

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

EFFECTIVE DATE: August 17, 2021

ISSUED TO

**General Motors, LLC - Saginaw Metal Casting Operations**

State Registration Number (SRN): B1991

LOCATED AT

1629 North Washington Street, Saginaw, Saginaw County, Michigan 48601

**RENEWABLE OPERATING PERMIT**

Permit Number: MI-ROP-B1991-2021

Expiration Date: August 17, 2026

Administratively Complete ROP Renewal Application Due Between  
February 17, 2025 and February 17, 2026

This Renewable Operating Permit (ROP) is issued in accordance with and subject to Section 5506(3) of Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). Pursuant to Rule 210(1) of the administrative rules promulgated under Act 451, this ROP constitutes the permittee's authority to operate the stationary source identified above in accordance with the general conditions, special conditions and attachments contained herein. Operation of the stationary source and all emission units listed in the permit are subject to all applicable future or amended rules and regulations pursuant to Act 451 and the federal Clean Air Act.

**SOURCE-WIDE PERMIT TO INSTALL**

Permit Number: MI-PTI-B1991-2021

This Permit to Install (PTI) is issued in accordance with and subject to Section 5505(1) of Act 451. Pursuant to Rule 214a of the administrative rules promulgated under Act 451, the terms and conditions herein, identified by the underlying applicable requirement citation of Rule 201(1)(a), constitute a federally enforceable PTI. The PTI terms and conditions do not expire and remain in effect unless the criteria of Rule 201(6) are met. Operation of all emission units identified in the PTI is subject to all applicable future or amended rules and regulations pursuant to Act 451 and the federal Clean Air Act.

Michigan Department of Environment, Great Lakes, and Energy

---

Chris Hare, Bay City District Supervisor

# TABLE OF CONTENTS

**AUTHORITY AND ENFORCEABILITY ..... 4**

**A. GENERAL CONDITIONS..... 5**

Permit Enforceability ..... 5

General Provisions..... 5

Equipment & Design ..... 6

Emission Limits..... 6

Testing/Sampling ..... 6

Monitoring/Recordkeeping ..... 7

Certification & Reporting ..... 7

Permit Shield ..... 8

Revisions ..... 9

Reopenings..... 9

Renewals..... 10

Stratospheric Ozone Protection ..... 10

Risk Management Plan ..... 10

Emission Trading ..... 10

Permit to Install (PTI) ..... 11

**B. SOURCE-WIDE CONDITIONS ..... 12**

**C. EMISSION UNIT SPECIAL CONDITIONS ..... 15**

EMISSION UNIT SUMMARY TABLE ..... 15

EU-PSANDALUMINUM ..... 22

EU-PSANDPROCESS ..... 25

EU-PSANDCORERROOM ..... 30

EU-PSANDCASTLINE ..... 36

EU-PSANDSCCSH..... 41

EU-FINISH..... 45

EU-SPMALUMINUM..... 48

EU-SPMPROCESSAND ..... 52

EU-SPMCORERROOM ..... 57

EU-SPMCASTLINE ..... 62

EU-SPMCASTLINE4 ..... 68

EU-PREMACHINING ..... 73

EU-MACHASM ..... 75

EU-6ML-EF-02..... 77

**D. FLEXIBLE GROUP SPECIAL CONDITIONS..... 80**

FLEXIBLE GROUP SUMMARY TABLE ..... 80

FG-6ML-ALMELT ..... 81

FG-FACILITYPM..... 85

FG-EMERGENCYRICE ..... 87

FG-EMERGENERATOR..... 90

FG-COLDCLEANERS ..... 93

**E. NON-APPLICABLE REQUIREMENTS ..... 95**

**APPENDICES ..... 96**

Appendix 1. Acronyms and Abbreviations..... 96  
Appendix 2. Schedule of Compliance..... 97  
Appendix 3. Monitoring Requirements ..... 97  
Appendix 4. Recordkeeping ..... 97  
Appendix 5. Testing Procedures ..... 97  
Appendix 6. Permits to Install..... 97  
Appendix 7. Emission Calculations ..... 98  
Appendix 8. Reporting ..... 98

## AUTHORITY AND ENFORCEABILITY

For the purpose of this permit, the **permittee** is defined as any person who owns or operates an emission unit at a stationary source for which this permit has been issued. The **department** is defined in Rule 104(d) as the Director of the Michigan Department of Environment, Great Lakes, and Energy (EGLE) or his or her designee.

The permittee shall comply with all specific details in the permit terms and conditions and the cited underlying applicable requirements. All terms and conditions in this ROP are both federally enforceable and state enforceable unless otherwise footnoted. Certain terms and conditions are applicable to most stationary sources for which an ROP has been issued. These general conditions are included in Part A of this ROP. Other terms and conditions may apply to a specific emission unit, several emission units which are represented as a flexible group, or the entire stationary source which is represented as a Source-Wide group. Special conditions are identified in Parts B, C, D and/or the appendices.

In accordance with Rule 213(2)(a), all underlying applicable requirements are identified for each ROP term or condition. All terms and conditions that are included in a PTI are streamlined, subsumed and/or is state-only enforceable will be noted as such.

In accordance with Section 5507 of Act 451, the permittee has included in the ROP application a compliance certification, a schedule of compliance, and a compliance plan. For applicable requirements with which the source is in compliance, the source will continue to comply with these requirements. For applicable requirements with which the source is not in compliance, the source will comply with the detailed schedule of compliance requirements that are incorporated as an appendix in this ROP. Furthermore, for any applicable requirements effective after the date of issuance of this ROP, the stationary source will meet the requirements on a timely basis, unless the underlying applicable requirement requires a more detailed schedule of compliance.

Issuance of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

## A. GENERAL CONDITIONS

### Permit Enforceability

- All conditions in this permit are both federally enforceable and state enforceable unless otherwise noted. **(R 336.1213(5))**
- Those conditions that are hereby incorporated in a state-only enforceable Source-Wide PTI pursuant to Rule 201(2)(d) are designated by footnote one. **(R 336.1213(5)(a), R 336.1214a(5))**
- Those conditions that are hereby incorporated in a federally enforceable Source-Wide PTI pursuant to Rule 201(2)(c) are designated by footnote two. **(R 336.1213(5)(b), R 336.1214a(3))**

### General Provisions

1. The permittee shall comply with all conditions of this ROP. Any ROP noncompliance constitutes a violation of Act 451, and is grounds for enforcement action, for ROP revocation or revision, or for denial of the renewal of the ROP. All terms and conditions of this ROP that are designated as federally enforceable are enforceable by the Administrator of the United States Environmental Protection Agency (USEPA) and by citizens under the provisions of the federal Clean Air Act (CAA). Any terms and conditions based on applicable requirements which are designated as "state-only" are not enforceable by the USEPA or citizens pursuant to the CAA. **(R 336.1213(1)(a))**
2. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this ROP. **(R 336.1213(1)(b))**
3. This ROP may be modified, revised, or revoked for cause. The filing of a request by the permittee for a permit modification, revision, or termination, or a notification of planned changes or anticipated noncompliance does not stay any ROP term or condition. This does not supersede or affect the ability of the permittee to make changes, at the permittee's own risk, pursuant to Rule 215 and Rule 216. **(R 336.1213(1)(c))**
4. The permittee shall allow the department, or an authorized representative of the department, upon presentation of credentials and other documents as may be required by law and upon stating the authority for and purpose of the investigation, to perform any of the following activities: **(R 336.1213(1)(d))**
  - a. Enter, at reasonable times, a stationary source or other premises where emissions-related activity is conducted or where records must be kept under the conditions of the ROP.
  - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the ROP.
  - c. Inspect, at reasonable times, any of the following:
    - i. Any stationary source.
    - ii. Any emission unit.
    - iii. Any equipment, including monitoring and air pollution control equipment.
    - iv. Any work practices or operations regulated or required under the ROP.
  - d. As authorized by Section 5526 of Act 451, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the ROP or applicable requirements.
5. The permittee shall furnish to the department, within a reasonable time, any information the department may request, in writing, to determine whether cause exists for modifying, revising, or revoking the ROP or to determine compliance with this ROP. Upon request, the permittee shall also furnish to the department copies of any records that are required to be kept as a term or condition of this ROP. For information which is claimed by the permittee to be confidential, consistent with the requirements of the 1976 PA 442, MCL §15.231 et seq., and known as the Freedom of Information Act, the person may also be required to furnish the records directly to the USEPA together with a claim of confidentiality. **(R 336.1213(1)(e))**

6. A challenge by any person, the Administrator of the USEPA, or the department to a particular condition or a part of this ROP shall not set aside, delay, stay, or in any way affect the applicability or enforceability of any other condition or part of this ROP. **(R 336.1213(1)(f))**
7. The permittee shall pay fees consistent with the fee schedule and requirements pursuant to Section 5522 of Act 451. **(R 336.1213(1)(g))**
8. This ROP does not convey any property rights or any exclusive privilege. **(R 336.1213(1)(h))**

### Equipment & Design

9. Any 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).<sup>2</sup> **(R 336.1370)**
10. Any air cleaning device shall be installed, maintained, and operated in a satisfactory manner and in accordance with the Michigan Air Pollution Control rules and existing law. **(R 336.1910)**

### Emission Limits

11. Unless otherwise specified in this ROP, the permittee shall comply with Rule 301, which states, in part, "Except as provided in Subrules 2, 3, and 4 of this rule, a person shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of a density greater than the most stringent of the following:"<sup>2</sup> **(R 336.1301(1))**
  - a. A 6-minute average of 20% opacity, except for one 6-minute average per hour of not more than 27% opacity.
  - b. A limit specified by an applicable federal new source performance standard.

The grading of visible emissions shall be determined in accordance with Rule 303.
12. The permittee shall not cause or permit the emission of an air contaminant or water vapor in quantities that cause, alone or in reaction with other air contaminants, either of the following:
  - a. Injurious effects to human health or safety, animal life, plant life of significant economic value, or property.<sup>1</sup> **(R 336.1901(a))**
  - b. Unreasonable interference with the comfortable enjoyment of life and property.<sup>1</sup> **(R 336.1901(b))**

### Testing/Sampling

13. The department may require the owner or operator of any source of an air contaminant to conduct acceptable performance tests, at the owner's or operator's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001(1).<sup>2</sup> **(R 336.2001)**
14. Any required performance testing shall be conducted in accordance with Rule 1001(2), Rule 1001(3) and Rule 1003. **(R 336.2001(2), R 336.2001(3), R 336.2003(1))**
15. Any required test results shall be submitted to the Air Quality Division (AQD) in the format prescribed by the applicable reference test method within 60 days following the last date of the test. **(R 336.2001(5))**

## Monitoring/Recordkeeping

16. Records of any periodic emission or parametric monitoring required in this ROP shall include the following information specified in Rule 213(3)(b)(i), where appropriate. **(R 336.1213(3)(b))**
  - a. The date, location, time, and method of sampling or measurements.
  - b. The dates the analyses of the samples were performed.
  - c. The company or entity that performed the analyses of the samples.
  - d. The analytical techniques or methods used.
  - e. The results of the analyses.
  - f. The related process operating conditions or parameters that existed at the time of sampling or measurement.
17. All required monitoring data, support information and all reports, including reports of all instances of deviation from permit requirements, shall be kept and furnished to the department upon request for a period of not less than 5 years from the date of the monitoring sample, measurement, report or application. Support information includes all calibration and maintenance records and all original strip-chart recordings, or other original data records, for continuous monitoring instrumentation and copies of all reports required by the ROP. **(R 336.1213(1)(e), R 336.1213(3)(b)(ii))**

## Certification & Reporting

18. Except for the alternate certification schedule provided in Rule 213(3)(c)(iii)(B), any document required to be submitted to the department as a term or condition of this ROP shall contain an original certification by a Responsible Official which state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. **(R 336.1213(3)(c))**
19. A Responsible Official shall certify to the appropriate AQD District Office and to the USEPA that the stationary source is and has been in compliance with all terms and conditions contained in the ROP except for deviations that have been or are being reported to the appropriate AQD District Office pursuant to Rule 213(3)(c). This certification shall include all the information specified in Rule 213(4)(c)(i) through (v) and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the certification are true, accurate, and complete. The USEPA address is: USEPA, Air Compliance Data - Michigan, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604-3507. **(R 336.1213(4)(c))**
20. The certification of compliance shall be submitted annually for the term of this ROP as detailed in the special conditions, or more frequently if specified in an applicable requirement or in this ROP. **(R 336.1213(4)(c))**
21. The permittee shall promptly report any deviations from ROP requirements and certify the reports. The prompt reporting of deviations from ROP requirements is defined in Rule 213(3)(c)(ii) as follows, unless otherwise described in this ROP. **(R 336.1213(3)(c))**
  - a. For deviations that exceed the emissions allowed under the ROP, prompt reporting means reporting consistent with the requirements of Rule 912 as detailed in Condition 25. All reports submitted pursuant to this paragraph shall be promptly certified as specified in Rule 213(3)(c)(iii).
  - b. For deviations which exceed the emissions allowed under the ROP and which are not reported pursuant to Rule 912 due to the duration of the deviation, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report shall describe reasons for each deviation and the actions taken to minimize or correct each deviation.
  - c. For deviations that do not exceed the emissions allowed under the ROP, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report shall describe the reasons for each deviation and the actions taken to minimize or correct each deviation.

