



# ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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217/785-1705

## CONSTRUCTION PERMIT

### PERMITTEE

General III, LLC  
Attn: Jim Kallas  
11600 South Burley Avenue  
Chicago, Illinois 60617

Application No.: 19090021

I.D. No.: 031600SFX

Applicant's Designation:

Date Received: September 25, 2019

Subject: Scrap Metal Recycling Facility

Date Issued: June 25, 2020

Location: 11600 South Burley Avenue, Chicago, Cook County, 60617

This permit is hereby granted pursuant to the above-referenced application to the above-designated Permittee to CONSTRUCT a Scrap Metal Recycling Facility consisting of the following emission source(s) and/or air pollution control equipment:

### Hammermill Shredder System:

- One (1) Hammermill Shredder with Integral Water Injection System equipped with capture hood and Cyclone, and controlled by a Roll-Media Filter, 15.0 mmBtu/hour Natural Gas-Fired Regenerative Thermal Oxidizer (RTO), and Quench/Packed Tower Scrubber with feed and takeaway conveyors;
- One (1) Vibratory Conveyor; and
- One (1) Shredder Infeed Conveyor

### Ferrous Material Separation System:

- 70 Material Transfer Points including:
  - Seven (7) Magnetic Separators;
  - Two (2) Z-Box Separators with Cyclones;
  - Two (2) Ferrous Metal Stacking Conveyors;
  - One (1) Auto Shredder Residue (ASR) Stacking Conveyor
- 2 Truck/Rail Loading Area
- 1 Barge Loading Point
- 7 material stockpiles including:
  - 2 Poker Picker Stockpiles
  - 2 Ferrous Metal Stockpiles
  - 1 ASR Stockpile
  - 1 Raw Material Stockpile
  - 1 Fluff Stockpile (bin).

### Non-Ferrous Material Separation System:

- 88 Uncontrolled Transfer Points including:
  - Fifty-three (53) Conveyors;
  - Twenty (20) Magnetic Separators;
  - Fourteen (14) Eddy Current Separators (ECS) located in Enclosures;
  - One (1) Low Speed Shredder for Size Reduction of Clean Non-Ferrous Material;

- 11 Controlled Transfer Points including:
  - Nine (9) Conveyors;
  - One (1) Air Vibe (Air Classifier) with Cyclone;
  - One (1) Vibratory Batch Feeder;
- 13 Uncontrolled Screening Points including:
  - Five (5) Polishers (Air Classifiers) with Cyclone;
  - One (1) Vibratory Feeder;
  - Three (3) Tec Screeners;
- 12 Controlled Screening Points including:
  - Six (6) Wind Sifters (Air Classifiers) with Cyclones;
  - Three (3) Tec Screeners;
  - Six (6) AEI Ecostar Screeners;
- 2 Truck Loading Points including:
  - One (1) ASR Feed Hopper with Vibratory Batch Feeder;
- 13 Stockpile Loading Points  
Fines Processing Building - with All Equipment in Building Controlled by Dust Collector DC-01

Miscellaneous Fugitive Sources

Raw Material Unloading/Handling;  
Intermediate Ferrous Material and Product Stockpiles;  
Fluff Storage and Loadout;  
Material Loadout;  
Roadways-Paved and unpaved; and  
Parking Areas

This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This permit is issued based on the emissions of Hazardous Air Pollutants (HAP) as listed in Section 112(b) of the Clean Air Act from the Hammermill Shredder System, Ferrous Material Separation System, and Non-Ferrous Material Separation System being less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs. As a result, this permit is issued based on the emissions of all HAPs from the above-listed equipment not triggering the requirements of Section 112(g) of the Clean Air Act.
- b. This permit is issued based on the construction of the Hammermill Shredder System, Ferrous Material Separation System, and Non-Ferrous Material Separation System not constituting a new major source or major modification pursuant to Title I of the Clean Air Act, specifically 40 CFR 52.21 (Prevention of Significant Deterioration (PSD)). The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the emissions of Particulate Matter (PM), Particulate Matter less than 10 microns (PM<sub>10</sub>), Particulate Matter less than 2.5 microns (PM<sub>2.5</sub>), and Lead (Pb) from the above-listed equipment below the levels that would trigger the applicability of these rules.
- c. This permit is issued based on the construction of the Hammermill Shredder System not constituting a new major source or major

modification pursuant to Title I of the Clean Air Act, specifically 35 Ill. Adm. Code Part 203 (Major Stationary Sources Construction and Modification). The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the emissions of Volatile Organic Material (VOM) from the above-listed equipment below the levels that would trigger the applicability of these rules.

- d. This permit is issued based on the analysis of the data from the dispersion modeling of the source's Lead (Pb) emissions, that relate to the expected emissions from the project to the maximum off-site ambient air impacts not to exceed the primary and secondary National Ambient Air Quality Standards (NAAQS) for Lead, specifically 40 CFR 50.16. Furthermore, this permit is also issued based on the analysis of the data from the dispersion modeling of emissions of Manganese (Mn) and other metal HAPs, that relate the expected emissions from the project to corresponding maximum off-site ambient air impacts not to exceed the Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Levels, hazardous air contaminant air quality standards in the Wisconsin Department of Natural Resources air toxics rule (Wisconsin Administrative Code, Chapter NR 445 - Control of Hazardous Pollutants), and an inhalation risk greater than 1 in 1,000,000 for carcinogenic metals with a unit risk factor established by the United States Environmental Protection Agency (USEPA) or the California Air Resources Board (CARB).
- e. For purposes of this permit, General III, LLC is considered a single source with South Chicago Property Management, Ltd. (I.D. No. 031600GYI, located at 11600 South Burley Ave, Chicago).
- f. Operation of the Scrap Metal Recycling Facility listed above is allowed under this construction permit for a period of twelve (12) months from the date that raw material is first processed through the Hammermill Shredder. This condition supercedes Standard Condition 1 of this construction permit
- g. The operation of the emission units under this Construction Permit shall not begin until construction of the associated air pollution control equipment is complete and reasonable measures short of actual operation have been taken to verify proper operation of the air pollution control equipment.
- 2a. Pursuant to 40 CFR 50.16(a), the national primary and secondary ambient air quality standards for Lead (Pb) and its compounds are 0.15 micrograms per cubic meter, arithmetic mean concentration over a 3-month period, measured in the ambient air as Pb either by:
  - i. A reference method based on Appendix G of 40 CFR Part 50 and designated in accordance with 40 CFR Part 53;
  - ii. An equivalent method designated in accordance with 40 CFR Part 53.

- b. Pursuant to 40 CFR 50.16(b), the national primary and secondary ambient air quality standards for Pb are met when the maximum arithmetic 3-month mean concentration for a 3-year period, as determined in accordance with Appendix R of 40 CFR Part 50, is less than or equal to 0.15 micrograms per cubic meter.
  
- 3a. The Hammermill Shredder System, Ferrous Material Separation System, Non-Ferrous Material Separation System, and Miscellaneous Fugitive Sources are subject to 35 Ill. Adm. Code Part 212 Subpart B (Visible Emissions). Pursuant to 35 Ill. Adm. Code 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to 35 Ill. Adm. Code 212.122.
  
- b. Pursuant to 35 Ill. Adm. Code 212.123(b), the emission of smoke or other particulate matter from any such emission unit may have an opacity greater than 30 percent but not greater than 60 percent for a period or periods aggregating 8 minutes in any 60 minute period provided that such opaque emissions permitted during any 60 minute period shall occur from only one such emission unit located within a 305 m (1000 ft) radius from the center point of any other such emission unit owned or operated by such person, and provided further that such opaque emissions permitted from each such emission unit shall be limited to 3 times in any 24 hour period.
  
- c. This source is subject to 35 Ill. Adm. Code Part 212 Subpart K (Fugitive Particulate Matter). Pursuant to 35 Ill. Adm. Code 212.301, no person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally toward the zenith at a point beyond the property line of the source.
  
- d. The Hammermill Shredder System, Ferrous Material Separation System, and Non-Ferrous Material Separation System are subject to 35 Ill. Adm. Code Part 212 Subpart L (Particulate Matter Emissions from Process Emission Units). Pursuant to 35 Ill. Adm. Code 212.321(a), except as further provided in 35 Ill. Adm. Code Part 212, no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in 35 Ill. Adm. Code 212.321(c).
  
