

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

October 13, 2021

**PERMIT TO INSTALL
77-21**

**ISSUED TO
TMS International, LLC**

**LOCATED AT
3000 East Front Street
Monroe, Michigan 48161**

**IN THE COUNTY OF
Monroe**

**STATE REGISTRATION NUMBER
B7061**

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: September 1, 2021 | |
| DATE PERMIT TO INSTALL APPROVED: October 13, 2021 | 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 condition or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

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

EMISSION UNIT SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

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

| Emission Unit ID | Emission Unit Description (Including Process Equipment & Control Device(s)) | Installation Date / Modification Date | Flexible Group ID |
|------------------|--|--|-------------------|
| EUSLAGPLANT | Slag processing plant – consisting of a hopper/feeder with grizzly, two shaker screens and several belt conveyors and stackers, water sprays as needed | 1989 / 2022 | FGSLAGPLANT |
| EUDROPBALL | Large slag pieces broken into smaller pieces by “dropballing.” Emissions are controlled through water spray. | 1989 | FGSLAGPLANT |
| EUROADS | Roadway emissions resulting from the transfer of slag on unpaved roadways and through other areas within the plant yard. Emissions are controlled through water spray. | 1989 | FGSLAGPLANT |
| EUSTOCKPILES | Slag stockpiles of various sizes. Emissions are controlled through water spray. | 1989 | FGSLAGPLANT |
| EUSLAGPIT | Transferring of slag from pits to processing operations. Emissions are controlled through water spray. | 1989 | FGSLAGPLANT |
| EUSCRAPCUT | Large scrap pieces cut by either a handheld torch or lance into smaller pieces. | 1989 | 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.

EUSCRAPCUT EMISSION UNIT CONDITIONS

DESCRIPTION

Large scrap pieces cut by either a handheld torch or lance into smaller pieces.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

1. Visible emissions from EUSCRAPCUT shall not exceed twenty (20) percent opacity. **(R 336.1205, R 336.1301, 40 CFR 52.21 (c) & (d))**

II. MATERIAL LIMIT(S)

1. The permittee shall only cut metal in EUSCRAPCUT that cannot otherwise be processed in the enclosed torch cutting operation due to the size or shape of the metal. **(R 336.1205, R 336.1301, 40 CFR 52.21 (c) & (d))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not process metal in EUSCRAPCUT on more than 60 days per 12-month rolling time period. **(R 336.1205, R 336.1301, 40 CFR 52.21 (c) & (d))**
2. Metal processed in EUSCRAPCUT shall be free of oil, grease, paint or other coatings, rubber, plastic, and other contaminants. **(R 336.1205, R 336.1301, 40 CFR 52.21 (c) & (d))**
3. The permittee shall not operate EUSCRAPCUT unless a Best Management Practices (BMP) plan has been submitted within 45 days of permit issuance and is implemented and maintained. The permittee shall amend the BMP plan within 45 days upon request from the District Supervisor. The permittee shall submit the BMP plan and any amendments to the BMP plan to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the BMP plan or amended BMP plan shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1301, 40 CFR 52.21 (c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

1. At the request of the AQD District Supervisor, the permittee shall evaluate visible emissions from EUSCRAPCUT, at the owner's expense. The permittee must have prior approval from the AQD for visible emission observation procedures. Verification of visible emissions includes the submittal of a complete report of opacity observations to the AQD Technical Programs Unit and District Office within 45 days following the last date of the evaluation. **(R 336.1301, 40 CFR 52.21 (c) & (d), R 336.2001, R 336.2003, R 336.2004)**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205, R 336.1301, 40 CFR 52.21 (c) & (d))**
2. The permittee shall conduct and record non-certified visual emission observations of EUSCRAPCUT at least once per calendar month, unless EUSCRAPCUT was not operated during that month. The permittee shall keep records of all visible emissions observations performed for EUSCRAPCUT. **(R 336.1301, 40 CFR 52.21 (c) & (d))**
3. For each day that metal is cut in EUSCRAPCUT, the permittee shall keep records, in a satisfactory manner, of the date and the type of scrap processed. **(R 336.1205, R 336.1301, 40 CFR 52.21 (c) & (d))**
4. By the last day of each month, the permittee shall calculate the number of days that metal was processed in EUSCRAPCUT during the preceding 12-month rolling time period. **(R 336.1205, R 336.1301, 40 CFR 52.21 (c) & (d))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

FLEXIBLE GROUP SPECIAL CONDITIONS

FLEXIBLE GROUP SUMMARY TABLE

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

| Flexible Group ID | Flexible Group Description | Associated Emission Unit IDs |
|--------------------------|---|---|
| FGSLAGPLANT | Metal recovery processes including the slag processing plant and associated operations. Fugitive dust emissions are controlled by water sprays. | EUSLAGPLANT, EUDROPBALL, EUROADS, EUSTOCKPILES, EUSLAGPIT |

**FGSLAGPLANT
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Metal Recovery Processes including the slag processing plant and associated operations.

Emission Unit: EUSLAGPLANT, EUDROPBALL, EUROADS, EUSTOCKPILES, EUSLAGPIT

POLLUTION CONTROL EQUIPMENT

Fugitive dust emissions are controlled by water sprays.