22. For reports required pursuant to Rule 213(3)(c)(ii), prompt certification of the reports is described in Rule 213(3)(c)(iii) as either of the following: **(R 336.1213(3)(c))**
  - a. Submitting a certification by a Responsible Official with each report which states that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
  - b. Submitting, within 30 days following the end of a calendar month during which one or more prompt reports of deviations from the emissions allowed under the ROP were submitted to the department pursuant to Rule 213(3)(c)(ii), a certification by a Responsible Official which states that; “based on information and belief formed after reasonable inquiry, the statements and information contained in each of the reports submitted during the previous month were true, accurate, and complete.” The certification shall include a listing of the reports that are being certified. Any report submitted pursuant to Rule 213(3)(c)(ii) that will be certified on a monthly basis pursuant to this paragraph shall include a statement that certification of the report will be provided within 30 days following the end of the calendar month.
23. Semiannually for the term of the ROP as detailed in the special conditions, or more frequently if specified, the permittee shall submit certified reports of any required monitoring to the appropriate AQD District Office. All instances of deviations from ROP requirements during the reporting period shall be clearly identified in the reports. **(R 336.1213(3)(c)(i))**
24. On an annual basis, the permittee shall report the actual emissions, or the information necessary to determine the actual emissions, of each regulated air pollutant as defined in Rule 212(6) for each emission unit utilizing the emissions inventory forms provided by the department. **(R 336.1212(6))**
25. 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 appropriate AQD District Office. The notice shall be provided not later than two business days after the start-up, shutdown, or discovery of the abnormal conditions or malfunction. Notice shall be by any reasonable means, including electronic, telephonic, or oral communication. Written reports, if required under Rule 912, must be submitted to the appropriate AQD District Supervisor within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal conditions or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5) and shall be certified by a Responsible Official in a manner consistent with the CAA.<sup>2</sup> **(R 336.1912)**

## Permit Shield

26. Compliance with the conditions of the ROP shall be considered compliance with any applicable requirements as of the date of ROP issuance if either of the following provisions is satisfied. **(R 336.1213(6)(a)(i), R 336.1213(6)(a)(ii))**
  - a. The applicable requirements are included and are specifically identified in the ROP.
  - b. The permit includes a determination or concise summary of the determination by the department that other specifically identified requirements are not applicable to the stationary source.

Any requirements identified in Part E of this ROP have been identified as non-applicable to this ROP and are included in the permit shield.

27. Nothing in this ROP shall alter or affect any of the following:
  - a. The provisions of Section 303 of the CAA, emergency orders, including the authority of the USEPA under Section 303 of the CAA. **(R 336.1213(6)(b)(i))**
  - b. The liability of the owner or operator of this source for any violation of applicable requirements prior to or at the time of this ROP issuance. **(R 336.1213(6)(b)(ii))**
  - c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the CAA. **(R 336.1213(6)(b)(iii))**



- d. The ability of the USEPA to obtain information from a source pursuant to Section 114 of the CAA. **(R 336.1213(6)(b)(iv))**
28. The permit shield shall not apply to provisions incorporated into this ROP through procedures for any of the following:
- a. Operational flexibility changes made pursuant to Rule 215. **(R 336.1215(5))**
  - b. Administrative Amendments made pursuant to Rule 216(1)(a)(i)-(iv). **(R 336.1216(1)(b)(iii))**
  - c. Administrative Amendments made pursuant to Rule 216(1)(a)(v) until the amendment has been approved by the department. **(R 336.1216(1)(c)(iii))**
  - d. Minor Permit Modifications made pursuant to Rule 216(2). **(R 336.1216(2)(f))**
  - e. State-Only Modifications made pursuant to Rule 216(4) until the changes have been approved by the department. **(R 336.1216(4)(e))**
29. Expiration of this ROP results in the loss of the permit shield. If a timely and administratively complete application for renewal is submitted not more than 18 months, but not less than 6 months, before the expiration date of the ROP, but the department fails to take final action before the end of the ROP term, the existing ROP does not expire until the renewal is issued or denied, and the permit shield shall extend beyond the original ROP term until the department takes final action. **(R 336.1217(1)(c), R 336.1217(1)(a))**

## Revisions

30. For changes to any process or process equipment covered by this ROP that do not require a revision of the ROP pursuant to Rule 216, the permittee must comply with Rule 215. **(R 336.1215, R 336.1216)**
31. A change in ownership or operational control of a stationary source covered by this ROP shall be made pursuant to Rule 216(1). **(R 336.1219(2))**
32. For revisions to this ROP, an administratively complete application shall be considered timely if it is received by the department in accordance with the time frames specified in Rule 216. **(R 336.1210(10))**
33. Pursuant to Rule 216(1)(b)(iii), Rule 216(2)(d) and Rule 216(4)(d), after a change has been made, and until the department takes final action, the permittee shall comply with both the applicable requirements governing the change and the ROP terms and conditions proposed in the application for the modification. During this time period, the permittee may choose to not comply with the existing ROP terms and conditions that the application seeks to change. However, if the permittee fails to comply with the ROP terms and conditions proposed in the application during this time period, the terms and conditions in the ROP are enforceable. **(R 336.1216(1)(c)(iii), R 336.1216(2)(d), R 336.1216(4)(d))**

## Reopenings

34. A ROP shall be reopened by the department prior to the expiration date and revised by the department under any of the following circumstances:
- a. If additional requirements become applicable to this stationary source with three or more years remaining in the term of the ROP, but not if the effective date of the new applicable requirement is later than the ROP expiration date. **(R 336.1217(2)(a)(i))**
  - b. If additional requirements pursuant to Title IV of the CAA become applicable to this stationary source. **(R 336.1217(2)(a)(ii))**
  - c. If the department determines that the ROP contains a material mistake, information required by any applicable requirement was omitted, or inaccurate statements were made in establishing emission limits or the terms or conditions of the ROP. **(R 336.1217(2)(a)(iii))**
  - d. If the department determines that the ROP must be revised to ensure compliance with the applicable requirements. **(R 336.1217(2)(a)(iv))**

## Renewals

35. For renewal of this ROP, an administratively complete application shall be considered timely if it is received by the department not more than 18 months, but not less than 6 months, before the expiration date of the ROP. **(R 336.1210(9))**

## Stratospheric Ozone Protection

36. If the permittee is subject to Title 40 of the Code of Federal Regulations (CFR), Part 82 and services, maintains, or repairs appliances except for motor vehicle air conditioners (MVAC), or disposes of appliances containing refrigerant, including MVAC and small appliances, or if the permittee is a refrigerant reclaiming, appliance owner or a manufacturer of appliances or recycling and recovery equipment, the permittee shall comply with all applicable standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F.
37. If the permittee is subject to 40 CFR Part 82 and performs a service on motor (fleet) vehicles when this service involves refrigerant in the MVAC, the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed by the original equipment manufacturer. The term MVAC as used in Subpart B does not include the air-tight sealed refrigeration system used for refrigerated cargo or an air conditioning system on passenger buses using Hydrochlorofluorocarbon-22 refrigerant.

## Risk Management Plan

38. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall register and submit to the USEPA the required data related to the risk management plan for reducing the probability of accidental releases of any regulated substances listed pursuant to Section 112(r)(3) of the CAA as amended in 40 CFR 68.130. The list of substances, threshold quantities, and accident prevention regulations promulgated under 40 CFR Part 68, do not limit in any way the general duty provisions under Section 112(r)(1).
39. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall comply with the requirements of 40 CFR Part 68, no later than the latest of the following dates as provided in 40 CFR 68.10(a):
- June 21, 1999,
  - Three years after the date on which a regulated substance is first listed under 40 CFR 68.130, or
  - The date on which a regulated substance is first present above a threshold quantity in a process.
40. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall submit any additional relevant information requested by any regulatory agency necessary to ensure compliance with the requirements of 40 CFR Part 68.
41. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall annually certify compliance with all applicable requirements of Section 112(r) as detailed in Rule 213(4)(c)). **(40 CFR Part 68)**

## Emission Trading

42. Emission averaging and emission reduction credit trading are allowed pursuant to any applicable interstate or regional emission trading program that has been approved by the Administrator of the USEPA as a part of Michigan's State Implementation Plan. Such activities must comply with Rule 215 and Rule 216. **(R 336.1213(12))**

## Permit to Install (PTI)

43. The process or process equipment included in this permit shall not be reconstructed, relocated, or modified unless a PTI authorizing such action is issued by the department, except to the extent such action is exempt from the PTI requirements by any applicable rule.<sup>2</sup> **(R 336.1201(1))**
44. The department may, after notice and opportunity for a hearing, revoke PTI terms or conditions if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of the PTI or is violating the department's rules or the CAA.<sup>2</sup> **(R 336.1201(8), Section 5510 of Act 451)**
45. The terms and conditions of a PTI 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 the PTI. If a new owner or operator submits a written request to the department pursuant to Rule 219 and the department approves the request, this PTI 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. The written request shall be sent to the appropriate AQD District Supervisor, EGLE.<sup>2</sup> **(R 336.1219)**
46. If the installation, reconstruction, relocation, or modification of the equipment for which PTI terms and conditions have been approved has not commenced within 18 months of the original PTI issuance date, or has been interrupted for 18 months, the applicable terms and conditions from that PTI, as incorporated into the ROP, shall become void unless otherwise authorized by the department. Furthermore, the person to whom that PTI was issued, or the designated authorized agent, shall notify the department via the Supervisor, Permit Section, EGLE, AQD, P. O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, reconstruction, relocation, or modification of the equipment allowed by the terms and conditions from that PTI.<sup>2</sup> **(R 336.1201(4))**

### Footnotes:

<sup>1</sup>This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

<sup>2</sup>This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

## **B. SOURCE-WIDE CONDITIONS**

Part B outlines the Source-Wide Terms and Conditions that apply to this stationary source. The permittee is subject to these special conditions for the stationary source in addition to the general conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply to this source, NA (not applicable) has been used in the table. If there are no Source-Wide Conditions, this section will be left blank.

## SOURCE-WIDE CONDITIONS

### DESCRIPTION

All process equipment at the stationary source including equipment covered by other permits, grandfathered equipment, and exempt equipment.

### POLLUTION CONTROL EQUIPMENT

NA

#### I. EMISSION LIMIT(S)

NA

#### II. MATERIAL LIMIT(S)

NA

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

NA

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

NA

#### V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

NA

#### VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

NA

#### VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. (R 336.1213(3)(c)(ii))
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. (R 336.1213(3)(c)(i))
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. (R 336.1213(4)(c))

See Appendix 8

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

NA

**IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with the applicable provisions of 1994 PA 451, Section 324.5524 (Fugitive dust sources or emissions) and with the provisions of the operating program received by the AQD, Saginaw Bay District Office on November 22, 2013, or the most recent amendment. The operating program shall be amended by the permittee so that the operating program is current and reflects any significant change in the fugitive dust source or fugitive dust emissions. An amendment to an operating program shall be consistent with the requirements of Section 324.5524 and shall be submitted to the department for its review and approval. If the AQD does not notify the permittee within 90 days of submittal, the operating program or amended operating program shall be considered approved.<sup>2</sup> **(1994 PA 451, Section 324.5524)**

**Footnotes:**

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

<sup>2</sup>This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

### C. EMISSION UNIT SPECIAL CONDITIONS

Part C outlines terms and conditions that are specific to individual emission units listed in the Emission Unit Summary Table. The permittee is subject to the special conditions for each emission unit in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no conditions specific to individual emission units, this section will be left blank.