- e. Pursuant to 35 Ill. Adm. Code 212.321(b), interpolated and extrapolated values of the data in 35 Ill. Adm. Code 212.321(c) shall be determined by using the equation:

$$E = A(P)^B$$

where:

P = Process weight rate; and  
 E = Allowable emission rate; and,

i. Up to process weight rates of 408 Mg/hr (450 T/hr):

	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	1.214	2.54
B	0.534	0.534

ii. For process weight rate greater than or equal to 408 Mg/hr (450 T/hr):

	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	11.42	24.8
B	0.16	0.16

f. Pursuant to 35 Ill. Adm. Code 212.321(c), Limits for Process Emission Units for Which Construction or Modification Commenced on or After April 14, 1972:

Metric		English	
P	E	P	E
Mg/hr	kg/hr	T/hr	lbs/hr
0.05	0.25	0.05	0.55
0.1	0.29	0.10	0.77
0.2	0.42	0.20	1.10
0.3	0.64	0.30	1.35
0.4	0.74	0.40	1.58
0.5	0.84	0.50	1.75
0.7	1.00	0.75	2.40
0.9	1.15	1.00	2.60
1.8	1.66	2.00	3.70
2.7	2.1	3.00	4.60
3.6	2.4	4.00	5.35
4.5	2.7	5.00	6.00
9.	3.9	10.00	8.70
13.	4.8	15.00	10.80
18.	5.7	20.00	12.50
23.	6.5	25.00	14.00
27.	7.1	30.00	15.60
32.	7.7	35.00	17.00
36.	8.2	40.00	18.20
41.	8.8	45.00	19.20
45.	9.3	50.00	20.50
90.	13.4	100.00	29.50
140.	17.0	150.00	37.00

Metric		English	
P	E	P	E
Mg/hr	kg/hr	T/hr	lbs/hr
180.	19.4	200.00	43.00
230.	22.	250.00	48.50
270.	24.	300.00	53.00
320.	26.	350.00	58.00
360.	28.	400.00	62.00
408.	30.1	450.00	66.00
454.	30.4	500.00	67.00

where:

P = Process weight rate in metric or T/hr, and  
 E = Allowable emission rate in kg/hr or lbs/hr.

- g. The Hammermill Shredder System, Ferrous Material Separation System, and Non-Ferrous Material Separation System are subject to 35 Ill. Adm. Code 212.324 (Process Emission Units in Certain Areas). Pursuant to 35 Ill. Adm. Code 212.324(b), except as otherwise provided in 35 Ill. Adm. Code 212.324, no person shall cause or allow the emission into the atmosphere, of PM<sub>10</sub> from any process emission unit to exceed 68.7 mg/scm (0.03 gr/scf) during any one-hour period.
- h. This source is subject to 35 Ill. Adm. Code Part 212 Subpart U (Additional Control Measures). Pursuant to 35 Ill. Adm. Code 212.700(a), 35 Ill. Adm. Code 212 Subpart U (Additional Control Measures) shall apply to those sources in the areas designated in and subject to 35 Ill. Adm. Code 212.324(a)(1) or 212.423(a) and that have actual annual source-wide emissions of PM<sub>10</sub> of at least fifteen (15) tons per year.
4. The RTO associated with Hammermill Shredder System is subject to 35 Ill. Adm. Code Part 214 Subpart K (Process Emission Sources). Pursuant to 35 Ill. Adm. Code 214.301, except as further provided by 35 Ill. Adm. Code Part 214, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to exceed 2000 ppm.
- 5a. The Hammermill Shredder System is subject to 35 Ill. Adm. Code Part 218 Subpart G (Use of Organic Material). Pursuant to 35 Ill. Adm. Code 218.301, no person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 Ill. Adm. Code 218.302, 218.303, or 218.304 and the following exception: If no odor nuisance exists the limitation of 35 Ill. Adm. Code Part 218 Subpart G shall only apply to photochemically reactive material.
- b. Pursuant to 35 Ill. Adm. Code 218.302(a), emissions of organic material in excess of those permitted by 35 Ill. Adm. Code 218.301 are allowable if such emissions are controlled by one of the following methods:

Flame, thermal or catalytic incineration so as either to reduce such emissions to 10 ppm equivalent methane (molecular weight 16) or less, or to convert 85 percent of the hydrocarbons to carbon dioxide and water.

- c. The Hammermill Shredder System is subject to 35 Ill. Adm. Code Part 218 Subpart TT (Other Emission Units). Pursuant to 35 Ill. Adm. Code 218.980(a):

i. A source is subject to 35 Ill. Adm. Code Part 218 Subpart TT if it contains process emission units not regulated by 35 Ill. Adm. Code Part 218 Subparts B, E, F (excluding 35 Ill. Adm. Code 218.204 (1)), H (excluding 35 Ill. Adm. Code 218.405), Q, R, S, T (excluding 35 Ill. Adm. Code 218.486), V, X, Y, Z or BB of this Part, which as a group both:

A. Have maximum theoretical emissions of 90.7 Mg (100 tons) or more per calendar year of VOM, and

B. Are not limited to less than 90.7 Mg (100 tons) of VOM emissions per calendar year in the absence of air pollution control equipment through production or capacity limitations contained in a federally enforceable permit or a SIP revision.

ii. If a source is subject to 35 Ill. Adm. Code Part 218 Subpart TT as provided in 35 Ill. Adm. Code Part 218 Subpart TT, the requirements of 35 Ill. Adm. Code Part 218 Subpart TT shall apply to a source's VOM emission units which are not included within any of the categories specified in 35 Ill. Adm. Code Part 218 Subparts B, E, F, H, Q, R, S, T, V, X, Y, Z, AA, BB, PP, QQ, or RR or which are not exempted from permitting requirements pursuant to 35 Ill. Adm. Code 201.146.

- d. Pursuant to 35 Ill. Adm. Code 218.986(a), every owner or operator of an emission unit subject to 35 Ill. Adm. Code 218 Subpart TT shall comply with the requirements of 35 Ill. Adm. Code 218.986(a), (b), (c), (d), or (e) below.

Emission capture and control equipment which achieves an overall reduction in uncontrolled VOM emissions of at least 81 percent from each emission unit.

6. This permit is issued based on the Scrap Metal Recycling Facility not being subject to the New Source Performance Standards (NSPS) for Metallic Mineral Processing Plants, 40 CFR 60 Subpart LL because the Raw Material Receiving and Handling System, Hammermill Shredder System, Ferrous Material Separation System, Non-Ferrous Material Separation System, and Fines Processing System at this source are not used to produce metallic mineral concentrates from ore.
- 7a. This permit is issued based on the Scrap Metal Recycling Facility not being subject to the National Emission Standards for Hazardous Air

Pollutants (NESHAP) from Off-Site Waste and Recovery Operations, 40 CFR 63 Subpart DD, because the plant site is not a major source of HAP emissions as defined in 40 CFR 63.2.

- b. This permit is issued based on the Scrap Metal Recycling Facility not being subject to the NESHAP for Primary Nonferrous Metals Area Sources—Zinc, Cadmium, and Beryllium, 40 CFR 63 Subpart GGGGGG, because the source will not be engaged in primary zinc production or primary beryllium production.
  - c. This permit is issued based on the Scrap Metal Recycling Facility not being subject to the NESHAP for Secondary Nonferrous Metals Processing Area Sources, 40 CFR 63 Subpart TTTTTT, because the source will not be engaged in secondary nonferrous metals processing as defined in 40 CFR 63.11472.
  - d. This permit is issued based on the Scrap Metal Recycling Facility not being subject to the NESHAP for Nine Metal Fabrication and Finishing Source Categories, 40 CFR 63 Subpart XXXXXX, because the source will not be primarily engaged in the operations in one of the nine source categories listed in 40 CFR 63.11514(a) (1) through (9).
- 8a. Pursuant to 35 Ill. Adm. Code 212.314, 35 Ill. Adm. Code 212.301 shall not apply and spraying pursuant to 35 Ill. Adm. Code 212.304 through 212.310 and 35 Ill. Adm. Code 212.312 shall not be required when the wind speed is greater than 40.2 km/hr (25 mph). Determination of wind speed for the purposes of 35 Ill. Adm. Code 212.314 shall be by a one-hour average or hourly recorded value at the nearest official station of the U.S. Weather Bureau or by wind speed instruments operated on the site. In cases where the duration of operations subject to 35 Ill. Adm. Code 212.314 is less than one hour, wind speed may be averaged over the duration of the operations on the basis of on-site wind speed instrument measurements.
- b. Pursuant to 35 Ill. Adm. Code 212.324(d), the mass emission limits contained in 35 Ill. Adm. Code 212.324(b) and (c) shall not apply to those emission units with no visible emissions other than fugitive particulate matter; however, if a stack test is performed, 35 Ill. Adm. Code 212.324(d) is not a defense finding of a violation of the mass emission limits contained in 35 Ill. Adm. Code 212.324(b) and (c).
- 9a. Pursuant to 35 Ill. Adm. Code 212.324(f), for any process emission unit subject to 35 Ill. Adm. Code 212.324(a), the owner or operator shall maintain and repair all air pollution control equipment in a manner that assures that the emission limits and standards in 35 Ill. Adm. Code 212.324 shall be met at all times. 35 Ill. Adm. Code 212.324(f) shall not affect the applicability of 35 Ill. Adm. Code 201.149. Proper maintenance shall include the following minimum requirements:
- i. Visual inspections of air pollution control equipment;
  - ii. Maintenance of an adequate inventory of spare parts; and



