shall be ± 5.0 mm Hg.
- g. If VOC is monitored, calibration of the analyzer shall follow the procedures and requirements of Section 10.0 of 40 CFR Part 60, Appendix B, Performance Specification 9, as amended through October 17, 2000 (65 FR 61744), except that the multi-point calibration procedure in Section 10.1 of Performance Specification 9 shall be performed at least once every calendar quarter instead of once every month, and the mid-level calibration check procedure in Section 10.2 of Performance Specification 9 shall be performed at least once every calendar week instead of once every 24 hours. The calibration gases used for calibration procedures shall be in accordance with Section 7.1 of Performance Specification 9. Net heating value of the gas combusted in the flare shall be calculated according to the equation given in 40 CFR §60.18(f)(3) as amended through October 17, 2000 (65 FR 61744).
- h. If a calorimeter used, the calorimeter shall be calibrated, installed, operated, and maintained, in accordance with manufacturer recommendations, to continuously measure and record the net heating value of the gas sent to the flare, in British thermal units/standard cubic foot of the gas.
- i. The monitors and analyzers shall operate as required by this section at least 95% of the time when the flare is operational, averaged over a rolling 12 month period. Flared gas net heating value and actual exit velocity determined in accordance with 40 CFR §60.18(f)(4) shall be recorded at least once every 15 minutes. If a VOC monitor is used, hourly mass emission rates shall be determined and recorded using the above readings and the emission factors used in the permit application dated November 7, 2013.

4. Seal Gas System – (Charge Hopper (EPN 17), Bottom Seal Gas Vent (EPN 8), and Briquetting Wet Scrubber (EPN 9))

- a. Reformer flue gas bleed-off to be used as seal gas shall be measured using an operational non-resettable elapsed flow meter or by recording the flow rate data in an electronic format with individual flow measurements being taken no less frequently than once every 15 minutes. Electronic data may be reduced to hourly averages for recordkeeping purposes and monthly averages for emissions calculations purposes.
- b. Permittee shall use flow and pressure or other comparable engineering methods to apportion the actual flow of seal gas through each of the 3 EPNs identified in this special condition.
- c. Permittee shall calibrate and perform preventative maintenance checks of the flue gas flow meter, pressure, and other, if any, necessary meters and document at the minimum frequency established per the manufacturer's recommendation, or at the interval specified per 40 CFR § 98.34(b)(1)(ii).
- d. Permittee shall calculate, on a monthly basis, the amount of CO₂, CH₄ and N₂O emitted from EPN's 8, 9, and 17 in tons/yr using the data collected in Special Conditions III.A.2 g. and h. and III.A.4. a. and b.
- e. Permittee shall calculate each month the CO₂e emissions on a 12-month rolling basis, based on the procedures and Global Warming Potentials (GWP) contained in Greenhouse Gas Regulations, 40 CFR Part 98, Subpart A, Table A-1, as published on November 29, 2013 (74 FR 71948). The record shall be updated by the last day of the following month.

5. Process Water Degasser (EPN 30)

- a. The process water degasser water inlet shall be measured for temperature, pressure and water flow using operational non-resettable elapsed meters or by recording the data in an electronic format with individual measurements being taken no less frequently than once every 15 minutes. Electronic data may be reduced to hourly averages for recordkeeping purposes.
- b. Permittee shall calibrate and perform preventative maintenance checks for the monitoring equipment in this special condition and document the checks at the minimum frequency established per the manufacturer's recommendation, or at the interval specified per 40 CFR § 98.34(b)(1)(ii).
- c. Permittee shall calculate, on a monthly basis, the amount of CO₂, CH₄ and N₂O emitted from EPN 30 in tons/yr using the parameters monitored in Item III.A.5.a above and the Henry's Law coefficient for the appropriate greenhouse gas. Compliance shall be based on a 12-month rolling basis to be updated by the last day of the following month.
- d. Permittee shall calculate the CO₂e emissions on a 12-month rolling basis, based on the procedures and Global Warming Potentials (GWP) contained in

Greenhouse Gas Regulations, 40 CFR Part 98, Subpart A, Table A-1, as published on November 29, 2013 (74 FR 71948). The record shall be updated by the last day of the following month.