#### 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
EU-6ML-EF-02	Exhaust to Well #1 and #2 furnace (Open ended duct at Launder, #1 and #2 furnace)	10-26-1994	FG-FACILITYPM
EU-6ML-GV-01	Aluminum Reverberatory Furnace #1 (West)	10-26-1994	FG-6ML-ALMELT FG-FACILITYPM
EU-6ML-GV-02	Aluminum Reverberatory Furnace #2 (East)	10-26-1994	FG-6ML-ALMELT FG-FACILITYPM
EU-PSANDALUMINUM	<u>Molten Aluminum Supply</u> - Two natural gas fired aluminum melting/holding furnaces for aluminum/alloy production using "clean charge" with flux addition and drossing and degassing well (argon). For each furnace, reverberatory design melt heat input rate 40 million British thermal units per hour (MMBTU/hr) for 6 tons/hr melt rate and 20 MMBTU/hr heat input in holding operational mode. Electrically heated launder system vented in-plant. Electrically heated furnace with pump well where metal is pumped to the molds, with degassing well (argon) vented in-plant.	02-10-2015 07-2015	FG-FACILITYPM
EU-PSANDPROCESS	<u>Sand Processing</u> – 220-ton new sand storage silo with bin vent filter receives sand via blower truck and two 30 ton pre-reclaim sand silos receive process sand recovered in the facility. Sand from both silos is transported to two natural gas fired fluidized bed sand reclaim systems (sand reclaim furnace, sand cooler, sand screen, and deduster) (design heat input rate of 15 MMBTU/hr - total for two sand reclaim systems) for cleaning and preparation of sand. From there, sand is transferred to the prepared sand silo. PM emissions from the pre-reclaim sand silo, sand transfer system, fluidized bed sand reclaim, and prepared sand silo are controlled by two 31,200 scfm fabric filter collectors, one for each sand reclaim system.	02-12-2015 07-2015	FG-FACILITYPM

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-PSANDCORERROOM	<p><u>Core Room Processes</u>            Sand Handling and Mixing - sand from the prepared sand silo is pneumatically transported to the six core machine sand hoppers. The individual sand hoppers feed the sand mixers where polyurethane resin is mixed with the sand. Emissions from the sand hoppers and sand mixers are collected for control through a 15,000 scfm cartridge collector.</p> <p>Core Making - six cold box core machines ventilated at 25,000 scfm to a cyclone and a packed tower acid scrubber. Dimethyl isopropylamine (DMIPA) is used to cure the mixed sand, in the core making machines.</p> <p>Core Box Tooling Maintenance - includes the use of a core release chemical, metal cleaner, a high-pressure water wash, and core box washing station. High pressure water wash emissions are controlled with a mist collector and are vented in-plant.</p> <p>Cylinder Liner Cleaning and Heating - cleaning by shot blast with a 2,500 scfm cartridge collector control vented in-plant;—induction heating used to preheat cylinder liners prior to contact with molten aluminum, vented in-plant.</p> <p>Final Mold Assembly - physical assembly of the parts of the final mold/core package. The assembly process includes reusable chill plates. Emissions are negligible and vented in-plant.</p> <p>Core Room Fugitive Emissions - general core handling.</p>	02-10-2015	FG-FACILITYPM
EU-PSANDCASTLINE	<p><u>Cast Line Processes</u>            Pouring and Cooling - pouring and cooling of castings in the molds, mold cooling, and chill plate cleaning. Emissions from cooling are controlled through a 30,000 scfm cartridge collector followed by the 60,000 scfm regenerative thermal oxidizer.</p> <p>Shakeout - separation of cooled castings from the molds. Emissions control through a 30,000 scfm fabric filter collector followed by the 60,000 scfm regenerative thermal oxidizer. 10 MMBTU/hr natural gas-fired duct burner.</p>	02-10-2015 07-2015	FG-FACILITYPM
EU-PSANDSCCSH	<p><u>Solidification and Casting Cooling</u> - enclosed ambient air cooling of castings</p>	02-10-2015 07-2015	FG-FACILITYPM



Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
	<p><u>Sand Handling</u> - primarily sand from shakeout in the form of broken cores and molds that is pneumatically transferred to the rotary drum. Scrap cores from EU-PSANDCOREROOM will also be transported to the rotary drum for processing. Emissions are vented to a 35,000 scfm fabric filter collector control. Sand output from the rotary drum will be pneumatically transferred to the pre-reclaim sand silo of EU-PSANDPROCESS. Smaller amounts of granular sand from the core machines, cooling conveyor, and EU-FINISH will also be moved to the pre-reclaim sand silo by conveyor or by fork truck in hoppers.</p>		
EU-FINISH	<p><u>Finishing</u> - (precision sand and semi-permanent molding operations) processes to remove excess metal and residual sand from the castings including Deflash/Decore/Degate (precision sand and semi-permanent mold) and shot blast. Emissions are controlled by cartridge collectors with air flow rates of 12,800 scfm total for the Deflash, Decore, and Degate enclosures from precision sand and semi-permanent mold operations. 1,500 scfm for the shot blast cabinet associated with precision sand finishing.</p>	02-10-2015 07-2015	FG-FACILITYPM
EU-SPMALUMINUM	<p><u>Molten Aluminum Supply</u> - natural gas-fired stack melter aluminum melting/holding furnace for aluminum/alloy production using "clean charge" with flux addition, drossing, and degassing well (argon). Furnace has a design heat input rate of 14.5 MMBTU/hr gas-fired for 5.5 tons/hr melt rate and 4.25 MMBTU/hr heat input rate in holding operational mode. Electrically heated launder systems vented in-plant. Four electric Ladle furnaces and electric holding furnace also with degassing (argon) capability and flux addition, vented in-plant.</p>	03-11-2015 07-2015	FG-FACILITYPM
EU-SPMPROCESSAND	<p><u>Sand Processing</u> – 120-ton new sand storage silo with bin vent filter receives sand via blower truck and a 30 ton pre-reclaim sand silo receives process sand recovered in the facility. Sand from both silos is transported to the natural gas fired fluidized bed sand reclaim process system (sand reclaim furnace, sand cooler, sand screen, and deduster) (design heat input rate is 4 MMBTU/hr) for cleaning and preparation of sand. From there, sand is transferred to the prepared sand silo.</p> <p>Top core, scrap cores, broken cores and process sand collected from EU-SPMCASTLINE and EU-SPMCASTLINE4</p>	12-10-2014 07-2015	FG-FACILITYPM

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
	<p>and scrap cores and process sand from EU-SPMCORERROOM are collected in a bin/hopper and taken to a Sand Load Out Station for reclaim or returned to the process by the receiving dump chute of EU-SPMPROCESSAND for transport by conveyor to the hopper/storage silo of EU-SPMPROCESSAND.</p> <p>PM emissions from these sand handling processes and sand handling transfer points including the pre-reclaim sand silo, sand transfer system, fluidized bed sand reclaim, and prepared sand silo in EU-SPMPROCESSAND are controlled by a single 34,000 scfm fabric filter collector. There is no emission control on the remaining sand handling or transfer points (bin/hopper, Sand Load Out Station, receiving dump chute).</p>		
EU-SPMCORERROOM	<p><u>Core Room Processes</u>          Sand Handling &amp; Mixing - via both enclosed conveyor and pneumatic systems prepared sand is transported to and received into the central sand hopper and mixer located above the core machines.</p> <p>Sand and two-part epoxy acrylic resin mixing.</p> <p>Emissions from the final sand transport, sand hopper, and mixer are controlled by a 5,000 scfm cartridge collector.</p> <p>Core Making - sulfur dioxide co-reactant injection system which supplies mixed sulfur dioxide for the three cold box core machines. Sulfur dioxide is stored in 2,000-pound compressed gas cylinders.</p> <p>Emissions from the core making machines are controlled by a cyclone and a packed tower caustic scrubber with a 20,000 scfm exhaust gas flow rate.</p> <p>Core Box Tooling Maintenance - includes the use of a core release chemical, metal cleaner, a high-pressure water wash and core box washing station. High pressure water wash and core box washing station is carried out within EU-PSANDCORERROOM.</p> <p>Scrap cores and process sand are placed in bins or hoppers and taken to a Sand Load Out Station for reclaim. Sand is added to the</p>	03-11-2015 07-2015	FG-FACILITYPM

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
	<p>process by the receiving dump chute of EU-SPMPROCESSAND.</p> <p>Core Room Fugitive Emissions - storage of completed cores in a core buffer area produces off-gassing emissions (core making fugitives) which are released to the general ventilation system for the building.</p>		
EU-SPMCASTLINE	<p><u>Cast Lines</u> - Three cast lines with a nominal maximum combined production rate of 106 castings per hour (2,460 castings per day) and a nominal maximum production rate of 53 castings per hour on any single casting line.</p> <p>The cast lines consist of the following:  <i>Section #1:</i> (3 modular units) making a final mold; mold filling; initial cooling; extraction; and cut sprue. Making a final mold includes mold and core assembly and mold heating with natural gas-fired 16 MMBTU/hr (total heat input rate) burners/torches. Mold filling is conducted by gravity pour. Initial cooling and solidification of the molten metal occurs inside the mold. Extraction of the casting (including sand cores) from the steel mold is completed by the casting extraction unload robot. Top core and down sprue removal. Additional cooling and complete solidification occur in the casting solidification buffer area. Sprue, risers, runners, and other internal scrap are collected and remelted.  <i>Section #2:</i> (3 identical modular units) extended casting cooling in the cooling garage.  <i>Section #3:</i> (2 identical modular units) Deflash; Decore; Degate. Finishing operations include the removal of excess metal and sand from the casting. Metal removed from the casting is collected and remelted.</p> <p>Emissions control for Section #1 and Section #2 is three 60,000 scfm fabric filter collectors (one for each cast line). Combined emissions from Section #3 of both cast lines and precision sand finishing operations are routed to a 12,800 scfm cartridge collector (EU-FINISH).</p> <p>Process and scrap sand generated from SPMCASTLINE is collected and transported as described in EU-SPMPROCESSAND.</p> <p>Mold Preparation - Offline mold preparation benches and oven with steel mold heating using natural gas fired burners. Total heat</p>	03-11-2015 07-2015	FG-FACILITYPM

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
	<p>input rate of 3.5 MMBTU/hr.</p> <p>Mold Coating Repair - Three coating repair booths including a decoating process using inert media. Coating emissions are controlled by a 13,000 scfm cartridge collector. Decoating emissions are routed to a 7,500 scfm cartridge collector, vented in-plant.</p>		
EU-SPMCASTLINE4	<p><u>Cast Line</u> – One carousel cast line with a nominal maximum production rate of 50 molds per hour.</p> <p>The cast line consists of the following:  <i>Section #1:</i> making a final mold; mold filling; initial cooling; extraction; and cut sprue. Making a final mold includes mold and core assembly and mold heating with natural gas fired 16 MMBTU/hr (total heat input rate) burners/torches. Mold filling is by gravity pour. Initial cooling and solidification of the molten metal occurs inside the mold. Extraction of the casting (including sand cores) from the steel mold is completed by the casting extraction unload robot. Core and down sprue removal. Additional cooling and complete solidification occur in the casting solidification buffer area. Sprue, risers, runners, and other internal scrap are collected and remelted.  <i>Section #2:</i> extended casting cooling in a cooling area.  <i>Section #3:</i> Deflash; Decore; Degate. Finishing operations include the removal of excess metal and sand from the casting. Excess metal is collected and remelted.</p> <p>Emissions control for Section #1 and Section #2 is 2 – 30,000 scfm fabric filter collectors.</p> <p>Process and scrap sand generated from EU-SPMCASTLINE4 is collected and transported as described in EU-SPMPROCESSAND.</p>	08-28-2017	FG-FACILITYPM
EU-PREMACHINING	<p>Multiple stations for machining to remove excess metal and for surface preparation (includes the use of a coolant); localized exhaust at each machine, 2,000 scfm with mist eliminator, released to general in-plant exhaust.</p> <p>Casting washing using water jets and a cleaning solution; localized exhaust at each machine, 2,000 cfm with mist eliminator, released to general in-plant exhaust.</p>	02-10-2015	FG-FACILITYPM

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
	Casting leak testing using compressed air.		
EU-MACHASM	<p>Multiple stations for machining to remove excess metal and for surface preparation (includes the use of a coolant); localized exhaust at each machine, 2,000 scfm with mist eliminator, released to general in-plant exhaust.</p> <p>Casting washing using water jets and a cleaning solution; localized exhaust at each machine, 2,000 cfm with mist eliminator, released to general in-plant exhaust.</p> <p>Casting leak testing using compressed air.</p> <p>Dry machining and assembly operations.</p>	8-28-2017	FG-FACILITYPM
EU-PATTERNSHOP	Existing compression (CI) emergency RICE with a maximum site rate of greater than 500 brake horsepower (HP) located at a Major Source of HAP emissions.	1995	FG-EMERGENCYRICE
EU-FIREPUMP1	Existing compression (CI) emergency RICE with a maximum site rate of less than 500 brake horsepower (HP) located at a Major Source of HAP emissions.	2004	FG-EMERGENCYRICE
EU-FIREPUMP2	Existing compression (CI) emergency RICE with a maximum site rate of less than 500 brake horsepower (HP) located at a Major Source of HAP emissions.	2003	FG-EMERGENCYRICE
EU-Z02EG001	Natural gas fired emergency generator with a spark ignition engine supporting facility zone 2.	2018	FG-EMERGENERATOR
EU-Z03EG001	Natural gas fired emergency generator with a spark ignition engine supporting facility zone 3.	2018	FG-EMERGENERATOR
EU-Z06EG001	Natural gas fired emergency generator with a spark ignition engine supporting facility zone 6.	2018	FG-EMERGENERATOR
EU-Z07EG001	Natural gas fired emergency generator with a spark ignition engine supporting facility zone 7.	2018	FG-EMERGENERATOR
EU-COLDCLEANER	Small non-chlorinated cold cleaners.	After 1979	FG-COLDCLEANER

**EU-PSANDALUMINUM  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Molten Aluminum Supply – Two Natural gas fired aluminum melting/holding furnace for aluminum/alloy production using “clean charge” with flux addition and drossing and degassing well (argon). For each furnace, reverberatory design melt heat input rate 40 MMBTU/hr for 6 tons/hr melt rate and 20 MMBTU/hr heat input in holding operational mode. Electrically heated launder system vented in-plant. Electrically heated furnace with pump well where metal is pumped to the molds, with degassing well (argon) vented in-plant.

