

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

May 31, 2019

PERMIT TO INSTALL
335-77B

ISSUED TO
The Cleveland-Cliffs Iron Company

LOCATED AT
2701 North Lakeshore Boulevard
Marquette, Michigan

IN THE COUNTY OF
Marquette

STATE REGISTRATION NUMBER
B6093

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: April 17, 2019	
DATE PERMIT TO INSTALL APPROVED: May 31, 2019	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 ₂ e	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 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 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 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))	Flexible Group ID
EUMATERIALHANDLING	Coal and limestone handling processes including the Ship Unloading Facility (SUF), SUF East/West conveyor, SUF radial arm stacker, Cliffs North/South conveyor, Cliffs East/West conveyor, Cliffs radial arm stacker, truck loading, and facility yard and roadways. Dust control measures include sweeping, flushing, water sprays, dust suppressants, and work practices as specified in the Fugitive Dust Minimization Plan.	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.

**EUMATERIALHANDLING
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Coal and limestone handling processes including the Ship Unloading Facility (SUF), SUF East/West conveyor, SUF radial arm stacker, Cliffs North/South conveyor, Cliffs East/West conveyor, Cliffs radial arm stacker, truck loading, and facility yard and roadways.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Dust control measures include sweeping, flushing, water sprays, dust suppressants, and work practices as specified in the Fugitive Dust Minimization Plan.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Coal	750,000 tpy	12-month rolling time period as determined at the end of each calendar month	EUMATERIALHADLING	SC VI.2	R 336.1205(3), 40 CFR 52.21(c)&(d)
2. Limestone	1,400,000 tpy	12-month rolling time period as determined at the end of each calendar month	EUMATERIALHADLING	SC VI.3	R 336.1205(3), 40 CFR 52.21(c)&(d)

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Within 180 days of permit issuance, the permittee shall submit an approvable nuisance minimization plan for fugitive dust for all facility roadways, the facility yard, all material storage piles, and all material handling operations associated with EUMATERIALHADLING. Upon submittal of an approvable plan, the permittee shall not operate EUMATERIALHADLING unless the plan has been implemented and is maintained. **(R 336.1205(3), R 336.1301, 40 CFR 52.21(c)&(d))**
2. The permittee shall utilize dust suppression systems on the Ship Unloading Facility, including at the vessel boom receiving hopper and at the stacker boom, as needed to comply with applicable visible emission limits. Water sprays located on an unloading vessel and used for dust suppression may be considered part of the Ship Unloading Facility dust suppression systems. **(R 336.1205(3), R 336.1301, 40 CFR 52.21(c)&(d))**
3. The height of the coal storage pile shall not exceed 60 feet and the pile shapes shall be maintained in a configuration, providing that sufficient coal is available for “dead storage”, which provides an acceptable physical barrier around the perimeter of the coal storage area above the level of the piles on which mobile equipment is normally operating. The physical barriers shall be compacted and maintained with a chemical encrusting agent. **(R 336.1205(3), R 336.1301, 40 CFR 52.21(c)&(d))**
4. The permittee shall maintain the outer slopes of the coal storage pile at an angle not exceeding 30 degrees. The coal in the outer slopes shall be compacted and maintained with a chemical encrusting agent. **(R 336.1205(3), R 336.1301, 40 CFR 52.21(c)&(d))**

5. Whenever the operation of mobile equipment on a coal storage pile is likely to generate fugitive dust emissions, a liquid dust suppressant shall be applied to the area of the pile on which the equipment is utilized, except during freezing conditions. **(R 336.1205(3), R 336.1301, 40 CFR 52.21(c)&(d))**
6. Whenever the probability of fugitive dust exists, a liquid dust suppressant shall be applied to those portions of the coal storage pile from which fugitive dust emissions are likely to emanate, except during freezing conditions. **(R 336.1205(3), R 336.1301, 40 CFR 52.21(c)&(d))**
7. Mobile equipment for transporting, stockpiling, and reclaiming coal, working the coal storage pile, and removing coal from under the stacker boom of the ship unloading system may be operated between 6:00 a.m. and 10:00 p.m. daily. Between 10:00 p.m. to 6:00 a.m. only rubber-tired mobile equipment may be used as needed for ship unloading and working material storage pile activities. Notwithstanding this operation limitation, any and all equipment may be operated to respond to an emergency that threatens the safety or operation of the facility. **(R 336.1901)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall maintain a 10-foot high fence of a type approved by the AQD District Supervisor along the east and north boundaries of the bulk material storage area. **(R 336.1301, 40 CFR 52.21(c)&(d))**
2. The permittee shall maintain rubber tired mobile equipment for the use of working on the coal storage pile. Metal track-type mobile equipment may be used to assist in coal handling under the stacker boom of the ship unloading system on loose coal from ship unloading, reclaiming operation, coal pile maintenance, and grooming. **(R 336.1301, 40 CFR 52.21(c)&(d))**
3. The permittee shall maintain the Ship Unloading Facility main conveyor belt total enclosure to prevent particulate fallout on either public or company property. **(R 336.1205(3), R 336.1301, 40 CFR 52.21(c)&(d))**
4. The permittee shall operate the Ship Unloading Facility radial stacker in a manner which will minimize the free fall distance of the material being handled. **(R 336.1205(3), R 336.1301, 40 CFR 52.21(c)&(d))**
5. The Ship Unloading Facility main receiving bin shall be structurally maintained in order to accommodate partial enclosure of the ship's boom should such enclosure be necessary to reduce dust emissions. **(R 336.1205(3), R 336.1301, 40 CFR 52.21(c)&(d))**

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/records in a format acceptable to the AQD District Supervisor and make them available 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(3), R 336.1301, 40 CFR 52.21(c)&(d))**
2. The permittee shall keep, in a satisfactory manner, records of the monthly and 12-month rolling time period, as determined at the end of each calendar month, coal throughput for EUMATERIALHANDLING. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(3), 40 CFR 52.21(c)&(d))**
3. The permittee shall keep, in a satisfactory manner, records of the monthly and 12-month rolling time period, as determined at the end of each calendar month, limestone throughput for EUMATERIALHANDLING. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(3), 40 CFR 52.21(c)&(d))**

4. The permittee shall conduct weekly visible emission observations during routine operating conditions to assure compliance with R 336.1301 by staff trained to monitor compliance with the EGLE approved Fugitive Dust Control Program. The permittee shall initiate corrective actions specified in the Fugitive Dust Control Program upon observation of any visible emissions. Permittee shall keep records such as date and time visible emission observations performed, name of the visible emissions observer, and corrective actions taken if visible emissions observed. The permittee shall monitor and record visible emission observations in accordance with Method 22-Visual Determination of Fugitive Emissions from Material Processing Sources if requested by the department. **(R 336.1205(3), R 336.1301)**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. All personnel responsible for coal handling shall be instructed in the appropriate procedures for maintaining compliance with all permit conditions. **(R 336.1205(3), R 336.1301, 40 CFR 52.21(c)&(d))**

Footnotes:

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