6. Emissions from Emergency Engines (EPNs 34 and 35)

- a. The Fire Water Pump (EPN 35) and Emergency Generator (EPN 34) are authorized to fire diesel fuel containing no more than 15ppm sulfur by weight.
- b. The Fire Water Pump and Emergency Generator are each limited to 100 hours of non-emergency operation per year. The emergency firewater pump engine shall not exceed 240 horsepower and the emergency generator shall have a power output not to exceed 2,500 KW. Compliance with the 100 hour non-emergency operational requirement is determined on a 12 month rolling basis.
- c. The Fire Water Pump and Emergency Generator shall meet all applicable requirements as required in 40 CFR Part 60 Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.
- d. Permittee shall install and maintain an operational non-resettable elapsed time meter for the Fire Water Pump and Emergency Generator.
- e. Permittee shall maintain a file of all records, data measurements, reports and documents related to the operation of the Fire Water Pumps and Emergency Generator, including, but not limited to, the following:
 - (1) all records or reports pertaining to maintenance performed;
 - (2) all records relating to performance tests and monitoring of the emergency generator and fire pump equipment;
 - (3) records of each diesel fuel oil delivery, documents from the fuel supplier certifying compliance with the fuel sulfur content limit of subparagraph a. of this special condition;
 - (4) fuel heat input values and hours of operation required in Special Condition III.A.5.a; and all other information required by this permit recorded in a permanent form suitable for inspection; and,
 - (5) The file must be retained for not less than five years following the date of such measurements, maintenance, reports, and/or records.
- e. Compliance with the Annual Emission Limit shall be demonstrated on a 12-month total, rolling monthly, calculated in accordance with 40 CFR §98.33(a)(1)(ii).

7. Fugitive Components (EPN FUG)

- a. The Permittee shall implement an auditory/visual/olfactory (AVO) monitoring program for detecting leaks in natural gas, top gas, and seal gas piping components, including valves and flanges. The program elements and methods shall be documented in the form of written procedures to be followed.
- b. AVO monitoring shall be performed daily sitewide.

- c. Any component found to be leaking using AVO monitoring (or other means) shall be repaired within 15 days. Records must be kept of the component found to be leaking, the apparent cause of the leak (if discernable), the date the component was discovered leaking and the date the repairs were effected. Records shall be kept for 5 years.
- d. records of the daily AVO monitoring results shall be maintained on site for 5 years.

B. Continuous Emissions Monitoring Systems (CEMS)

1. As an alternative to Special Conditions III.A.1.b, the Permittee may install a CO₂ CEMS, stack gas moisture monitor, and volumetric stack gas flow monitoring system with an automated data acquisition and handling system for measuring and recording CO₂ emissions discharged to the atmosphere, and use these values to show compliance with the annual emission limit in Table 1 for EPNs 29, 17, 8, and 9. A single monitoring system may be shared between these stacks, provided at least one cycle of measurement can accurately be made for each stack once each fifteen minutes.
2. Permittee shall ensure that all required CO₂, stack gas moisture monitor, and stack gas flowrate monitoring system/equipment are installed and all certification tests are completed on or before the earlier of 90 unit operating days or 180 calendar days after the date the unit commences operation.
3. Permittee shall ensure compliance with the specifications and test procedures for CO₂ emission monitoring systems at stationary sources, 40 CFR Part 75, or 40 CFR Part 60, Appendix B, Performance Specification numbers 1 through 9, as applicable.
4. Permittee shall meet the appropriate quality assurance requirements specified in 40 CFR Part 60, Appendix F for the CO₂ emission monitoring system.

C. Recordkeeping and Reporting Requirements

1. In order to demonstrate compliance with the GHG emission rate for each emission unit, for the sitewide energy efficiency measure, and with the BACT requirements for each emissions unit, Permittee shall monitor and record the following parameters and summarize the data on a calendar month basis.
 - a. Records required in Special Condition Nos. III.A.1-III.A.7, including data collected, maintenance activities performed (where required), and calculation methods used to make the various demonstrations of compliance called for by the Special Conditions.
 - b. Daily record of DRI and HBI process operating hours and hot briquetted iron produced (including off spec DRI/HBI) in tons per 24-hour period. Records shall include operating status (normal operations, startup, shutdown, malfunction, maintenance, idle, etc) for each hour of the day.
 - b. Annual hot briquetted iron production in tons on a rolling 12-month basis.
 - c. Record of operating hours (and total by month) for each of the emergency

engines.