The most recent PTI for this emission unit is PTI No. 36-12J.

**Flexible Group ID:** FG-FACILITYPM

**POLLUTION CONTROL EQUIPMENT**

NA

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	2.50 pph <sup>2</sup>	Hourly charging/holding	Melting/holding furnace	SC V.1	R 336.1331(1)(c)
2. PM10	2.16 pph <sup>2</sup>	Hourly charging/holding	Melting/holding furnace	SC V.1	40 CFR 52.21(c) & (d)
3. PM2.5	2.16 pph <sup>2</sup>	Hourly charging/holding	Melting/holding furnace	SC V.1	40 CFR 52.21(c) & (d)
4. PM	5.07 pph <sup>2</sup>	Hourly fluxing/drossing	Melting/holding furnace	SC V.1	R 336.1331(1)(c)
5. PM10	4.31 pph <sup>2</sup>	Hourly fluxing/drossing	Melting/holding furnace	SC V.1	40 CFR 52.21(c) & (d)
6. PM2.5	4.31 pph <sup>2</sup>	Hourly fluxing/drossing	Melting/holding furnace	SC V.1	40 CFR 52.21(c) & (d)
7. VOC	0.60 pph <sup>2</sup>	Hourly	Melting/holding furnace	SC V.1	R 336.1702
8. NO <sub>x</sub>	3.92 pph <sup>2</sup>	Hourly	Melting/holding furnace	SC V.1	40 CFR 52.21(c) & (d)
9. NO <sub>x</sub>	13.78 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	Melting/holding furnace	SC VI.1c	R 336.1205 40 CFR 52.21(c) & (d)
10.CO	3.29 pph <sup>2</sup>	Hourly	Melting/holding furnace	SC V.1	40 CFR 52.21(c)

**II. MATERIAL LIMIT(S)**

Material	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Metal feed/charge rate	6 tons per hour <sup>2</sup>	Monthly average	Melting/holding furnace	SC VI.1e	R 336.1205(1)

Material	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
2. Flux usage rate (total injection flux and broadcast flux)	11,316 pounds per year <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	Melting/holding furnace, launder, and pump well	SC VI.1f	<b>R 336.1205(1)</b> <b>R 336.1225</b>

- The permittee shall not melt in EU-PSANDALUMINUM any material other than clean charge, customer returns, or internal scrap, as defined by 40 CFR Part 63, Subpart RRR. This condition is necessary to avoid requirements of 40 CFR Part 63, Subpart RRR, National Emission Standards for Secondary Aluminum Production.<sup>2</sup> **(R 336.1224, R 336.1225, 40 CFR Part 63, Subpart RRR)**

### III. PROCESS/OPERATIONAL RESTRICTIONS

- The permittee shall not operate the furnaces in EU-PSANDALUMINUM as a melting furnace for more than a combined total of 5,300 hours per 12-month rolling time period as determined at the end of each calendar month.<sup>2</sup> **(R 336.1205, 40 CFR 52.21(c) & (d))**

### IV. DESIGN/EQUIPMENT PARAMETERS

- The design maximum heat input ratings of each natural gas fired melting/holding furnace in EU-PSANDALUMINUM shall not exceed 40 MMBTU/hr during charging/melting or 20 MMBTU/hr when operated in holding only furnace mode.<sup>2</sup> **(R 336.1205(1)(a))**

### V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

- Upon request from the AQD Supervisor, the permittee shall verify PM, PM10, PM2.5, NO<sub>x</sub>, VOC, and/or CO emission rates from EU-PSANDALUMINUM, by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A
PM10 / PM2.5	40 CFR Part 51, Appendix M
NO <sub>x</sub>	40 CFR Part 60, Appendix A
VOCs	40 CFR Part 60, Appendix A
CO	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

### VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

- The permittee shall monitor and record, in a satisfactory manner, all data as specified in the following table:<sup>2</sup> **(R 336.1205, R 336.1301, R 336.1331, R 336.1910, R 336.2802, 40 CFR 52.21)**

Equipment	Parameter	Time Frame Basis
a. Furnaces in EU-PSANDALUMINUM	Hours of operation of each furnace and the sum of the furnaces as a melting furnace	Monthly and 12-month rolling time period as determined at the end of each calendar month
b. Furnaces in EU-PSANDALUMINUM	Natural gas usage rate of each furnace and the sum of the furnaces	Monthly and 12-month rolling time period as determined at the end of each calendar month
c. Furnaces in EU-PSANDALUMINUM	NO <sub>x</sub> emissions in tpy calculated using emission factors derived from performance testing	Monthly and 12-month rolling time period as determined at the end of each calendar month
d. Furnaces in EU-PSANDALUMINUM	PM, PM10, and PM2.5 emissions in pph	Monthly average
e. Furnaces in EU-PSANDALUMINUM	Metal feed/charge rate	Monthly average
f. Melting/holding furnace, launder, and pump well	Flux usage rate (total injection flux and broadcast flux)	Monthly and 12-month rolling time period as determined at the end of each calendar month

2. Within 30 days following the end of each calendar month, the permittee shall calculate and record emissions from the process for the previous calendar month to demonstrate compliance with the 12-month rolling time period emission limits specified in the emission limit table. These records shall be made available to the AQD upon request. **(R 336.1213(3))**

**VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

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

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-Z02-GV-1	60 <sup>2</sup>	80 <sup>2</sup>	40 CFR 52.21(c) & (d)
2. SV-Z02-GV-2	60 <sup>2</sup>	80 <sup>2</sup>	40 CFR 52.21(c) & (d)

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

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

<sup>2</sup> This condition is federally enforceable and was established pursuant to Rule 201(1)(a).



**EU-PSANDPROCESS  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Sand Processing – 220-ton new sand storage silo with bin vent filter receives sand via blower truck and two 30 ton pre-reclaim sand silos receive process sand recovered in the facility. Sand from both silos is transported to two natural gas fired fluidized bed sand reclaim systems (sand reclaim furnace, sand cooler, sand screen, and deduster) (design heat input rate of 15 MMBTU/hr - total for two sand reclaim systems) for cleaning and preparation of sand. From there, sand is transferred to the prepared sand silo.

The most recent PTI for this emission unit is PTI No. 36-12J.

**Flexible Group ID:** FG-FACILITYPM

**POLLUTION CONTROL EQUIPMENT**

The new sand storage silo has a bin vent filter. PM emissions from the pre-reclaim sand silo, sand transfer system, fluidized bed sand reclaim, and prepared sand silo are controlled by two 31,200 scfm fabric filter collectors, one for each sand reclaim system.

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period/Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring/ Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. VE	No visible emissions <sup>2</sup>	Annually	New sand storage silo	SC VI.1f, EPA Method 22	<b>R 336.1301(1)(c)</b>
2. VE	10 percent opacity <sup>2</sup>	6-Minute Average	Two fluidized bed sand reclaim process units	SC V.1, VI.3	<b>40 CFR 60.732</b>
3. PM	0.13 pph <sup>2</sup>	Hourly	New sand storage silo	SC V.2, VI.1d, VI.2,	<b>R 336.1331(1)(c)</b>
4. PM10	0.13 pph <sup>2</sup>	Hourly	New sand storage silo	SC V.2, VI.1d, VI.2,	<b>40 CFR 52.21(c) &amp; (d)</b>
5. PM2.5	0.13 pph <sup>2</sup>	Hourly	New sand storage silo	SC V.2, VI.1d, VI.2	<b>40 CFR 52.21(c) &amp; (d)</b>
6. PM	0.87 pph <sup>2</sup>	Hourly	Two fluidized bed sand reclaim process units and associated system	SC V.1	<b>R 336.1331(1)(c), 40 CFR 60.732</b>
7. PM10	0.23 pph <sup>2</sup>	Hourly	Two fluidized bed sand reclaim process units and associated system	SC V.2, VI.1d, VI.2	<b>40 CFR 52.21(c) &amp; (d)</b>
8. PM2.5	0.23 pph <sup>2</sup>	Hourly	Two fluidized bed sand reclaim process units and associated system	SC V.2, VI.1d, VI.2	<b>40 CFR 52.21(c) &amp; (d)</b>
9. VOC	0.08 pph <sup>2</sup>	Hourly	Two fluidized bed sand reclaim process units and associated system	SC V.2, VI.1, VI.2	<b>R 336.1702</b>

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
10.NOx	1.47 pph <sup>2</sup>	Hourly	Two fluidized bed sand reclaim process units and associated system	SC V.2, VI.1c, VI.2	<b>40 CFR 52.21(c) &amp; (d)</b>
11.NOx	3.90 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	Two fluidized bed sand reclaim process units and associated system	SC VI.1c	<b>40 CFR 52.21(c) &amp; (d)</b>
12.CO	1.24 pph <sup>2</sup>	Hourly	Two fluidized bed sand reclaim process units and associated system	SC V.2, VI.1, VI.2	<b>40 CFR 52.21(c) &amp; (d)</b>

**II. MATERIAL LIMIT(S)**

Material	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. New and recovered core sand throughput	73,339 tons <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	EU-PSANDPROCESS	SC VI.1a	<b>40 CFR 52.21(c) &amp; (d)</b>

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

1. The maximum total heat input rate of the two natural gas fired fluidized bed sand reclaim process units in EU-PSANDPROCESS shall not exceed 15 MMBTU/hr.<sup>2</sup> **(R 336.1205(1)(a))**

**IV. DESIGN/EQUIPMENT PARAMETERS**

1. The permittee shall not operate the pre-reclaim sand silo, sand transfer system, fluidized bed sand reclaim system, and prepared sand silo of EU-PSANDPROCESS unless the fabric filter collector is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the fabric filter dust collector requires a pressure drop range between 0.5 and 10 inches of water column. The minimum pressure drop shall not be less than 1 inch, water gauge, except when a large number of filter bags have been replaced or other reason acceptable to the AQD.<sup>2</sup> **(R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**
2. The permittee shall not operate the new sand storage silo of EU-PSANDPROCESS unless the bin vent filter is installed, maintained, and operated in a satisfactory manner.<sup>2</sup> **(R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. No later than December 31, 2021, the permittee shall verify VE and PM emission rates from the two natural gas fired fluidized bed sand reclaim process units in EU-PSANDPROCESS, by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
Visible Emission	40 CFR Part 51, Appendix M; 40 CFR Part 60, Appendix A and B
PM	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.<sup>2</sup> (R 336.1205, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d), 40 CFR 60.736)

- Upon request from the AQD Supervisor, the permittee shall verify PM, PM10, and/or PM2.5 emission rates from the new sand storage silo, and/or PM, PM10, PM2.5 VOC, NOx, and/or CO emission rates from the two fluidized bed sand reclaim process units and/or associated system in EU-PSANDPROCESS by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A
PM10 / PM2.5	40 CFR Part 51, Appendix M
VOCs	40 CFR Part 60, Appendix A
NO <sub>x</sub>	40 CFR Part 60, Appendix A
CO	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.<sup>2</sup> (R 336.1205, R 336.1702, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