- iii. Expeditious repairs, unless the emission unit is shutdown.
- b. Pursuant to 35 Ill. Adm. Code 212.701(a), those sources subject to 35 Ill. Adm. Code Part 212 Subpart U shall prepare contingency measure plans reflecting the PM<sub>10</sub> emission reductions set forth in 35 Ill. Adm. Code 212.703. These plans shall become federally enforceable permit conditions. Such plans shall be submitted to the Illinois EPA by November 15, 1994. Notwithstanding the foregoing, sources that become subject to the provisions of 35 Ill. Adm. Code Part 212 Subpart U after July 1, 1994, shall submit a contingency measure plan to the Illinois EPA for review and approval within ninety (90) days after the date such source or sources became subject to the provisions of 35 Ill. Adm. Code Part 212 Subpart U or by November 15, 1994, whichever is later. The Illinois EPA shall notify those sources requiring contingency measure plans, based on the Illinois EPA's current information; however, the Illinois EPA's failure to notify any source of its requirement to submit contingency measure plans shall not be a defense to a violation of 35 Ill. Adm. Code Part 212 Subpart U and shall not relieve the source of its obligation to timely submit a contingency measure plan.
- c. Pursuant to 35 Ill. Adm. Code 212.703(a), all sources subject to 35 Ill. Adm. Code Part 212 Subpart U shall submit a contingency measure plan. The contingency measure plan shall contain two levels of control measures:
  - i. Level I measures are measures that will reduce total actual annual source-wide fugitive emissions of PM<sub>10</sub> subject to control under 35 Ill. Adm. Code 212.304, 212.305, 212.306, 212.308, 212.316(a) through (e), 212.424 or 212.464 by at least 15%.
  - ii. Level II measures are measures that will reduce total actual annual source-wide fugitive emissions of PM<sub>10</sub> subject to control under 35 Ill. Adm. Code 212.304, 212.305, 212.306, 212.308, 212.316(a) through (e), 212.424 or 212.464 by at least 25%.
- d. Pursuant to 35 Ill. Adm. Code 212.703(b), a source may comply with 35 Ill. Adm. Code Part 212 Subpart U through an alternative compliance plan that provides for reductions in emissions equal to the level of reduction of fugitive emissions as required at 35 Ill. Adm. Code 212.703(a) and which has been approved by the Illinois EPA and USEPA as federally enforceable permit conditions. If a source elects to include controls on process emission units, fuel combustion emission units, or other fugitive emissions of PM<sub>10</sub> not subject to 35 Ill. Adm. Code 212.304, 212.305, 212.306, 212.308, 212.316(a) through (e), 212.424 or 212.464 at the source in its alternative control plan, the plan must include a reasonable schedule for implementation of such controls, not to exceed two (2) years. This implementation schedule is subject to Illinois EPA review and approval.
- e. Pursuant to 35 Ill. Adm. Code 212.704(b), if there is a violation of the ambient air quality standard for PM<sub>10</sub> as determined in accordance with 40 CFR Part 50, Appendix K, the Illinois EPA shall notify the source or sources the Illinois EPA has identified as likely to be

causing or contributing to one or more of the exceedances leading to such violation, and such source or sources shall implement Level I or Level II measures, as determined pursuant to 35 Ill. Adm. Code 212.704(e). The source or sources so identified shall implement such measures corresponding to fugitive emissions within ninety (90) days after receipt of a notification and shall implement such measures corresponding to any nonfugitive emissions according to the approved schedule set forth in such source's alternative control plan. Any source identified as causing or contributing to a violation of the ambient air quality standard for PM<sub>10</sub> may appeal any finding of culpability by the Illinois EPA to the Illinois Pollution Control Board pursuant to 35 Ill. Adm. Code 106 Subpart J.

- f. Pursuant to 35 Ill. Adm. Code 212.704(e), the Illinois EPA shall require that sources comply with the Level I or Level II measures of their contingency measure plans, pursuant 35 Ill. Adm. Code 212.704(b), as follows:
  - i. Level I measures shall be required when the design value of a violation of the 24-hour ambient air quality standard, as computed pursuant to 40 CFR 50, Appendix K, is less than or equal to 170 ug/m<sup>3</sup>.
  - ii. Level II measures shall be required when the design value of a violation of the 24-hour ambient air quality standard, as computed pursuant to 40 CFR 50, Appendix K, exceeds 170 ug/m<sup>3</sup>.
- 10a. The Scrap Metal Recycling Facility shall be operated under the provisions of a Fugitive Emissions Operating Program. This operating program was submitted by the Permittee and designed to limit fugitive particulate matter emissions to ensure compliance with 35 Ill. Adm. Code 212.301.
  - b. The Fugitive Emissions Operating Program, as submitted by the Permittee pursuant to Condition 10(a) dated June 25, 2020, is incorporated herein by reference. The source shall comply with the provisions of this Program and any amendments to the Program submitted pursuant to Condition 10(c).
  - c. The Fugitive Emissions Operating Program shall be amended from time to time by the Permittee so that the operating Program is current. Such amendments shall be consistent with Condition 10(a) and shall be submitted to the Illinois EPA within thirty (30) days of amendment. Any future revision to the Program made by the Permittee during the permit term is automatically incorporated by reference unless expressly disapproved by the Illinois EPA within thirty (30) days of submission. In the event that the Illinois EPA notifies the Permittee that further information regarding the revision to the Program is needed, the Permittee shall respond to the notice within thirty (30) days of receipt of notification.
  - d. The Hammermill Shredder System shall be operated under the provisions of a Feedstock Management Plan. This plan shall be submitted to the

Illinois EPA for review and approval at least ninety (90) days prior to initially receiving recycling materials at the facility. At a minimum, this plan must contain the following:

- i. Incoming material restrictions;
  - ii. Load inspection procedures;
  - iii. List of materials accepted requiring special handling;
  - iv. Procedures for each of the materials requiring special handling;
  - v. Personnel training procedures.
- 11a. The Roll-Media Filter, RTO, Quench/Packed Tower Scrubber, and Dust Collectors (DC-01 through DC-04) shall be in operation at all times when the associated emission units are in operation and emitting air contaminants.
- b. The RTO combustion chambers shall be preheated to at least the manufacturer's recommended temperature, but no less than the temperature at which compliance was demonstrated in the most recent compliance test, or 1,400°F in the absence of a compliance test. This temperature shall be maintained during operation of the Metal Shredder System and calculated as a three-hour block average.
  - c. The RTO shall only be operated with natural gas as the fuel. The use of any other fuel in the RTO may require that the Permittee first obtain a construction permit from the Illinois EPA and then perform stack testing to verify compliance with all applicable requirements.
  - d. The RTO associated with the Hammermill Shredder System shall be equipped with a temperature monitoring device that is installed, calibrated, operated, and maintained, in accordance with vendor/manufacturer specifications and 35 Ill. Adm. Code 218.105(d)(2).
  - e. The Quench/Packed Tower Scrubber associated with the Hammermill Shredder System shall be equipped with a monitoring device for pressure differential, scrubbant liquid flow rate, and pH of the scrubbant liquid. These monitoring devices shall be installed, calibrated, operated, and maintained, in accordance with vendor/manufacturer specifications. The data measured by this device shall be automatically recorded on at least a 15 block minute averages basis and on an hourly average in an electronic database.
  - f. The Roll-Media Filter associated with the Hammermill Shredder System shall be equipped with a monitoring device for pressure differential. This monitoring device shall be installed, calibrated, operated and maintained, in accordance with vendor/manufacturer specifications. The data measured by this device shall be automatically recorded on at least a 15-block minute average basis and on an hourly average in an electronic database.