- d. Total natural gas into the plant for each month.
 - e. Natural gas usage for each source, using continuous fuel/raw material flow monitors (a group of equipment can utilize a common flow meter, as long as actual usage is allocated to the individual equipment based upon actual operating hours and maximum utilization rate).
 - f. For each calendar month, calculations of the 12 month rolling GHG emission rates for comparison to the emission limits in Table 1.
 - g. Time, date, and duration of any loss of the flare pilot flame.
 - h. NSPS IIII certification statements for emergency engines.
 - i. The Permittee will also maintain site-specific procedures for preventative maintenance practices, vendor-recommended operating procedures and O&M manuals, and the AVO program documentation. These manuals shall be maintained with the permit and located on-site and retained for 5 years after the last use of the individual methods.
2. Permittee shall maintain records of the following events:
- a. All records or reports pertaining to significant maintenance performed.
 - b. Start date and time and end date and time, and duration of each startup, shutdown, malfunction, maintenance event and idle time event of the reformer and furnace.
 - c. All incidents of process gas leaks past any seal gas leg, including the date, time, duration, and cause of each event.
 - d. All instances where the required minimum data collection by monitoring systems was not met, and the methods used to supply missing data, including relevant example calculations.
3. Records retention and format.
- a. All required records must be maintained for at least 5 years following the date of such measurements, maintenance activity, or report unless otherwise noted in a specific condition of this permit.
 - b. Data may be kept in any suitable format, including electronic, provided they are promptly available upon request to the EPA or any air pollution control program personnel with jurisdiction. Where calculation methods are used to determine any record, example equations and methods must be retained along with the relevant records.
 - c. Records of any stack tests or performance tests shall be retained for the life of the permit.
 - d. Permittee shall maintain records and submit a written report of all excess emissions or malfunction events (identified in Section I.D, above) to EPA semi-annually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator or authorized representative, on a case-by-case basis, determines that more frequent reporting is necessary to accurately

assess the compliance status of the source. The report is due on the 30th day following the end of each semi-annual period and shall include the following:

- (1) Time intervals, data and magnitude of the excess emissions, the nature and cause (if known), corrective actions taken and preventive measures adopted;
- (2) Applicable time and date of each period during which the monitoring equipment was inoperative (monitoring down-time);
- (3) A statement in the report of a negative declaration; that is; a statement when no excess emissions occurred or when the monitoring equipment has not been inoperative, repaired or adjusted; and
- (4) Any failure to conduct any required source testing, monitoring, or other compliance activities.

Excess emissions shall be defined as any period in which the facility emission exceeds a maximum emission limit or fails to meet a minimum control requirement or work practice standard set forth in this permit.

Excess emissions indicated by GHG emission source certification testing or compliance monitoring shall be considered violations of the applicable emission limit for the purpose of this permit.

IV. PERFORMANCE TESTING REQUIREMENTS:

- A. The Permittee shall perform an initial stack test to establish the actual quantities of air contaminants being emitted into the atmosphere from the Reformer Main Flue Ejector Stack (EPN 29) to determine the initial compliance with the CO₂ emission limits established in this permit. Sampling shall be conducted in accordance with 40 CFR § 60.8 and EPA Method 3a or 3b for the concentration of CO₂.
- B. Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility, performance tests(s) shall be conducted and a written report of the performance testing results furnished to the EPA. Additional sampling may be required by EPA.
 1. Permittee shall submit a performance test protocol to EPA no later than 30 days prior to the test to allow review of the test plan and to arrange for an observer to be present at the test. The performance test shall be conducted in accordance with the submitted protocol, and any changes required by EPA.
 2. Performance tests shall be conducted under such conditions to ensure representative performance of the affected facility. The Permittee shall make available to the EPA such records as may be necessary to determine the conditions of the performance test.
 3. The owner or operator shall provide the EPA at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the EPA the opportunity to have an observer present and/or to attend a pre-test meeting. If there is a delay in the original test date, the Permittee shall provide at least 7 days prior notice of the rescheduled date of the performance test.
 4. The Permittee shall provide, or cause to be provided, performance testing facilities as

follows:

- a. Sampling ports adequate for test methods applicable to this facility,
 - b. Safe sampling platform(s),
 - c. Safe access to sampling platform(s), and
 - d. Utilities for sampling and testing equipment.
5. Unless otherwise specified in this permit, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted under the conditions specified in the applicable test method. For purposes of determining compliance with an applicable test method, the arithmetic mean of the results of the three runs shall apply.
6. The Permittee shall determine if a compliance strategy is required as follows:
- a. Multiply the CO₂ hourly average emission rate determined during the initial performance test while operating under maximum operating test conditions by 8,760 hours; If the calculated CO₂ emission total does not exceed the tons per year (TPY) specified on Table 1, no compliance strategy needs to be developed. If the calculated CO₂ emission total exceeds the tons per year (tpy) specified in Table 1, the facility shall:
 - (1) Document the exceedance in the test report; and,
 - (2) Explain within the report how the facility will assure compliance with the CO₂ emission limit listed in Table 1.
7. Emissions testing, as outlined above, shall be performed every three years, or more frequently if identified above, to verify continued performance with the permitted emission limits.

V. AGENCY NOTIFICATIONS

Permittee shall submit GHG permit applications, permit amendments, and other applicable permit information to:

Multi Media Planning and Permitting Division
EPA Region 6
1445 Ross Avenue (6 PD-R)
Dallas, TX 75202
Email: Group R6AirPermits@EPA.gov

Permittee shall submit a copy of all compliance and enforcement correspondence as required by this Permit:

Compliance Assurance and Enforcement Division
EPA Region 6
1445 Ross Avenue (6EN)
Dallas, TX 75202