- The permittee shall monitor and record, in a satisfactory manner, all data as specified in the following table.<sup>2</sup> (R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21)

Equipment	Parameter	Time Frame Basis
a. EU-PSANDPROCESS	New and recovered core sand throughput rate	Monthly and 12-month rolling time period as determined at the end of each calendar month
b. Sand reclaim unit	Natural gas usage rate	Monthly and 12-month rolling time period as determined at the end of each calendar month
c. Sand reclaim unit	NO <sub>x</sub> emissions in tpy calculated using AP-42 factors for natural gas combustion	Monthly and 12-month rolling time period as determined at the end of each calendar month
d. EU-PSANDPROCESS	PM, PM10, and PM2.5 emissions in pph	Monthly average
e. Fabric filter collector for pre-reclaim sand silo, sand transfer system, fluidized bed sand reclaim system and prepared sand silo in EU-PSANDPROCESS	Fabric filter monitoring as required in SC VI.2	As defined in the MAP required in SC VI.2
f. New sand storage silo	Presence or absence of visible emissions from the bin vent filters during loading of sand into the silo	Annually

	as determined by an observer using EPA Method 22	
--	---	--

2. The permittee shall not operate EU-PSANDPROCESS unless a MAP as described in Rule 911(2), for the air cleaning devices, has been submitted before trial operation, and is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits.<sup>2</sup> **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, 40 CFR 52.21(c) & (d))**
3. Within 30 days following the end of each calendar month, the permittee shall calculate and record emissions from the process for the previous calendar month to demonstrate compliance with the 12-month rolling time period emission limits specified in the emission limit table. These records shall be made available to the AQD upon request. **(R 336.1213(3))**

**VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**

See Appendix 8

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

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-Z02-BH-1	52 <sup>2</sup>	113 <sup>2</sup>	<b>40 CFR 52.21(c) &amp; (d)</b>
2. SV-Z02-BH-2	52 <sup>2</sup>	113 <sup>2</sup>	<b>40 CFR 52.21(c) &amp; (d)</b>

**IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with all provisions of the federal NSPS Standards of Performance for Calciners and Dryers in Mineral Industries as specified in 40 CFR Part 60, Subparts A and UUU, as they apply to the equipment in EU-PSANDPROCESS. **(40 CFR Part 60, Subparts A & UUU)**

**Footnotes:**

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

<sup>2</sup> This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**EU-PSANDCOREROOM  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Core Room Processes

Sand Handling and Mixing - sand from the prepared sand silo is pneumatically transported to the six core machine sand hoppers. The individual sand hoppers feed the sand mixers where polyurethane resin is mixed with the sand.

Core Making - six cold box core machines. Dimethyl isopropylamine (DMIPA) is used to cure the mixed sand in the core making machines.

Core Box Tooling Maintenance - includes the use of a core release chemical, metal cleaner, a high pressure water wash, and core box washing station.

Cylinder Liner Cleaning and Heating - cleaning by shot blast; induction heating used to preheat cylinder liners prior to contact with molten aluminum, vented in-plant.

Final Mold Assembly - physical assembly of the parts of the final mold/core package. The assembly process includes reusable chill plates. Emissions are negligible and vented in-plant.

Core Room Fugitive Emissions - general core handling.

The most recent PTI for this emission unit is PTI No. 36-12J.

**Flexible Group ID:** FG-FACILITYPM

**POLLUTION CONTROL EQUIPMENT**

Sand Handling and Mixing - Emissions from the sand hoppers and sand mixers are collected for control through a 15,000 scfm cartridge collector.

Core making - the six cold box core machines are ventilated at 25,000 scfm to a cyclone and a packed tower acid scrubber.- CAM subject device for VOCs.

Core Box Tooling Maintenance - Emissions from the high-pressure water wash are controlled with a mist collector and are vented in-plant.

Cylinder Liner Cleaning and Heating - cleaning by shot blast uses a 2,500 scfm cartridge collector control vented in-plant.

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	1.35 pph <sup>2</sup>	Hourly	Sand hoppers and sand mixers	SC V.2, VI.1, VI.2	<b>R 336.1331(1)(c)</b>
2. PM-10	1.35 pph <sup>2</sup>	Hourly	Sand hoppers and sand mixers	SC V.2, VI.1, VI.2	<b>40 CFR 52.21(c) &amp; (d)</b>

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
3. PM2.5	1.35 pph <sup>2</sup>	Hourly	Sand hoppers and sand mixers	SC V.2, VI.1, VI.2	<b>40 CFR 52.21(c) &amp; (d)</b>
4. VOC	1.35 pph <sup>2</sup>	Hourly	Sand hoppers and sand mixers	SC V.2, VI.1, VI.2	<b>R 336.1702</b>
5. PM	0.56 pph <sup>2</sup>	Hourly	Cold box core machines	SC V.1, VI.1b, VI.2	<b>R 336.1331(1)(c)</b>
6. PM10	0.56 pph <sup>2</sup>	Hourly	Cold box core machines	SC V.1, VI.1b, VI.2	<b>40 CFR 52.21(c) &amp; (d)</b>
7. PM2.5	0.56 pph <sup>2</sup>	Hourly	Cold box core machines	SC V.1, VI.1b, VI.2	<b>40 CFR 52.21(c) &amp; (d)</b>
8. VOC	8.10 pph <sup>2</sup>	Hourly	Cold box core machines	SC V.1, VI.1, VI.2	<b>R 336.1702</b>
9. VOC	22.00 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	Cold box core machines	SC VI.1c, VI.2	<b>R 336.1702</b>
10.VOC	3.24 pph <sup>2</sup>	Hourly	Fugitive emissions from core handling	SC VI.4	<b>R 336.1702</b>
11.VOC	8.80 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	Fugitive emissions from core handling	SC VI.1c, VI.3	<b>R 336.1702</b>
12.VOC	14.17 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	Cold box core machine cleaning	SC VI.1c, VI.3	<b>R 336.1702</b>
13.VOC	1.02 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	Core box cleaning	SC VI.1c, VI.3	<b>R 336.1702</b>

**II. MATERIAL LIMIT(S)**

Material	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Dimethyl isopropylamine (DMIPA)	481 tons of DMIPA per year <sup>1</sup>	12-month rolling time period as determined at the end of each calendar month	EU-PSANDCOREROOM	SC VI.1a	<b>R 336.1225</b>

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

NA

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

1. The permittee shall not operate the sand hoppers and sand mixers of EU-PSANDCOREROOM unless the cartridge collector is installed, maintained, and operated in a satisfactory manner.<sup>2</sup> (**R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d)**)

2. The permittee shall not operate the six cold box core machines of EU-PSANDCORERROOM unless the cyclone and packed tower acid scrubber are installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the packed tower acid scrubber requires a pressure drop range between 0.1 and 6 inches of water column, a scrubber liquid flow rate greater than 190 gallons per minute and a scrubber liquid pH less than 4.5.<sup>2</sup> **(R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**
3. The permittee shall not operate the cylinder liner cleaning operations of EU-PSANDCORERROOM unless the cartridge collector is installed, maintained, and operated in a satisfactory manner.<sup>2</sup> **(R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. No later than December 31, 2022, and thereafter, at a minimum, every five years from the date of the last test, the permittee shall verify PM, PM10, PM2.5, and VOC emission rates from the cold box core machines in EU-PSANDCORERROOM. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A
PM10 / PM2.5	40 CFR Part 51, Appendix M
VOCs	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.<sup>2</sup> **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

2. Upon request from the AQD Supervisor, the permittee shall verify PM, PM10, PM2.5, and VOC emission rates from the sand hoppers and sand mixers machines in EU-PSANDCORERROOM. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A
PM10 / PM2.5	40 CFR Part 51, Appendix M
VOCs	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.<sup>2</sup> **(R 336.1213(3), 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 336.1213(3)(b)(ii))**

1. The permittee shall monitor and record, in a satisfactory manner, all data as specified in the following table.<sup>2</sup> **(R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21)**

Equipment	Parameter	Time Frame Basis
a. EU-PSANDCORERROOM	DMIPA and core sand throughput rates	Monthly and 12-month rolling time period as determined at the end of each calendar month



b. EU-PSANDCORERROOM	PM, PM10, and PM2.5 emissions in pph	Monthly average
c. EU-PSANDCORERROOM	VOC emissions in tpy	Monthly and 12-month rolling time period as determined at the end of each calendar month
d. Acid scrubber for EU- PSANDCORERROOM	Acid scrubber monitoring as required in SC VI.2.	As defined in the MAP required in SC VI.2.
e. Cartridge collector for EU-PSANDCORERROOM	Cartridge collector monitoring as required in SC VI.2.	As defined in the MAP required in SC VI.2.

2. The permittee shall not operate EU-PSANDCORERROOM unless a MAP as described in Rule 911(2), for the air cleaning devices, has been submitted before trial operation, and is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits.<sup>2</sup> **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, 40 CFR 52.21(c) & (d))**
3. The permittee shall calculate the VOC emission rate from fugitive and cleaning operations in EU-PSANDCORERROOM monthly, for the preceding 12-month rolling time period as determined at the end of each calendar month, using a method acceptable to the AQD District Supervisor. The permittee shall keep all records on file at the facility and make them available to the Department upon request.<sup>2</sup> **(R 336.1205, R 336.1702, 40 CFR 52.21)**
4. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material used in EU-PSANDCORERROOM, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by the AQD District Supervisor. The permittee shall keep all records on file at the facility and make them available to the Department upon request.<sup>2</sup> **(R 336.1205, R 336.1224, R 336.1225, R 336.1702)**
5. Within 30 days following the end of each calendar month, the permittee shall calculate and record emissions from the process for the previous calendar month to demonstrate compliance with the 12-month rolling time period emission limits specified in the emission limit table. These records shall be made available to the AQD upon request. **(R 336.1213(3))**
6. The permittee shall continuously measure pressure drop, scrubber flow, and pH and record every 15 minutes while operating, as indicators of proper operation of the scrubber. The indicator range for pressure drop is 0.1 to 6 inches of water column ("WC). The indicator range for pH is less than 4.5. The indicator range for scrubber flow is greater than 190 gallons per minute. **(40 CFR 64.6(c)(1)(i and ii))**
7. The pressure gauge, liquid flow meter, and the pH meter shall continuously monitor pressure drop, scrubber liquid flow, and pH respectively. The averaging period is a 3-hour rolling average. These monitors shall be calibrated annually or as specified in the approved Malfunction Abatement Plan, whichever is more frequent. **(40 CFR 64.6(c)(1)(iii))**
8. An excursion is a departure from the indicator ranges defined in SC VI.6 averaged over a 3-hour rolling period. **(40 CFR 64.6(c)(2))**
9. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of

an excursion or exceedance (other than those caused by excused startup or shutdown conditions). If excursions are verified, Malfunction Abatement Plan activities will commence. **(40 CFR 64.7(d))**

10. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(40 CFR 64.6(c)(3), 40 CFR 64.7(c))**
11. The permittee shall properly maintain the monitoring system, including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b))**
12. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan and any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions. **(40 CFR 64.9(b)(1))**

**VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. Each semiannual report of monitoring and deviations shall include summary information on the number, duration, and cause of excursions and/or exceedances and the corrective actions taken. If there were no excursions and/or exceedances in the reporting period, then this report shall include a statement that there were no excursions and/or exceedances. **(40 CFR 64.9(a)(2)(i))**
5. Each semiannual report of monitoring and deviations shall include summary information on monitor downtime. If there were no periods of monitor downtime in the reporting period, then this report shall include a statement that there were no periods of monitor downtime. **(40 CFR 64.9(a)(2)(ii))**
6. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**

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

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV-Z03-CC-2	27 <sup>2</sup>	113 <sup>2</sup>	<b>40 CFR 52.21(c) &amp; (d)</b>
2. SV-Z03-ISO-1	36 <sup>2</sup>	60 <sup>2</sup>	<b>40 CFR 52.21(c) &amp; (d)</b>

**IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with all applicable requirements of 40 CFR Part 64. **(40 CFR Part 64)**
2. If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the AQD and if necessary, submit a proposed modification of the CAM Plan to address the necessary monitoring changes. Such a modification may include but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. **(40 CFR 64.7(e))**

**Footnotes:**

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

<sup>2</sup> This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**EU-PSANDCASTLINE  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Pouring and Cooling - pouring and cooling of castings in the molds, mold cooling, and chill plate cleaning.  
 Shakeout - separation of cooled castings from the molds. 10 MMBTU/hr natural gas-fired duct burner.