I. EMISSION LIMIT(S)

1. Visible emissions from all drop points and transfer points in FGSLAGPLANT shall not exceed a six-minute average of 10 percent opacity. **(R 336.1205, R 336.1301, 40 CFR 52.21 (c) & (d))**
2. Visible emissions from all wheel loaders and all truck traffic, operated in conjunction with EUROADS, shall not exceed five (5) percent opacity. **(R 336.1205, R 336.1301, 40 CFR 52.21 (c) & (d))**
3. Visible emissions from each of the slag storage piles (EUSTOCKPILES), shall not exceed five (5) percent opacity. This condition shall not apply to storage pile material handling activities when wind speeds are in excess of 25 miles per hour (40.2 kilometers per hour). **(R 336.1205, R 336.1301, 40 CFR 52.21 (c) & (d))**
4. Visible emissions from any other fugitive dust source in FGSLAGPLANT shall not exceed twenty (20) percent opacity. **(R 336.1205, R 336.1301, 40 CFR 52.21 (c) & (d))**

II. MATERIAL LIMIT(S)

| Material | Limit | Time Period / Operating Scenario | Equipment | Monitoring / Testing Method | Underlying Applicable Requirements |
|-------------------|--------------|---|------------------|------------------------------------|---|
| 1. Slag processed | 150,000 tpy | Based on a 12-month rolling time period as determined at the end of each calendar month | FGSLAGPLANT | SC VI.1 | R 336.1205, R 336.1331, 40 CFR 52.21 (c) & (d) |

2. The permittee shall not process any asbestos tailing or asbestos containing waste materials in FGSLAGPLANT pursuant to the National Emission Standards for Hazardous Air Pollutants, 40 CFR Part 61 Subpart M. **(40 CFR Part 61 Subpart M)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall utilize water spray systems, as needed, in order to minimize the fugitive dust emissions from FGSLAGPLANT. The water spray systems shall be maintained and operated in a satisfactory manner. **(R 336.1301, R 336.1331, Act 451 324.5524(4), 40 CFR 52.21 (c) & (d))**
2. The permittee shall not operate FGSLAGPLANT unless a Nuisance Minimization Plan (NMP) for fugitive dust for all plant roadways, the plant yard, all material storage piles, and all material handling operations, as specified in Appendix A, has been implemented and is maintained. The permittee shall amend the NMP within 45 days upon request from the District Supervisor. The permittee shall submit the NMP and any amendments to the NMP to the AQD District Supervisor for review and approval. The permittee may also propose revisions to the NMP by submitting a request to the AQD District Supervisor. If the AQD does not notify the permittee within 90 days of submittal, the NMP or amended NMP shall be considered approved. The permittee shall

keep all records on file and make them available to the Department upon request. (R 336.1205, R 336.1301, 40 CFR 52.21 (c) & (d))

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate FGSLAGPLANT unless the water spray systems are maintained and operated in a satisfactory manner in order to minimize fugitive dust emissions. (R 336.1301, R 336.1910, Act 451 324.5524(4), 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))

1. At the request of the AQD District Supervisor, the permittee shall evaluate visible emissions from FGSLAGPLANT, at the owner's expense. The permittee must have prior approval from the AQD for visible emission observation procedures. Verification of visible emissions includes the submittal of a complete report of opacity observations to the AQD Technical Programs Unit and District Office within 45 days following the last date of the evaluation. (R 336.1301, 40 CFR 52.21 (c) & (d), R 336.2001, R 336.2003, R 336.2004)
2. At the request of the AQD District Supervisor, the permittee shall sample the slag processed, in FGSLAGPLANT, and have it analyzed for arsenic, barium, beryllium, cadmium, chromium, hexavalent chromium, lead, manganese, mercury, nickel, and selenium, at the owner's expense. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the tests. (R 336.1205, R.336.1224, R 336.1225, R 336.2001, R 336.2003, R 336.2004)

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall keep, in a satisfactory manner, monthly records of the amount of slag processed in FGSLAGPLANT. By the last day of each month, the permittee shall calculate the amount of slag processed during the preceding 12-month rolling time period. The permittee shall keep all records on file at the facility and make them available to the Department upon request. (R 336.1205, R 336.1331, 40 CFR 52.21 (c) & (d))
2. The permittee shall keep records of all watering/dust suppressant applications for the site roadways, plant yard and stockpiles as required by Appendix A. The permittee shall keep all records on file and make them available to the Department upon request. (R 336.1205, R 336.1301, 40 CFR 52.21 (c) & (d))
3. The permittee shall perform a non-certified visible emission observation of the fugitive dust sources at least 5 days per week, excluding non-operating days, during March through October. The permittee shall initiate corrective action upon observation of visible emissions and shall keep a written or electronic record of each required observation and any corrective actions taken. (R 336.1301, 40 CFR 52.21 (c) & (d))

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

APPENDIX A

Nuisance Minimization Plan (NMP) for Fugitive Dust

1. Site Maintenance
 - a) The unpaved travel surfaces shall be treated with water, or other acceptable dust control agents, as needed on a frequency sufficient to meet the visible emission opacity standard of 5% opacity, as specified in Act 451, Section 5524.
 - b) Steel slag will be watered as necessary to minimize emissions.
 - c) Piles shall be maintained to prevent fugitive dust by the use of water.
 - d) Spillage of slag around processing equipment and in the yard area will be cleaned up to minimize fugitive dust emissions.
2. Dust Control Activities
 - a) TMS shall pre-water or add water as needed to control emissions from each emission unit. Emissions from FGSLAGPLANT shall be controlled with water sprays as needed. A water truck shall be utilized on all roads and a sweeper truck shall sweep paved roads on an as-needed basis to control emissions resulting from EUROADS.
3. Management of Front-end Loader Operations
 - a) The front-end loader operation shall be directed to avoid overfilling the bucket of the loader and the feed hopper to prevent spillage and to minimize the drop height of the material when loading the feed hoppers or transferring material to stockpiles.
4. Recordkeeping
 - a) Records of dust control activities on storage piles, travel surfaces, and other surfaces where fugitive dust emissions occur shall be kept on-file for a period of at least five (5) years and made available to AQD staff upon request. The records shall indicate the date, time, what was observed or the reason for the dust control activity (routine or other), and what corrective action was taken.