- g. The Dust Collector (DC-01) associated with the Fines Processing Building shall be equipped with a monitoring device for pressure differential. This monitoring device shall be installed, calibrated, operated, and maintained, in accordance with vendor/manufacturer specifications. The data measured by this device shall be automatically recorded on at least an hourly basis in an electronic database.
- h. The monitoring devices required in conditions 11(e)-(h) shall be installed and fully operational at prior to first processing material through the Hammermill Shredder System.
- i. The Permittee shall operate the capture system, Roll-Media Filter, RTO and the Quench/Packed Tower Scrubber associated with the Hammermill Shredder System, Dust Collectors (DC-01 through DC-04) and equipment used for the control of fugitive dust identified in the Fugitive Emissions Operating Program under the provisions of an Operation and Maintenance Plan. At least thirty (30) days prior to first processing material through the Hammermill Shredder System, the Permittee shall submit to the Illinois EPA for review and approval an Operation and Maintenance Plan for the capture system, Roll-Media Filter, RTO and the Quench/Packed Tower Scrubber associated with the Hammermill Shredder System, Dust Collectors (DC-01 through DC-04) and equipment used for the control of fugitive dust identified in the Fugitive Emissions Operating Program. This plan shall provide specific operating parameters and inspection, and maintenance practices and procedures for the for each system or control device identified in this condition, including frequencies of such specific activities and actions and associated recordkeeping procedures.
- j. The Permittee shall install, operate, and maintain a continuous gas flammability monitoring device for the shredder exhaust gas stream. This device shall measure the percent of the Lower Explosive Limit (% LEL) or percent of the Lower Flammability Limit (% LFL) of the shredder exhaust gas. This monitoring device shall have an accuracy of at least +/-3 percent of full scale. Values measured by this device shall be automatically recorded at least once per second and stored in an electronic data base.
- k. The Permittee shall install, operate and maintain a continuous monitoring device for the control train for the Hammermill Shredder System for one of the following operational parameters. This monitoring device shall make measurements at least every minute and have an accuracy of at least  $\pm 5$  percent. The data measured by this device shall be automatically recorded on at least a minute by minute basis and on an hourly average in an electronic database. The Permittee shall determine the gas flow rate to be used to calculate VOM emissions from a Bypass Event using data collected by this monitoring system.
  - i. The amperage or usage of electrical power by the motor for the Roll Media Filter fan;

- ii. The shredder exhaust gas flow rate; or.
  - iii. Other operational parameter(s) approved by the Illinois EPA.
  - l. The Permittee shall install, operate, and maintain a continuous monitoring device for the status of the emergency bypass damper for the RTO in the control train for the Hammermill Shredder System, i.e., whether this damper is closed or open. The data collected by this device shall be automatically recorded in an electronic database.
  - m. The Permittee shall operate the continuous monitoring devices required by Condition 11(j), (k) and (l) at all times that the Hammermill Shredder System is in operation.
- 12a. Operation of the source's emission units and activities shall not exceed the following limits:
- i. Hours of operation:

Site Operation	Monday to Friday		Saturday	
Ferrous System Operation (includes Hammermill Shredder RTO/Scrubber Stack and Rail and Truck Loading)	7:00 AM - 7:00 PM	12 hrs/day	7:00 AM - 5:00 PM	10 hrs/day
Barge, Loading	7:00 AM - 3:00 PM	8 hrs/day	7:00 AM - 3:00 PM	8 hrs/day
Non-Ferrous System Operation	5:00 AM - 11:00 PM	18 hrs/day	5:00 AM - 11:00 PM	18 hrs/day
Roadway Fugitive Emissions (Facility Vehicle Traffic)*	5:00 AM - 7:00 PM	14 hrs/day	5:00 AM - 5:00 PM	12 hrs/day

\* The roadway fugitive emissions (Facility Vehicle Traffic) operation limitations in the table above is only intended to reflect haul truck traffic (semi-trailers) on specified road segments accompanying deliveries of metal scrap and removal of waste material.

- ii. The limitations on hours of operation for the source are based upon the meteorological hours modeled for each operation as specified on Table 1 of the modeling analysis and page 1 of supplement No. 1 to the Air Dispersion Modeling Report, dated January 24, 2020, for assessment of metal emission impacts.
- b. Emissions from and operation of the Hammermill Shredder System shall not exceed the following limits:

i. VOM emissions:

<u>Emission Unit</u>	<u>Process Rate</u>		<u>Uncontrolled Emission Factor</u>	<u>VOM Emission</u>	
	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>	<u>(lb/Ton)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
Hammermill Shredder RTO/Scrubber Stack	100,000	1,000,000	0.5119	0.51	5.12

These limits are based on maximum shredder material throughput, an uncontrolled emission factor derived from a stack test at the inlet of the RTO in November 2019 at GII, LLC (I.D. # 031600BTB), and 98% removal efficiency by the RTO/Scrubber. All measured total hydrocarbon (THC) emissions are assumed to be VOM.

ii. HAP emissions:

<u>Emission Unit</u>	<u>Lead (Pb)</u>		<u>Manganese (Mn)</u>		<u>Hydrochloric Acid (HCl)</u>		<u>Combined HAPs<sup>1</sup></u>	
	<u>(T/Mo)</u>	<u>(T/Yr)</u>	<u>(T/Mo)</u>	<u>(T/Yr)</u>	<u>(T/Mo)</u>	<u>(T/Yr)</u>	<u>(T/Mo)</u>	<u>(T/Yr)</u>
Metal Shredder RTO/Scrubber Stack	0.000138	0.00138	0.000199	0.00199	0.08	0.77	0.13	1.33

<sup>1</sup> Combined HAPs means the total of all individual HAPs (as defined in Section 112(b) of the Clean Air Act) that are emitted from the Hammermill Shredder System.

These limits are based on the maximum shredder material throughput in Condition 12(b)(i) above and measured emission rates from the November 2019 stack test at GII, LLC (I.D. # 031600BTB) adjusted by safety factor of 2.0.

iii. PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions:

<u>Emission Unit</u>	<u>Process Rate</u>		<u>Emission Factor</u>	<u>PM, PM<sub>10</sub>, and PM<sub>2.5</sub> Emissions</u>	
	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>	<u>(lb/Ton)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
Metal Shredder RTO/Scrubber Stack	100,000	1,000,000	0.0047	0.47	4.70

These limits are based on maximum shredder material throughput in Condition 12(b)(i) above, emission factors derived from the May/June 2018 stack test at GII, LLC (I.D. # 031600BTB) adjusted by a safety factor of 2.0, and all measured filterable PM assumed to be PM<sub>10</sub> and PM<sub>2.5</sub>.

c. Emissions from fuel combustion in the RTO associated with the Hammermill Shredding System shall not exceed the following limits:

- i. Natural gas usage: 6.57 mmscf/month, 51.47 mmscf/year

ii. Emissions from the combustion of natural gas:

<u>Pollutant</u>	<u>Emission Factor (lbs/mmscf)</u>	<u>Emissions</u>	
		<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
Carbon Monoxide (CO)	583.55	1.50	15.02
Nitrogen Oxides (NO <sub>x</sub> )	100.0	0.26	2.57
Particulate Matter (PM, PM <sub>10</sub> , and PM <sub>2.5</sub> )	7.6	0.02	0.20
Sulfur Dioxide (SO <sub>2</sub> )	0.6	0.01	0.09

These limits are based on the maximum firing rate of the RTO burner (15.0 mmBtu/hour), maximum natural gas usage, 12.86 tons/year of CO emissions and 0.05 tons/year of SO<sub>2</sub> emissions based on data from the November 2019 stack test at GII, LLC (I.D. # 031600BTB), and standard emission factors (Tables 1.4-1 and 1.4-2, AP-42, Fifth Edition, Volume I, Supplement D, July 1998).

d. Emissions from and operation of the Ferrous Material Separation Process shall not exceed the following limits:

i. Material process rates and Particulate Matter (PM) Emissions:

<u>Emission Unit</u>	<u>Process Rate</u>		<u>Emission Factor (lb/Ton)</u>	<u>PM Emissions</u>	
	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>		<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
70 Conveyor Transfer Points	1,444,050	14,440,500	0.00014	0.10	0.96
2 Rail/Truck Loading areas and 1 Barge loading point	137,600	1,376,000	0.000204	0.01	0.14
7 Stockpile Loading Points	300,000	3,000,000	0.00122	0.18	<u>1.83</u>
				Total:	2.93

ii. PM<sub>10</sub> and PM<sub>2.5</sub> Emissions:

<u>Emission Units</u>	<u>PM<sub>10</sub> Emission Factor (lb/Ton)</u>	<u>PM<sub>10</sub> Emissions</u>		<u>PM<sub>2.5</sub> Emission Factor (lb/Ton)</u>	<u>PM<sub>2.5</sub> Emissions</u>	
		<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>		<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
70 Conveyor Transfer Points	0.000046	0.03	0.31	0.000013	0.01	0.09
2 Rail/Truck Loading areas and 1 Barge loading point	0.00010	0.01	0.07	0.000015	0.01	0.01
7 Stockpile Loading Points	0.00058	0.09	<u>0.87</u>	0.000087	0.01	<u>0.13</u>
		Totals:	1.25			0.23

iii. HAP emissions:

<u>Emission Unit</u>	<u>Lead (Pb) Emissions</u>		<u>Manganese (Mn) Emissions</u>		<u>Combined HAP Emissions<sup>2</sup></u>	
	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
Ferrous Material Separation Process	0.0007	0.0069	0.0004	0.0042	0.0015	0.0143

<sup>2</sup> Combined HAPs means the total of all individual HAPs (as defined in Section 112(b) of the Clean Air Act) that are emitted from the Ferrous Material Separation Process.

iv. The above limits for PM, PM<sub>10</sub>, and PM<sub>2.5</sub> are based on the maximum material throughput, standard emission factors from AP-42 (Table 11.19.2-2, Fifth Edition, Volume I, Update 2004, August 2004) for conveyors transfer points and Truck/Barge Loading, stockpile loadings emission factor derived using AP-42, Section 13.2.4.3 (Table 13.2.4, AP-42, Fifth Edition, Volume I, November 2006) using coefficients of K=0.74 (PM), K=0.35 (PM<sub>10</sub>), and K=0.053 (PM<sub>2.5</sub>); U (mean windspeed) = 9.0 mph, and M (minimum moisture content) = 1.5% applied to light material stockpile, 5.4% applied to raw scrap metal handling, 10% applied to ASR stockpile loading. The above limits for HAP emissions limits are based upon total metal HAPs being 0.49% of the estimated total PM emissions based on metal HAP analyses performed on a site-specific sample of material at GII representing anticipated characteristics of Ferrous Material Processing.

e. Emissions from and operation of the Non-Ferrous Material Separation Process and Fines Processing System shall not exceed the following limits:

i. PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions for Fines Separation System emission units and activities inside a building controlled by Dust Collector DC-01 shall not exceed 0.15 tons/month and 1.44 tons/year. This limit is based on PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions being calculated by using the stack flow rate (12,000 cfm) and grain loading of 0.005 gr/dscf and hours of operation.

ii. Emissions from and operation of other Non-Ferrous Separation System emission units shall not exceed the following limits:

A. Material process rates and Particulate Matter (PM) Emissions:



<u>Emission Units</u>	<u>Process Rate</u>		<u>Emission</u>	<u>PM Emission</u>	
	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>	<u>(lb/Ton)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
88 Conveyor Transfer Points (Uncontrolled)	333,876	3,338,757	0.00300	0.43	4.34
11 Conveyor Transfer Points (Controlled)	57,210	572,103	0.00014	0.01	0.04
13 Screening Points (Uncontrolled)	13,670	136,702	0.02500	0.17	1.71
12 Screening Points (Controlled)	42,209	422,085	0.00220	0.04	0.41
2 Truck Loading Points	45,847	458,466	0.00020	0.01	0.05
13 Stockpile Loading Points	23,338	233,378	0.00737	0.09	<u>0.86</u>
				Total:	7.40

B.  $PM_{10}$  and  $PM_{2.5}$  emissions from outdoor emission units:

<u>Emission Units</u>	<u><math>PM_{10}</math></u>	<u><math>PM_{10}</math> Emissions</u>		<u><math>PM_{2.5}</math></u>	<u><math>PM_{2.5}</math> Emission</u>	
	<u>Emission Factor (lb/Ton)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>	<u>Emission Factor (lb/Ton)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
88 Conveyor Transfer Points (Uncontrolled)	0.0011	0.16	1.59	0.000167	0.02	0.24
11 Conveyor Transfer Points (Controlled)	0.000046	0.01	0.01	0.000013	0.01	0.01
13 Screening Points (Uncontrolled)	0.0087	0.06	0.59	0.001317	0.01	0.09
12 Screening Points (Controlled)	0.00074	0.01	0.14	0.00005	0.01	0.01
2 Truck Loading Points	0.0001	0.01	0.02	0.000015	0.01	0.01
13 Stockpile Loading Points	0.00351	0.04	<u>0.41</u>	0.00051	0.01	<u>0.06</u>
		Totals:	2.76			0.41

C. The above limits for PM,  $PM_{10}$ , and  $PM_{2.5}$  are based on the maximum material throughput, Standard emission factors from AP-42 (Table 11.19.2-2, Fifth Edition, Volume I, Update 2004, August 2004) for conveyors transfer points screening and Truck Loading, stockpile loading emission factor derived using AP-42, Section 13.2.4.3 (Table 13.2.4, AP-42, Fifth Edition, Volume I, November 2006) using coefficients of  $K=0.74$  (PM),  $K=0.35$  ( $PM_{10}$ ), and  $PM_{2.5} U$  (mean windspeed) = 9.0 mph, and M (minimum moisture content) = 1.5% applied to light material stockpile loading.

iii. HAP emissions from Non-Ferrous Material Separation Process shall not exceed the following limits:

<u>Emission Unit</u>	Lead (Pb) Emissions		Manganese (Mn) Emissions		Combined HAP Emissions <sup>3</sup>	
	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
Non-Ferrous Material Separation Process	0.0042	0.0417	0.0016	0.0156	0.01	0.07

<sup>3</sup> Combined HAPs means the total of all individual HAPs (as defined in Section 112(b) of the Clean Air Act) that are emitted from the Non-Ferrous Material Separation Process.

These limits are based on total metal HAPs being 0.83% of the estimated total PM emissions based on metal HAP analyses performed on a site-specific sample of material at GII representing anticipated characteristics of Non-Ferrous Material Processing.

- f. Compliance with the annual limits of this permit shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12-month total).
- 13a. Pursuant to 35 Ill. Adm. Code 201.282, every emission source or air pollution control equipment shall be subject to the following testing requirements for the purpose of determining the nature and quantities of specified air contaminant emissions and for the purpose of determining ground level and ambient air concentrations of such air contaminants:
  - i. Testing by Owner or Operator. The Illinois EPA may require the owner or operator of the emission source or air pollution control equipment to conduct such tests in accordance with procedures adopted by the Illinois EPA, at such reasonable times as may be specified by the Illinois EPA and at the expense of the owner or operator of the emission source or air pollution control equipment. The Illinois EPA may adopt procedures detailing methods of testing and formats for reporting results of testing. Such procedures and revisions thereto, shall not become effective until filed with the Secretary of State, as required by the APA Act. All such tests shall be made by or under the direction of a person qualified by training and/or experience in the field of air pollution testing. The Illinois EPA shall have the right to observe all aspects of such tests.
  - ii. Testing by the Illinois EPA. The Illinois EPA shall have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA, the owner or operator of the emission source or air pollution control equipment shall provide, without charge to the Illinois EPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary.