**Flexible Group ID:** FG-FACILITYPM

**POLLUTION CONTROL EQUIPMENT**

Emissions are generated from pouring, cooling, and shakeout activities. Pouring and cooling emissions are controlled through a 30,000 scfm cartridge collector followed by a 60,000 scfm regenerative thermal oxidizer. Shakeout emissions are heated by the duct burner and controlled through a 30,000 scfm fabric filter collector then routed to the 60,000 scfm RTO it shares with the pouring and cooling activities.

The most recent PTI for this emission unit is PTI No. 36-12J.

Pouring and Cooling-

- 30,000 scfm cartridge collector. This is a CAM subject device for Particulate.

Shakeout Emissions-

- 30,000 scfm fabric filter collector. This is a CAM subject device for Particulate.
- 60,000 scfm RTO. This is a CAM subject device for VOCs.

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	2.85 pph <sup>2</sup>	Hourly	EU-PSANDCASTLINE	SC V.1, VI.2	R 336.1331(1)(c)
2. PM10	5.55 pph <sup>2</sup>	Hourly	EU-PSANDCASTLINE	SC V.1, VI.2	40 CFR 52.21(c) & (d)
3. PM2.5	5.55 pph <sup>2</sup>	Hourly	EU-PSANDCASTLINE	SC V.1, VI.2	40 CFR 52.21(c) & (d)
4. VOC	4.07 pph <sup>2</sup>	Hourly	EU-PSANDCASTLINE	SC V.1, VI.2	R 336.1702
5. NO <sub>x</sub>	4.46 pph <sup>2</sup>	Hourly	EU-PSANDCASTLINE	SC V.1, VI.2	40 CFR 52.21(c) & (d)
6. NO <sub>x</sub>	15.21 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	EU-PSANDCASTLINE	SC VI.1f, VI.2, VI.5	40 CFR 52.21(c) & (d)

**II. MATERIAL LIMIT(S)**

Material	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Aluminum pouring	17,490 tons poured per year <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	EU-PSANDCASTLINE	SC VI.1a, VI.5	40 CFR 52.21(c) & (d)

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

1. The maximum heat input rate of the natural gas fired regenerative thermal oxidizer (RTO) shall not exceed 10 MMBTU/hr.<sup>2</sup> (R 336.1205(1)(a))
2. The maximum heat input rate of the natural gas fired duct burner shall not exceed 10 MMBTU/hr.<sup>2</sup> (R 336.1205(1)(a))

**IV. DESIGN/EQUIPMENT PARAMETERS**

1. The permittee shall not operate EU-PSANDCASTLINE unless the RTO and fabric filter collectors are installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the RTO requires a minimum temperature of 1400° F. Satisfactory operation of the fabric filter dust collector requires a pressure drop range between 1.0 and 7.0 inches of water column. The minimum pressure drop shall not be less than 1 inch, water gauge, except when a large number of filter bags have been replaced or other reason acceptable to the AQD.<sup>2</sup> (R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

1. No later than December 31, 2021 and thereafter, at a minimum, every five years from the date of the last test, the permittee shall verify PM, PM10, PM2.5, VOC and NOx emission rates from EU-PSANDCASTLINE. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A
PM10 / PM2.5	40 CFR Part 51, Appendix M
VOCs	40 CFR Part 60, Appendix A
NOx	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. (R 336.1213(3), 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 336.1213(3)(b)(ii))

1. The permittee shall monitor and record, in a satisfactory manner, all data as specified in the following table.<sup>2</sup> (R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21)

Equipment	Parameter	Time Frame Basis
a. EU-PSANDCASTLINE	Aluminum throughput rate	Monthly and 12-month rolling time period as determined at the end of each calendar month
b. Fabric filter collector for EU-PSANDCASTLINE	Fabric filter monitoring as required in SC VI.2.	As defined in the MAP required in SC VI.2.
c. RTO for EU-PSANDCASTLINE	RTO monitoring as required in SC VI.2.	As defined in the MAP required in SC VI.2.
d. RTO and duct burner in EU-PSANDCASTLINE	Natural gas usage rate	Monthly and 12-month rolling time period as determined at the end of each calendar month

e. EU-PSANDCASTLINE	PM, PM10, and PM2.5 emissions in pph	Monthly average
f. EU-PSANDCASTLINE - pouring, cooling, and combustion	Annual NOx emissions—using test data	Monthly and 12-month rolling time period as determined at the end of each calendar month

2. The permittee shall not operate EU-PSANDCASTLINE unless a MAP as described in Rule 911(2), for the air cleaning devices, is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits.<sup>2</sup> **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, 40 CFR 52.21(c) and (d))**
3. For precision sand shakeout controlled by a 30,000 scfm fabric filter followed by the 60,000 scfm regenerative thermal oxidizer. The permittee shall continuously measure the pressure drop and record every 15 minutes while operating, as an indicator of proper operation of the dust collector. The indicator range is 1.0 to 7.0 inches. The minimum pressure drop shall not be less than 1 inch, water gauge, except when a large number of filter bags have been replaced or other reason acceptable to the AQD. **(40 CFR 64.6(c)(1)(i and ii))**
4. For pouring, cooling, and shakeout process controlled by a 30,000 scfm cartridge collector followed by a 60,000 scfm RTO:
  - a. For the cartridge collector the permittee shall continuously measure the pressure drop and record every 15 minutes while operating, as an indicator of proper operation of the dust collector. The indicator range is 0.1 to 8.0 inches.
  - b. For the RTO, the permittee shall continuously monitor the combustion chamber temperature and record every 15 minutes while operating, as an indicator of proper operation of the RTO. The indicator range is a combustion chamber temperature greater than 1400 °F based on 3-hour rolling period average. **(40 CFR 64.6(c)(1)(i and ii))**
5. Within 30 days following the end of each calendar month, the permittee shall calculate and record emissions from the process for the previous calendar month to demonstrate compliance with the 12-month rolling time period emission limits specified in the emission limit table. These records shall be made available to the AQD upon request. **(R 336.1213(3))**
6. The pressure gauge and the temperature monitor shall continuously monitor the pressure drop across the dust collectors and the combustion chamber temperature of the RTO respectively. The averaging period is a 3-hour rolling average for both indicators. These monitors shall be calibrated annually or as specified in the approved Malfunction Abatement Plan, whichever is more frequent. The condition of the bags shall be inspected and recorded on a semi-annual schedule. An alternative to the semi-annual inspection may be implemented with prior approval of the AQD. **(40 CFR 64.6(c)(1)(iii))**
7. An excursion for the precision sand shakeout dust collector is a departure from the indicator range specified in SC VI.3 based on a 3-hour rolling average, and an excursion for the RTO is a 3-hour rolling average combustion chamber temperature below the limit specified in SC VI.4b. **(40 CFR 64.6(c)(2))**
  - a. An excursion for the pouring and cooling dust collector is a departure from the indicator range specified in SC VI.4a based on a 3-hour rolling average. **(40 CFR 64.6(c)(2))**
8. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions. If excursions

are verified, Malfunction Abatement Plan activities will commence for the dust collectors and the RTO. **(40 CFR 64.7(d))**

9. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(40 CFR 64.6(c)(3), 40 CFR 64.7(c))**
10. The permittee shall properly maintain the monitoring system, including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b))**
11. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan and any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions. **(40 CFR 64.9(b)(1))**

**VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. Each semiannual report of monitoring and deviations shall include summary information on the number, duration, and cause of excursions and/or exceedances and the corrective actions taken. If there were no excursions and/or exceedances in the reporting period, then this report shall include a statement that there were no excursions and/or exceedances. **(40 CFR 64.9(a)(2)(i))**
5. Each semiannual report of monitoring and deviations shall include summary information on monitor downtime. If there were no periods of monitor downtime in the reporting period, then this report shall include a statement that there were no periods of monitor downtime. **(40 CFR 64.9(a)(2)(ii))**
6. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**

See Appendix 8

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

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-Z02-RTO-03	66 <sup>2</sup>	125 <sup>2</sup>	40 CFR 52.21(c) & (d)

**IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with all applicable requirements of 40 CFR Part 64. **(40 CFR Part 64)**
2. If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the AQD and if necessary, submit a proposed modification of the CAM Plan to address the necessary monitoring changes. Such a modification may include but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. **(40 CFR 64.7(e))**

**Footnotes:**

- <sup>1</sup> This condition is state only enforceable and was established pursuant to Rule 201(1)(b).
- <sup>2</sup> This condition is federally enforceable and was established pursuant to Rule 201(1)(a).



**EU-PSANDSCCSH  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Solidification & Casting Cooling - enclosed ambient air cooling of castings.

Sand Handling - primarily sand from shakeout in the form of broken cores and molds that is pneumatically transferred to the rotary drum. Scrap cores from EU-PSANDCOREROOM are transported to the rotary drum for processing. Sand output from the rotary drum is pneumatically transferred to the pre-reclaim sand silo of EU-PSANDPROCESS. Smaller amounts of granular sand from the core machines, cooling conveyor, and EU-FINISH move to the pre-reclaim sand silo by conveyor or by fork truck in hoppers.

The most recent PTI for this emission unit is PTI No. 36-12J.

**Flexible Group ID:** FG-FACILITYPM

**POLLUTION CONTROL EQUIPMENT**

Emissions are vented to a 35,000 scfm fabric filter collector. This is a CAM subject device for Particulate.

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	2.36 pph <sup>2</sup>	Hourly	EU-PSANDSCCSH	SC V.1, VI.1b, VI.2	<b>R 336.1331(1)(c)</b>
2. PM10	4.73 pph <sup>2</sup>	Hourly	EU-PSANDSCCSH	SC V.1, VI.1b, VI.2	<b>40 CFR 52.21(c) &amp; (d)</b>
3. PM2.5	4.73 pph <sup>2</sup>	Hourly	EU-PSANDSCCSH	SC V.1, VI.1b, VI.2	<b>40 CFR 52.21(c) &amp; (d)</b>
4. VOC	3.99 pph <sup>2</sup>	Hourly	EU-PSANDSCCSH	SC V.1, VI.2	<b>R 336.1702</b>

**II. MATERIAL LIMIT(S)**

NA

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

1. The permittee shall not operate the rotary drum in EU-PSANDSCCSH for more than 5,300 hours per 12-month rolling time period as determined at the end of each calendar month.<sup>2</sup> **(R 336.1205, 40 CFR 52.21(c) & (d))**

**IV. DESIGN/EQUIPMENT PARAMETERS**

1. The permittee shall not operate EU-PSANDSCCSH unless the fabric filter collector is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the fabric filter collector requires a pressure drop range between 0.1 and 10 inches of water column. The minimum pressure drop shall not be less than 1 inch, water gauge, except upon bag replacement or other reason acceptable to the AQD.<sup>2</sup> **(R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. No later than December 31, 2021, and thereafter, at a minimum, every five years from the date of the last test, the permittee shall verify PM, PM10, PM2.5, and VOC emission rates from EU-PSANDSCCSH. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A
PM10 / PM2.5	40 CFR Part 51, Appendix M
VOCs	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1213(3), 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 336.1213(3)(b)(ii))**

1. The permittee shall monitor and record, in a satisfactory manner, all data as specified in the following table.<sup>2</sup> **(R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21)**

Equipment	Parameter	Time Frame Basis
a. Rotary drum in EU-PSANDSCCSH	Hours of operation	Monthly and 12-month rolling time period as determined at the end of each calendar month
b. EU-PSANDSCCSH	PM, PM10, and PM2.5 emissions in pph	Monthly average
c. EU-PSANDSCCSH	Fabric filter collector monitoring as required in SC VI.2.	As defined in the MAP required in SC VI.2.

2. The permittee shall not operate EU-PSANDSCCSH unless a MAP as described in Rule 911(2), for the air cleaning devices, is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits.<sup>2</sup> **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, 40 CFR 52.21(c) & (d))**
3. The permittee shall continuously measure the pressure drop and record every 15 minutes while operating, as an indicator of proper operation of the dust collector. The indicator range is 0.1-10.0 inches. **(40 CFR 64.6(c)(1)(i and ii))**
4. The permittee shall record weekly on production days non-certified visual opacity observation as an indicator of proper operation of the dust collector. If visible emissions are present an USEPA Method 9 will be performed. The indicator is the presence of visible emissions. **(40 CFR 64.6(c)(1)(i and ii))**
5. The pressure gauge shall continuously monitor the pressure drop across the baghouse. The averaging period is a 3-hour rolling average. The monitor shall be calibrated annually or as specified in the approved Malfunction Abatement Plan, whichever is more frequent. The condition of the bags shall be inspected and recorded on a

semi-annual schedule. An alternative to the semi-annual inspection may be implemented with prior approval of the AQD. **(40 CFR 64.6(c)(1)(iii))**

6. An excursion for the visible emissions monitoring is defined as presence of visible emissions which appears to be above 5% opacity if performed using USEPA Method 9. An excursion for the pressure monitoring is a departure from the indicator range specified in SC VI.3, based on a 3-hour rolling average. **(40 CFR 64.6(c)(2))**
7. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). If excursions are verified, Malfunction Abatement Plan activities will commence. Excursions trigger observation of opacity and system inspection. Should abnormal opacity be noted, a Method 9 visible emission evaluation shall be conducted to assess compliance. **(40 CFR 64.7(d))**
8. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(40 CFR 64.6(c)(3), 40 CFR 64.7(c))**
9. The permittee shall properly maintain the monitoring system, including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b))**
10. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan and any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions. **(40 CFR 64.9(b)(1))**
11. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**

## **VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. Each semiannual report of monitoring and deviations shall include summary information on the number, duration, and cause of excursions and/or exceedances and the corrective actions taken. If there were no excursions and/or exceedances in the reporting period, then this report shall include a statement that there were no excursions and/or exceedances. **(40 CFR 64.9(a)(2)(i))**

5. Each semiannual report of monitoring and deviations shall include summary information on monitor downtime. If there were no periods of monitor downtime in the reporting period, then this report shall include a statement that there were no periods of monitor downtime. **(40 CFR 64.9(a)(2)(ii))**
6. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**

See Appendix 8

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

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-Z02-BH-6	53 <sup>2</sup>	160 <sup>2</sup>	<b>40 CFR 52.21(c) &amp; (d)</b>

**IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with all applicable requirements of 40 CFR Part 64. **(40 CFR Part 64)**
2. If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the AQD and if necessary, submit a proposed modification of the CAM Plan to address the necessary monitoring changes. Such a modification may include but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. **(40 CFR 64.7(e))**

**Footnotes:**

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

<sup>2</sup> This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**EU-FINISH  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Finishing - (precision sand and semi-permanent molding operations) processes to remove excess metal and residual sand from the castings including Deflash/Decore/Degate (precision sand and semi-permanent mold) and shot blast.

The most recent PTI for this emission unit is PTI No. 36-12J.

**Flexible Group ID:** FG-FACILITYPM

**POLLUTION CONTROL EQUIPMENT**

Emissions are controlled by cartridge collectors with air flow rates of 12,800 scfm total for the Deflash, Decore, and Degate enclosures from precision sand and semi-permanent molding operations. 1,500 scfm for the shot blast cabinet associated with precision sand finishing.

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	0.86 pph <sup>2</sup>	Hourly	Deflash, Decore, and Degate	SC V.1, VI.1a, VI.2	R 336.1331(1)(c)
2. PM10	0.86 pph <sup>2</sup>	Hourly	Deflash, Decore, and Degate	SC V.1, VI.1a, VI.2	40 CFR 52.21(c) & (d)
3. PM2.5	0.86 pph <sup>2</sup>	Hourly	Deflash, Decore, and Degate	SC V.1, VI.2	40 CFR 52.21(c) & (d)
4. VOC	1.53 pph <sup>2</sup>	Hourly	Deflash, Decore, and Degate	SC V.1, VI.1	R 336.1702
5. PM	0.20 pph <sup>2</sup>	Hourly	Shotblast	SC V.1, VI.1a, VI.2	R 336.1331(1)(c)
6. PM10	0.20 pph <sup>2</sup>	Hourly	Shotblast	SC V.1, VI.1a, VI.2	40 CFR 52.21(c) & (d)
7. PM2.5	0.20 pph <sup>2</sup>	Hourly	Shotblast	SC V.1, VI.1a, VI.2	40 CFR 52.21(c) & (d)

**II. MATERIAL LIMIT(S)**

NA

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

NA

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

1. The permittee shall not operate Deflash, Decore, and Degate and the shotblast cabinet of EU-FINISH unless the respective cartridge collector is installed, maintained, and operated in a satisfactory manner.<sup>2</sup> (R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. Upon request from the AQD Supervisor, the permittee shall verify PM, PM10, PM2.5, and/or VOC, emission rates from Deflash, Decore, and Degate and Shotblast in EU-FINISH, by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A
PM10 / PM2.5	40 CFR Part 51, Appendix M
VOCs	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.<sup>2</sup> **(R 336.1205, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall monitor and record, in a satisfactory manner, all data as specified in the following table.<sup>2</sup> **(R 336.1205, R 336.1301, R 336.1331, R 336.1910, R 336.2802, 40 CFR 52.21)**

Equipment	Parameter	Time Frame Basis
a. EU-FINISH	PM, PM10, and PM2.5 emissions in pph	Monthly average
b. EU-FINISH	Cartridge collector monitoring as required in SC VI.2.	As defined in the MAP required in SC VI.2

2. The permittee shall not operate Deflash, Decore, and Degate and the shotblast cabinet of EU-FINISH unless a MAP as described in Rule 911(2), for the air cleaning devices, is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits.<sup>2</sup> **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, 40 CFR 52.21(c) & (d))**

**VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**

See Appendix 8

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

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV-Z05-CC-1	42 <sup>2</sup>	63 <sup>2</sup>	<b>40 CFR 52.21(c) &amp; (d)</b>
2. SV-Z03-CC-1	21 <sup>2</sup>	56 <sup>2</sup>	<b>40 CFR 52.21(c) &amp; (d)</b>

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

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

<sup>2</sup> This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**EU-SPMALUMINUM  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Molten Aluminum Supply - natural gas-fired stack melter aluminum melting/holding furnace for aluminum/alloy production using “clean charge” with flux addition, drossing, and degassing well (argon). Design heat input rate of 14.5 MMBTU/hr gas-fired for 5.5 tons/hr melt rate and 4.25 MMBTU/hr heat input rate in holding operational mode. Electrically heated launder systems vented in-plant. Four electric ladle furnaces also with degassing (argon) capability and flux addition, vented in-plant.

The most recent PTI for this emission unit is PTI No. 36-12J.

**Flexible Group ID:** FG-FACILITYPM

**POLLUTION CONTROL EQUIPMENT**

Emissions from the launder systems and ladle furnaces and holding furnace are released to the internal plant environment.

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	1.13 pph <sup>2</sup>	Hourly	All melting/holding furnaces in EU-SPMALUMINUM	SC V.1	R 336.1331(1)(c)
2. PM10	1.13 pph <sup>2</sup>	Hourly	All melting/holding furnaces in EU-SPMALUMINUM	SC V.1	40 CFR 52.21(c) & (d)
3. PM2.5	1.13 pph <sup>2</sup>	Hourly	All melting/holding furnaces in EU-SPMALUMINUM	SC V.1	40 CFR 52.21(c) & (d)
4. VOC	1.20 pph <sup>2</sup>	Hourly	All melting/holding furnaces in EU-SPMALUMINUM	SC V.1	R 336.1702
5. NOx	2.75 pph <sup>2</sup>	Hourly	All melting/holding furnaces in EU-SPMALUMINUM	SC V.1	40 CFR 52.21(c) & (d)
6. NOx	9.55 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	All melting/holding furnaces in EU-SPMALUMINUM	SC VI.1d	40 CFR 52.21(c) & (d)
7. CO	2.06 pph <sup>2</sup>	Hourly	All melting/holding furnaces in EU-SPMALUMINUM	SC V.1	40 CFR 52.21(c) & (d)



**II. MATERIAL LIMIT(S)**

Material	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Metal feed/charge rate	5.5 tons metal per hour <sup>2</sup>	Monthly average	Melting/holding furnace in EU-SPMALUMINUM	SC VI.1e	R 336.1205(1)
2. Flux usage rate (total injection flux and broadcast flux)	7,332 pounds <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	Melting/holding furnace in EU-SPMALUMINUM	SC VI.1f	R 336.1205(1) R 336.1225

3. The permittee shall not melt in EU-SPMALUMINUM any material other than clean charge, customer returns, or internal scrap, as defined by 40 CFR Part 63, Subpart RRR. This condition is necessary to avoid requirements of 40 CFR Part 63, Subpart RRR, National Emission Standards for Secondary Aluminum Production.<sup>2</sup> (R 336.1224, R 336.1225, 40 CFR Part 63, Subpart RRR)

**III. PROCESS/OPERATIONAL RESTRICTIONS**

1. The permittee shall not operate the stack melting/holding furnace in EU-SPMALUMINUM as a melting furnace for more than 6,032 hours per 12-month rolling time period as determined at the end of each calendar month.<sup>2</sup> (R 336.1205, 40 CFR 52.21(c) & (d))

**IV. DESIGN/EQUIPMENT PARAMETERS**

1. The design maximum heat input rating of the stack melting/holding furnace in EU-SPMALUMINUM shall not exceed 14.5 MMBTU/hr during charging/melting or 4.25 MMBTU/hr when operated in holding only furnace mode.<sup>2</sup> (R 336.1205(1)(a))

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

1. Upon request from the AQD Supervisor, the permittee shall verify PM, PM10, PM2.5, NOx, VOC and/or CO, emission rates from EU-SPMALUMINUM, by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A
PM10 / PM2.5	40 CFR Part 51, Appendix M
NOx	40 CFR Part 60, Appendix A
VOCs	40 CFR Part 60, Appendix A
CO	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.<sup>2</sup> (R 336.1205, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall monitor and record, in a satisfactory manner, all data as specified in the following table.<sup>2</sup> **(R 336.1205, R 336.1301, R 336.1331, R 336.1910, R 336.2802, 40 CFR 52.21)**

<b>Equipment</b>	<b>Parameter</b>	<b>Time Frame Basis</b>
a. Stack melting/holding furnace in EU-SPMALUMINUM	Hours of operation as a melting furnace	Monthly and 12-month rolling time period as determined at the end of each calendar month
b. Stack melting/holding furnace in EU-SPMALUMINUM	Natural gas usage rate	Monthly and 12-month rolling time period as determined at the end of each calendar month
c. Stack melting/holding furnace in EU-SPMALUMINUM	PM, PM10, and PM2.5 emissions in pph	Monthly average
d. Stack melting/holding furnace in EU-SPMALUMINUM	NO <sub>x</sub> emissions in tpy calculated using emission factors derived from the most recent performance testing	Monthly and 12-month rolling time period as determined at the end of each calendar month
e. Stack melting/holding furnace in EU-SPMALUMINUM	Metal feed/charge rate	Monthly average
f. Melting/holding furnace, launder, and pump well	Total flux usage rate (total injection flux and broadcast flux)	Monthly and 12-month rolling time period as determined at the end of each calendar month

2. Within 30 days following the end of each calendar month, the permittee shall calculate and record emissions from the process for the previous calendar month to demonstrate compliance with the 12-month rolling time period emission limits specified in the emission limit table. These records shall be made available to the AQD upon request. **(R 336.1213(3))**

**VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**

**See Appendix 8**

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

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV-Z05-BH-4(with fabric filter control)	66 <sup>2</sup>	125 <sup>2</sup>	<b>40 CFR 52.21(c) &amp; (d)</b>
2. SV-Z05-GV-1 (without fabric filter control) *	42 <sup>2</sup>	86 <sup>2</sup>	<b>40 CFR 52.21(c) &amp; (d)</b>

\* Stack has rain cap.

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

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

<sup>2</sup> This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**EU-SPMPROCESSAND  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Sand Processing – 120-ton new sand storage silo with bin vent filter receives sand via blower truck and a 30 ton pre-reclaim sand silo receives process sand recovered in the facility. Sand from both silos is transported to the natural gas fired fluidized bed sand reclaim process system (sand reclaim furnace, sand cooler, sand screen, and deduster) (design heat input rate is 4 MMBTU/hr) for cleaning and preparation of sand. From there, sand is transferred to the prepared sand silo.

Top core, scrap cores, broken cores and process sand collected from EU-SPMCASTLINE and EU-SPMCASTLINE4 and scrap cores and process sand from EU-SPMCOREROOM are collected in a bin/hopper and taken to a Sand Load Out Station for reclaim or returned to the process by the receiving dump chute of EU-SPMPROCESSAND for transport by conveyor to the hopper/storage silo of EU-SPMPROCESSAND.