- 14a. Pursuant to 35 Ill. Adm. Code 212.107, for both fugitive and nonfugitive particulate matter emissions, a determination as to the presence or absence of visible emissions from emission units shall be conducted in accordance with Method 22, 40 CFR Part 60, Appendix A, except that the length of the observing period shall be at the discretion of the observer, but not less than one minute. 35 Ill. Adm. Code 212 Subpart A shall not apply to 35 Ill. Adm. Code 212.301.
- b. Pursuant to 35 Ill. Adm. Code 212.109, except as otherwise provided in 35 Ill. Adm. Code Part 212, and except for the methods of data reduction when applied to 35 Ill. Adm. Code 212.122 and 212.123, measurements of opacity shall be conducted in accordance with Method 9, 40 CFR Part 60, Appendix A, and the procedures in 40 CFR 60.675(c) and (d), if applicable, except that for roadways and parking areas the number of readings required for each vehicle pass will be three taken at 5-second intervals. The first reading shall be at the point of maximum opacity and second and third readings shall be made at the same point, the observer standing at right angles to the plume at least 15 feet away from the plume and observing 4 feet above the surface of the roadway or parking area. After four vehicles have passed, the 12 readings will be averaged.
- c. Pursuant to 35 Ill. Adm. Code 212.110(a), measurement of particulate matter emissions from stationary emission units subject to 35 Ill. Adm. Code Part 212 shall be conducted in accordance with 40 CFR Part 60, Appendix A, Methods 5, 5A, 5D, or 5E.
- d. Pursuant to 35 Ill. Adm. Code 212.110(b), the volumetric flow rate and gas velocity shall be determined in accordance with 40 CFR Part 60, Appendix A, Methods 1, 1A, 2, 2A, 2C, 2D, 3, and 4.
- e. Pursuant to 35 Ill. Adm. Code 212.110(c), upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for opacity or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA.
15. Pursuant to 35 Ill. Adm. Code 218.988(a), when in the opinion of the Illinois EPA it is necessary to conduct testing to demonstrate compliance with 35 Ill. Adm. Code 218.986, the owner or operator of a VOM emission unit subject to the requirements of 35 Ill. Adm. Code Part 218 Subpart TT shall, at his own expense, conduct such tests in accordance with the applicable test methods and procedures specified in 35 Ill. Adm. Code 218.105.
- 16a. Within sixty (60) days after the date raw material is first processed through the Hammermill Shredder, the Permittee shall:
- i. Conduct opacity observations from the Hammermill Shredder System stack, each emission unit in the Ferrous Material Separation

System, Fines Processing Building (DC-01), each emission unit in the Non-Ferrous Material Separation System, and Miscellaneous Fugitive Sources during conditions which are representative of maximum emissions in order to demonstrate compliance with 35 Ill. Adm. Code 212.123 and Condition 3(a) of this permit. Thereafter, this testing shall be conducted once every five (5) years from the preceding testing date.

- ii. Measure and quantify (gr/dscf and lb/hr) the emissions of PM, PM<sub>10</sub>, and PM<sub>2.5</sub> from the Fines Processing Building (DC-01) during conditions which are representative of maximum emissions in order to demonstrate compliance with 35 Ill. Adm. Code 212.321, 35 Ill. Adm. Code 212.324(b), and Conditions 3(d)-(g), and 12(e)(i) of this permit. Thereafter, this testing shall be conducted once every five (5) years from the preceding testing date.
  - iii. Measure and quantify the emissions of PM (gr/dscf and lb/hr), PM<sub>10</sub> (gr/dscf and lb/hr), PM<sub>2.5</sub> (gr/dscf and lb/hr), SO<sub>2</sub> (ppmv and lb/hr), CO (ppmv and lb/hr), HCl (ppmv and lb/hr), and Metals (ppmv and lb/hr) emissions from the Hammermill Shredder System during conditions which are representative of maximum emissions in order to demonstrate compliance with 35 Ill. Adm. Code 212.321, and Conditions 3(d)-(g), 12(b)(ii), (b)(iii) and (c) of this permit.
  - iv. Measure (ppmv) and quantify (lb/hr) from the inlet and outlet emissions of VOM from the RTO, measure VOM capture efficiency of capture system, determine the destruction efficiency of the RTO, and calculate overall VOM control efficiency for the capture system and RTO, during conditions which are representative of maximum emissions in order to demonstrate compliance with 35 Ill. Adm. Code 218.986(a), and Condition 12(b)(i) of this permit. If VOM capture efficiency meets the criteria of a PTE as determined by USEPA Method 204 or an alternate method adopted by the USEPA to demonstrate capture efficiency, testing under this condition shall be conducted once every five (5) years from the preceding testing date. However, if the VOM capture efficiency does not meet the criteria of a PTE, subsequent testing shall be conducted within twelve (12) months from the preceding testing.
- b. The following methods and procedures shall be used for testing of emissions, unless another method is approved by the Illinois EPA: (refer to 40 CFR 51, Appendix M and 40 CFR 60, Appendix A for USEPA test methods).

Sample and Velocity Traverses for Stationary Sources	USEPA Method 1
Sample and Velocity Traverses for Stationary Sources with Small Stacks or Ducts	USEPA Method 1A
Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)	USEPA Method 2
Direct Measurement of Gas Volume through Pipes and Small Ducts	USEPA Method 2A

Determination of Gas Velocity and Volumetric Flow Rate in Small Stacks or Ducts (Standard Pitot Tube)	USEPA Method 2C
Measurement of Gas Volume Flow Rates in Small Pipes and Ducts	USEPA Method 2D
Gas Analysis for the Determination of Dry Molecular Weight	USEPA Method 3
Gas Analysis for the Determination of Dry Molecular Weight-Instrumental Method	USEPA Method 3A
Determination of Moisture Content in Stack Gases	USEPA Method 4
Determination of Particulate Matter from Stationary Sources	USEPA Method 5
Determination of Sulfur Dioxide from Stationary Sources	USEPA Method 6
Determination of Sulfur Dioxide Emissions from Stationary Sources (Instrumental Analyzer Procedure)	USEPA Method 6C
Visual Determination of the Opacity of Emissions from Stationary Sources	USEPA Method 9
Determination of Carbon Monoxide from Stationary Sources	USEPA Method 10
Determination of Inorganic Lead Emissions from Stationary Sources	USEPA Method 12
Visual Determination of Fugitive Emissions from Material Sources	USEPA Method 22
Determination of Total Gaseous Nonmethane Organic Emissions as Carbon	USEPA Method 25
Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer	USEPA Method 25A*
Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources-Isokinetic Method	USEPA Method 26A
Determination of Metals Emissions from Stationary Sources	USEPA Method 29**
Determination of PM <sub>10</sub> and PM <sub>2.5</sub> Emissions from Stationary Sources (Constant Sampling Rate Procedure)	USEPA Method 201A
Dry Impinger Method for Determining Condensable Particulate Emissions from Stationary Sources	USEPA Method 202
Criteria for and Verification of a Permanent or Temporary Total Enclosure	USEPA Method 204, 204 (A-F)

\* USEPA Method 25A may only be used if outlet VOM concentration is less than 50 ppm as carbon (non-methane).

\*\* USEPA Method 29 may be used as an alternate to USEPA Method 12 for lead emissions.

- c. Within sixty (60) days prior to the actual date of testing, the Permittee shall submit a written test plan to the Illinois EPA, Bureau of Air, Compliance Section Manager. This plan shall include at a minimum:
- i. The name (or other identification) of the emission unit(s) to be tested and the name and address of the facility at which they are located;
  - ii. The name and address of the independent testing service(s) performing the tests, with the names of the individuals who may

- be performing sampling and analysis and their experience with similar tests;
- iii. The specific determinations of emissions and/or performance which are intended to be made, including the site(s) in the ductwork or stack at which sampling will occur;
  - iv. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of the maximum emissions, maximum operating rate, minimum control performance, the levels of operating parameters for the emission unit, including associated control equipment, at or within which compliance is intended to be shown, and the means by which the operating parameters will be determined;
  - v. The test method(s) which will be used, with the specific analysis method, if the method can be used with different analysis methods. The specific sampling, analytical and quality control procedures which will be used, with an identification of the standard methods upon which they are based;
  - vi. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification;
  - vii. Any proposed use of an alternative test method, with detailed justification; and
  - viii. The format and content of the Source Test Report.
- d. The Permittee shall provide the Illinois EPA with written notification of testing at least thirty (30) days prior to testing and again five (5) days prior to the testing to enable the Illinois EPA to have an observer present. This notification shall include the name of emission unit(s) to be tested, scheduled date and time, and contact person with telephone number.
  - e. If testing is delayed, the Permittee shall promptly notify the Illinois EPA by e-mail or facsimile, at least five (5) days prior to the scheduled date of testing or immediately, if the delay occurs in the five (5) days prior to the scheduled date. This notification shall also include the new date and time for testing, if set, or a separate notification shall be sent with this information when it is set.
  - f. The Permittee shall submit the Final Source Test Report(s) for these tests accompanied by a cover letter stating whether or not compliance was shown, to the Illinois EPA, Bureau of Air, Compliance Section Manager within thirty (30) days after the test results are compiled, but no later than sixty (60) days after the date of testing or sampling. The Final Source Test Report shall include as a minimum:

- i. General information describing the test, including the name and identification of the emission source, which was tested, date of testing, names of personnel performing the tests, and Illinois EPA observers, if any;
  - ii. A summary of results;
  - iii. Description of test procedures and method(s), including description and map of emission units and sampling points, sampling train, testing and analysis equipment, and test schedule;
  - iv. Detailed description of test conditions, including:
    - A. List and description of the equipment (including serial numbers or other equipment specific identifiers) tested and process information (i.e., mode(s) of operation, process rate or throughput, fuel or raw material consumption rate; and heat content of the fuels);
    - B. Control equipment information (i.e., equipment condition and operating parameters) during testing; and
    - C. A discussion of any preparatory actions taken (i.e., inspections, maintenance and repair).
  - v. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration. Identification of the applicable regulatory standards and permit conditions that the testing was performed to demonstrate compliance with, a comparison of the test results to the applicable regulatory standards and permit conditions, and a statement whether the test(s) demonstrated compliance with the applicable standards and permit conditions;
  - vi. An explanation of any discrepancies among individual tests, failed tests or anomalous data;
  - vii. The results and discussion of all quality control evaluation data, including a copy of all quality control data; and
  - viii. The applicable operating parameters of the pollution control device(s) during testing (temperature, pressure drop, scrubbing flow rate, etc.), if any.
- 17a. Pursuant to 35 Ill. Adm. Code 218.105(d) (2) (A) (i), an owner or operator: That uses an afterburner or carbon adsorber to comply with any Section of 35 Ill. Adm. Code Part 218 shall use Illinois EPA and USEPA approved continuous monitoring equipment which is installed, calibrated, maintained, and operated according to vendor specifications at all times the control device is in use except as provided in 35 Ill. Adm. Code 218.105(d) (3). The continuous monitoring equipment must monitor the following parameters:

For each afterburner which does not have a catalyst bed, the combustion chamber temperature of each afterburner.

- b. Pursuant to 35 Ill. Adm. Code 218.105(d)(2)(B), an owner or operator: Must install, calibrate, operate and maintain, in accordance with manufacturer's specifications, a continuous recorder on the temperature monitoring device, such as a strip chart, recorder or computer, having an accuracy of  $\pm 1$  percent of the temperature measured in degrees Celsius or  $\pm 0.5^\circ$  C, whichever is greater.
18. Pursuant to 40 CFR 63.10(b)(3), if an owner or operator determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants regulated by any standard established pursuant to section 112(d) or (f) of the Clean Air Act, and that stationary source is in the source category regulated by the relevant standard, but that source is not subject to the relevant standard (or other requirement established under 40 CFR Part 63) because of limitations on the source's potential to emit or an exclusion, the owner or operator must keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the owner or operator believes the source is unaffected (e.g., because the source is an area source). The analysis (or other information) must be sufficiently detailed to allow the USEPA and/or Illinois EPA to make a finding about the source's applicability status regarding the relevant standard or other requirement. If relevant, the analysis must be performed in accordance with requirements established in relevant subparts of 40 CFR Part 63 for this purpose for categories of stationary sources. If relevant, the analysis should be performed in accordance with USEPA guidance materials published to assist sources in making applicability determinations under Section 112 of the Clean Air Act, if any. The requirements to determine applicability of a standard under 40 CFR 63.1(b)(3) and to record the results of that determination under 40 CFR 63.10(b)(3) shall not by themselves create an obligation for the owner or operator to obtain a Title V permit.
- 19a. Pursuant to 35 Ill. Adm. Code 212.110(e), the owner or operator of an emission unit subject to 35 Ill. Adm. Code Part 212 shall retain records of all tests which are performed.
- b. i. Pursuant to 35 Ill. Adm. Code 212.324(g)(1), written records of inventory and documentation of inspections, maintenance, and repairs of all air pollution control equipment shall be kept in accordance with 35 Ill. Adm. Code 212.324(f).
  - ii. Pursuant to 35 Ill. Adm. Code 212.324(g)(2), the owner or operator shall document any period during which any process emission unit was in operation when the air pollution control



equipment was not in operation or was malfunctioning so as to cause an emissions level in excess of the emissions limitation. These records shall include documentation of causes for pollution control equipment not operating or such malfunction and shall state what corrective actions were taken and what repairs were made.

- iii. Pursuant to 35 Ill. Adm. Code 212.324(g) (3), a written record of the inventory of all spare parts not readily available from local suppliers shall be kept and updated.
  - iv. Pursuant to 35 Ill. Adm. Code 212.324(g) (5), the records required under 35 Ill. Adm. Code 212.324 shall be kept and maintained.
- 20a. Pursuant to 35 Ill. Adm. Code 218.991(a) (2), any owner or operator of a VOM emission unit which is subject to the requirements of 35 Ill. Adm. Code Part 218 Subpart PP, QQ, RR or TT and complying using emission capture and control equipment shall comply with the following:

On and after a date consistent with 35 Ill. Adm. Code 218.106, or on and after the initial start-up date, the owner or operator of a subject VOM source shall collect and record all of the following information each day:

- i. Control device monitoring data.
  - ii. A log of operating time for the capture system, control device, monitoring equipment and the associated emission source.
  - iii. A maintenance log for the capture system, control device and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.
- 21a. The Permittee shall maintain records of the following items so as to demonstrate compliance with the conditions of this permit:
- i. Records addressing use of good operating practices for the RTO and Quench/Packed Tower Scrubber associated with the Hammermill Shredder System and Dust Collectors (DC-01 through DC-04) associated with Non-Ferrous Material Separation System:
    - A. Records for periodic inspection of the Roll Media Filter, RTO, Quench/Packed Tower Scrubber, and Dust Collectors (DC-01 through DC-04) with date, individual performing the inspection, and nature of inspection; and
    - B. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.
  - ii. A copy of the Fugitive Emissions Operating Program, any amendments or revisions to the Fugitive Emissions Operating

Program, and a record of activities completed according to the Fugitive Particulate Operating Program.

- iii. A. Daily records demonstrating the temperature for the RTO;
- B. Daily records demonstrating pressure differential across inlet and outlet of the Quench/Packed Tower Scrubber
- C. Daily records demonstrating scrubbant liquid flow rate of the Quench/Packed Tower Scrubber;
- D. Daily records demonstrating the pH of the scrubbant of the Quench/Packed Tower Scrubber;
- E. Daily records demonstrating inlet gas stream to the control train for the Hammermill Shredder System for the flammability of this gas stream as a percentage of the lower explosive limit (LEL) of this stream
- F. Daily records demonstrating amperage or usage of electrical power by the motor for the fan in the control train or inlet gas flow rate of the control train.
- G. Daily records demonstrating status of the emergency bypass vent on the RTO in the control train for the Hammermill Shredder System, i.e., whether this vent is closed or open.
- iv. Records of daily visual inspections of the Hammermill Shredder operations containing the date, time, individual performing the observation, observation details including operation of associated control systems, and any corrective actions taken.
- v. Natural gas usage for RTO (mmscf/month and mmscf/year).
- vi. Hours of operation for Non-Ferrous System, Barge loading, Hammermill Shredder System, RTO, and Quench/Packed Tower Scrubber (hours/day, hours/month and hours/year).
- vii. Type and amount material received by the facility (tons/month and tons/year).
- viii. Type and amount material processed by Hammermill Shredder System (tons/month and tons/year).
- ix. Material throughput (tons/month and tons/year) for the Ferrous Material Separation Process, Non-Ferrous Material Process, and Fines Processing Building.
- x. Amount of non-metallic materials (fluff) shipped offsite (tons/month and tons/year).
- xi. Hours of operation for Dust Collector DC-01 (hours/month and

hours/year).

- xii. For each event when the emergency bypass vent on the RTO is open while feed material is being sent to or being processed in the Hammermill Shredder System, the Permittee shall maintain records that include: the date, starting time and duration of the event; a description of the event; the monitored flammability of the gas stream at the start of the event; an estimate of the additional VOM emissions attributable to the event, with supporting data; the likely explanation for the event.; and, if the stoppage of feed to the Hammermill Shredder System when this vent opens is not automated, the time that feed to this system ceased.; and
  - xiii. Monthly and annual emissions of PM, PM<sub>10</sub>, CO, NO<sub>x</sub>, SO<sub>2</sub>, VOM, and HAPs from the Hammermill Shredder System, Ferrous Material Separation System, and Non-Ferrous Material Separation System with supporting calculations (tons/month and tons/year).
- b. All records and logs required under this permit shall be retained at a readily accessible location at the source for at least five (5) years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer storage device) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.
- 22a. Pursuant to 35 Ill. Adm. Code 212.110(d), a person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from 35 Ill. Adm. Code 212.110 that will be used.
- b. Pursuant to 35 Ill. Adm. Code 212.324(g)(6), upon written request by the Illinois EPA, a report shall be submitted to the Illinois EPA for any period specified in the request stating the following: the dates during which any process emission unit was in operation when the air pollution control equipment was not in operation or was not operating properly, documentation of causes for pollution control equipment not operating or not operating properly, and a statement of what corrective actions were taken and what repairs were made.
- 23a. Pursuant to 35 Ill. Adm. Code 218.991(a), any owner or operator of a VOM emission unit which is subject to the requirements of 35 Ill. Adm. Code Part 218 Subpart PP, QQ, RR or TT and complying by the use of emission capture and control equipment shall comply with the following:
- i. By a date consistent with 35 Ill. Adm. Code 218.106, or upon initial start-up of a new emission unit, the owner or operator of the subject VOM emission unit shall demonstrate to the Illinois EPA that the subject emission unit will be in compliance on and

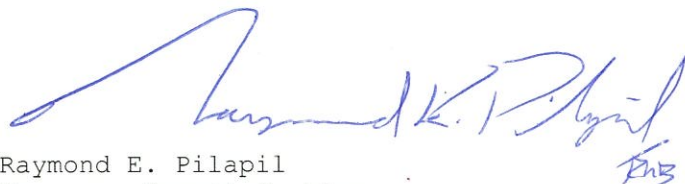
after a date consistent with 35 Ill. Adm. Code 218.106, or on and after the initial start-up date by submitting to the Illinois EPA all calculations and other supporting data, including descriptions and results of any tests the owner or operator may have performed.

- ii. On and after a date consistent with 35 Ill. Adm. Code 218.106, the owner or operator of a subject VOM emission source shall notify the Illinois EPA:
  - A. Of any violation of the requirements of 35 Ill. Adm. Code Part 218 Subpart PP, QQ, RR or TT by sending a copy of any record showing a violation to the Illinois EPA within 30 days following the occurrence of the violation;
  - B. At least 30 calendar days before changing the method of compliance with 35 Ill. Adm. Code Part 218 Subpart PP or TT from the use of capture systems and control devices to the use of complying coatings, the owner or operator shall comply with all requirements of 35 Ill. Adm. Code 218.991(a)(1). Upon changing the method of compliance with 35 Ill. Adm. Code Part 218 Subpart PP or TT from the use of capture systems and control devices to the use of complying coatings, the owner or operator shall comply with all requirements of 35 Ill. Adm. Code 218.991(a).
- 24a. The Permittee shall submit a written notification to the Illinois EPA, Bureau of Air, Compliance Section Manager of the initial receipt date of material to be processed in the Hammermill Shredder within seven (7) calendar days after the initial receipt date.
- b. The Permittee shall submit a written notification to the Illinois EPA, Bureau of Air, Compliance Section Manager within seven (7) calendar days from the date that raw material is first processed through the hammermill shredder.
- c. If, during a Bypass Event, the feed to the hammermill shredder continues for 30 seconds or more after the start of a Bypass Event, the Permittee shall notify the Illinois EPA within 3 hours of the start of the event, with this notification made by email to the Manager of the Compliance Section in the Illinois EPA, Bureau of Air. For all other Bypass Events, the Permittee shall submit to the Illinois EPA, Bureau of Air, Compliance Section Manager, within seven (7) calendar days of such event, a report for detailing the following information for each event when feed to the shredder was interlocked due to the LEL system: % of LEL detected, duration of the event, and VOM emissions with supporting documentation.
- 25a. The Permittee shall submit a quarterly report containing the following information for each month of the quarter:
  - i. Type and amount material received by the facility;

- ii. Type and amount material processed by Hammermill Shredder System;
  - iii. Throughput for the Ferrous Material Separation Process, Non-Ferrous Material Process, and Fines Processing Building;
  - iv. PM, PM<sub>10</sub>, and HAPs emissions from the Hammermill Shredder System, Ferrous Material Separation System, and Non-Ferrous Material Separation System, with supporting calculations;
  - v. A summary of all bypass events that occur during the quarter and for each event, this summary shall include the date, time, duration, description, likely explanation and estimated additional VOM emissions due to the event.
  - vi. VOM emissions from the Hammermill Shredder System, Ferrous Material Separation System, and Non-Ferrous Material Separation System, with supporting calculations; and
  - vii. Amounts of "fluff" and other non-metallic materials shipped offsite (truckloads/month).
- b. The Permittee shall submit this quarterly report to the Illinois EPA, Bureau of Air, Compliance Section Manager within thirty (30) calendar days of the end of a calendar quarter.
- 26a. If there is an exceedance of or a deviation from the requirements of this permit as determined by the records required by this permit or otherwise, the Permittee shall submit a report to the Illinois EPA's Bureau of Air Compliance Section in Springfield, Illinois within thirty (30) days after the exceedance or deviation. The report shall identify the duration and the emissions impact of the exceedance or deviation, a copy of the relevant records and information to resolve the exceedance or deviation, and a description of the efforts to reduce emissions from, and the duration of exceedance or deviation, and to prevent future occurrences of any such exceedance or deviation.
- b. One (1) copy of required reports and notifications shall be sent to:
- Illinois Environmental Protection Agency  
Bureau of Air  
Compliance Section (#40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276
- and an electronic copy of test protocols and test results to  
epa.boa.smu@illinois.gov

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If you have any questions on this permit, please call German Barria at 217/785-1705.

A handwritten signature in blue ink, appearing to read "Raymond E. Pilapil". The signature is stylized and cursive. To the right of the signature, there are initials "RNB" written in blue ink.

Raymond E. Pilapil  
Manager, Permit Section  
Bureau of Air

REP:GB:tan



STATE OF ILLINOIS  
ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF AIR POLLUTION CONTROL  
P. O. BOX 19506  
SPRINGFIELD, ILLINOIS 62794-9506

**STANDARD CONDITIONS FOR CONSTRUCTION/DEVELOPMENT PERMITS  
ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY**

July 1, 1985

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) authorizes the Environmental Protection Agency to impose conditions on permits which it issues.

The following conditions are applicable unless superseded by special condition(s).

1. Unless this permit has been extended or it has been voided by a newly issued permit, this permit will expire one year from the date of issuance, unless a continuous program of construction or development on this project has started by such time.
2. The construction or development covered by this permit shall be done in compliance with applicable provisions of the Illinois Environmental Protection Act, and Regulations adopted by the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.
4. The Permittee shall allow any duly authorized agent of the Agency upon the presentation of credentials, at reasonable times:
  - a. to enter the Permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit,
  - b. to have access to and copy any records required to be kept under the terms and conditions of this permit,
  - c. to inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit,
  - d. to obtain and remove samples of any discharge or emission of pollutants, and
  - e. to enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.
5. The issuance of this permit:
  - a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located,
  - b. does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities,
  - c. does not release the Permittee from compliance with the other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations,
  - d. does not take into consideration or attest to the structural stability of any units or parts of the project, and

- e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
- 6.
- a. Unless a joint construction/operation permit has been issued, a permit for operation shall be obtained from the Agency before the equipment covered by this permit is placed into operation.
  - b. For purposes of shakedown and testing, unless otherwise specified by a special permit condition, the equipment covered under this permit may be operated for a period not to exceed thirty (30) days.
7. The Agency may file a complaint with the Board for modification, suspension or revocation of a permit:
- a. upon discovery that the permit application contained misrepresentations, misinformation or false statements or that all relevant facts were not disclosed, or
  - b. upon finding that any standard or special conditions have been violated, or
  - c. upon any violations of the Environmental Protection Act or any regulation effective thereunder as a result of the construction or development authorized by this permit.