The most recent PTI for this emission unit is PTI No. 36-12J.

**Flexible Group ID:** FG-FACILITYPM

**POLLUTION CONTROL EQUIPMENT**

The new core sand storage silo has a bin vent filter. PM emissions from these sand handling processes and EUSPMCASTLINE4 and sand handling transfer points including the pre-reclaim sand silo, sand transfer system, fluidized bed sand reclaim, and prepared sand silo in EU-SPMPROCESSAND are controlled by a single 34,000 scfm fabric filter collector. There is no emission control on the remaining sand handling or transfer points (bin/hopper, Sand Load Out Station, receiving dump chute).

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. VE	No visible emissions <sup>2</sup>	Annually	New sand storage silo	SC VI.1f, Method 22	R 336.1301(1)(c)
2. VE	10 percent opacity <sup>2</sup>	6-Minute Average	Fluidized bed sand reclaim	SC V.1	40 CFR 60.732
3. PM	0.13 pph <sup>2</sup>	Hourly	New sand storage silo	SC V.2, VI.1c, VI.2	R 336.1331(1)(c)
4. PM10	0.13 pph <sup>2</sup>	Hourly	New sand storage silo	SC V.2, VI.1c, VI.2	40 CFR 52.21(c) & (d)
5. PM2.5	0.13 pph <sup>2</sup>	Hourly	New sand storage silo	SC V.2, VI.1c, VI.2	40 CFR 52.21(c) & (d)
6. PM	0.19 pph <sup>2</sup>	Hourly	Sand reclaim, pre-reclaim sand silo, and prepared sand silo	SC V.1	R 336.1331(1)(c) 40 CFR 60.732
7. PM10	0.05 pph <sup>2</sup>	Hourly	Sand reclaim, pre-reclaim sand silo, and prepared sand silo	SC V.2, VI.1c, VI.2	40 CFR 52.21(c) & (d)
8. PM2.5	0.05 pph <sup>2</sup>	Hourly	Sand reclaim, pre-reclaim sand silo, and prepared sand silo	SC V.2, VI.1c, VI.2	40 CFR 52.21(c) & (d)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
9. VOC	0.02 pph <sup>2</sup>	Hourly	Sand reclaim, pre-reclaim sand silo, and prepared sand silo	SC V.2, VI.2	<b>R 336.1702</b>
10. NOx	0.39 pph <sup>2</sup>	Hourly	Sand reclaim, pre-reclaim sand silo, and prepared sand silo	SC V.2, VI.1, VI.2	<b>40 CFR 52.21(c) &amp; (d)</b>
11. NOx	1.18 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	Sand reclaim, pre-reclaim sand silo, and prepared sand silo	SC VI.1d, VI.2	<b>40 CFR 52.21(c) &amp; (d)</b>
12. CO	0.33 pph <sup>2</sup>	Hourly	Sand reclaim, pre-reclaim sand silo, and prepared sand silo	SC V.2, VI.1, VI.2	<b>40 CFR 52.21(c) &amp; (d)</b>

**II. MATERIAL LIMIT(S)**

Material	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. New and recovered core sand throughput	27,891 tons <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	EU-SPMPROCESSAND	SC VI.1a	<b>40 CFR 52.21(c) &amp; (d)</b>

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

1. The maximum heat input rate of the natural gas fired fluidized bed sand reclaim process unit in EU-SPMPROCESSAND shall not exceed 4 MMBTU/hr.<sup>2</sup> **(R 336.1205(1)(a))**

**IV. DESIGN/EQUIPMENT PARAMETERS**

1. The permittee shall not operate the pre-reclaim sand silo, sand transfer system, fluidized bed sand reclaim system, and prepared sand silo of EU-SPMPROCESSAND unless the fabric filter collector is installed, maintained, and operated in a satisfactory manner.<sup>2</sup> **(R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**
2. The permittee shall not operate the new sand storage silo of EU- SPMPROCESSAND unless the bin vent filter is installed, maintained, and operated in a satisfactory manner.<sup>2</sup> **(R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. No later than December 31, 2021, the permittee shall verify VE and PM emission rates from the natural gas fired fluidized bed sand reclaim process unit in EU-SPMPROCESSAND by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
Visible Emission	40 CFR Part 51, Appendix M; 40 CFR Part 60, Appendix A and B
PM	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.<sup>2</sup> (R 336.1205, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d), 40 CFR 60.736)

- Upon request from the AQD Supervisor, the permittee shall verify PM, PM10, PM2.5, VOC, NOx, and/or CO, emission rates from the Sand reclaim, pre-reclaim sand silo, and prepared sand silo and New sand storage silo in EU-SPMPROCESSAND, by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A
PM10 / PM2.5	40 CFR Part 51, Appendix M
VOCs	40 CFR Part 60, Appendix A
NOx	40 CFR Part 60, Appendix A
CO	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.<sup>2</sup> (R 336.1205, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))

- The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 30 days of the time and place before performance tests are conducted. (R 336.1213(3))

## VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

- The permittee shall monitor and record, in a satisfactory manner, all data as specified in the following table.<sup>2</sup> (R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21)

Equipment	Parameter	Time Frame Basis
a. EU-SPMPROCESSAND	Sand throughput rate	Monthly and 12-month rolling time period as determined at the end of each calendar month
b. Sand reclaim unit	Natural gas usage rate	Monthly and 12-month rolling time period as determined at the end of each calendar month
c. EU-SPMPROCESSAND	PM, PM10, and PM2.5 emissions in pph	Monthly average
d. Sand reclaim unit	NOx emissions in tpy calculated using AP-42 factors for natural gas combustion	Monthly and 12-month rolling time period as determined at the end of each calendar month
e. Fabric filter collector for pre-reclaim sand silo, sand	Fabric filter monitoring as required in SC VI.2	As defined in the MAP required in SC VI.2.

transfer system, fluidized bed process and prepared sand silo in EU-SPMPROCESSAND		
f. New sand storage silo	Presence or absence of visible emissions from the bin vent filters during loading of sand into the silo as determined by an observer using EPA Method 22	Annually

- The permittee shall not operate EU-SPMPROCESSAND unless a MAP as described in Rule 911(2), for the air cleaning devices, is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits.<sup>2</sup> **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d))**
- Within 30 days following the end of each calendar month, the permittee shall calculate and record emissions from the process for the previous calendar month to demonstrate compliance with the 12-month rolling time period emission limits specified in the emission limit table. These records shall be made available to the AQD upon request. **(R 336.1213(3))**

**VII. REPORTING**

- Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
- Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
- Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
- The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**

See Appendix 8

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

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-Z02-BH-4	52 <sup>2</sup>	113 <sup>2</sup>	40 CFR 52.21(c) & (d)

**IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with all provisions of the federal NSPS Standards of Performance for Calciners and Dryers in Mineral Industries as specified in 40 CFR Part 60, Subparts A and UUU, as they apply to the equipment in EU-SPMPROCESSAND. **(40 CFR Part 60, Subparts A & UUU, R 336.1213(3))**

**Footnotes:**

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

<sup>2</sup>This condition is federally enforceable and was established pursuant to Rule 201(1)(a).



**EU-SPMCOREROOM  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Core Room Processes

Sand Handling & Mixing – via both enclosed conveyor and pneumatic systems prepared sand is transported to and received into the central sand hopper and mixer located above the core machines.

Sand and two-part epoxyacrylic resin mixing.

Core Making – sulfur dioxide co-reactant injection system which supplies mixed sulfur dioxide for the three cold box core machines. Sulfur dioxide is stored in 2,000-pound compressed gas cylinders

Core Box Tooling Maintenance – includes the use of a core release chemical, metal cleaner, a high-pressure water wash and core box washing station. High pressure water wash and core box washing station is carried out within EU-PSANDCOREROOM.

Scrap cores and process sand are placed in bins or hoppers and taken to a Sand Load Out Station for reclaim. Sand is added to the process by the receiving dump chute of EU-SPMPROCESSAND.

Core Room Fugitive Emissions - storage of completed cores in a core buffer area produces off-gassing emissions (core making fugitives) which are released to the general ventilation system for the building.

The most recent PTI for this emission unit is PTI No. 36-12J.

**Flexible Group ID:** FG-FACILITYPM

**POLLUTION CONTROL EQUIPMENT**

Emissions from the final sand transport, sand hopper, and mixer are controlled by a 5,000 scfm cartridge collector.

Emissions from the core making machines are controlled by a cyclone and a packed tower caustic scrubber with a 20,000 scfm exhaust gas flow rate. The packed tower caustic scrubber is a CAM subject device for SO<sub>2</sub>.

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	0.34 pph <sup>2</sup>	Hourly	Sand hoppers and sand mixers of EU-SPMCOREROOM	SC V.2, VI.1a, VI.2	R 336.1331(1)(c)
2. PM10	0.34 pph <sup>2</sup>	Hourly	Sand hoppers and sand mixers of EU-SPMCOREROOM	SC V.2, VI.1a, VI.2	40 CFR 52.21(c) & (d)
3. PM2.5	0.34 pph <sup>2</sup>	Hourly	Sand hoppers and sand mixers of EU-SPMCOREROOM	SC V.2, VI.1a, VI.2	40 CFR 52.21(c) & (d)
4. VOC	0.41 pph <sup>2</sup>	Hourly	Sand hoppers and sand mixers of EU-SPMCOREROOM	SC V.2, VI.1, VI.2	R 336.1702
5. PM	0.45 pph <sup>2</sup>	Hourly	Core Box of EU-SPMCOREROOM	SC V.2, VI.1a, VI.2	R 336.1331(1)(c)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
6. PM10	0.45 pph <sup>2</sup>	Hourly	Core Box of EU-SPMCORERROOM	SC V.2, VI.1a, VI.2	<b>40 CFR 52.21(c) &amp; (d)</b>
7. PM2.5	0.45 pph <sup>2</sup>	Hourly	Core Box of EU-SPMCORERROOM	SC V.2, VI.1a, VI.2	<b>40 CFR 52.21(c) &amp; (d)</b>
8. VOC	1.23 pph <sup>2</sup>	Hourly	Core Box of EU-SPMCORERROOM	SC V.2, VI.1, VI.2	<b>R 336.1702</b>
9. SO <sub>2</sub>	5.49 pph <sup>2</sup>	Hourly	Core Box of EU-SPMCORERROOM	SC V.1	<b>40 CFR 52.21(c) &amp; (d)</b>
10. VOC	3.72 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	Core Box of EU-SPMCORERROOM	SC VI.1c, VI.2	<b>R 336.1702,</b>
11. VOC	14.17 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	Core Box Core Machine cleaning (fugitives)	SC VI.1c, VI.2	<b>R 336.1702</b>
12. VOC	1.64 pph <sup>2</sup>	Hourly	Core Making (fugitives)	SC VI.4	<b>R 336.1702</b>
13. VOC	4.96 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	Core Making (fugitives)	SC VI.1c, VI.2, VI.12	<b>R 336.1702</b>

**II. MATERIAL LIMIT(S)**

Material	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. SO <sub>2</sub> Catalyst	307 tons SO <sub>2</sub> catalyst per year <sup>1</sup>	Monthly and 12-month rolling time period as determined at the end of each calendar month	EU-SPMCORERROOM	SC VI.1b, VI.12	<b>R 336.1225</b>

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

NA

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

1. The permittee shall not operate the sand hoppers and sand mixers of EU-SPMCORERROOM unless the cartridge collector is installed, maintained, and operated in a satisfactory manner.<sup>2</sup> **(R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**
2. The permittee shall not operate the three cold box core machines of EU-SPMCORERROOM unless the cyclone and packed tower caustic scrubber are installed, maintained, and operated in a satisfactory manner.<sup>2</sup> **(R 336.1205, R 336.1301, R 336.1331, R 336.1910, 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. Upon request from the AQD Supervisor, the permittee shall verify SO<sub>2</sub> emission rates from the core making process of EU-SPMCORERROOM by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
SO <sub>2</sub>	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.<sup>2</sup> (R 336.1205, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))

- Upon request from the AQD Supervisor, the permittee shall verify PM, PM<sub>10</sub>, PM<sub>2.5</sub>, and/or VOC, emission rates from sand hoppers and sand mixers, and/or core box of EU-SPMCOREROOM, by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A
PM <sub>10</sub> / PM <sub>2.5</sub>	40 CFR Part 51, Appendix M
VOCs	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.<sup>2</sup> (R 336.1205, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))

## VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

- The permittee shall monitor and record, in a satisfactory manner, all data as specified in the following table.<sup>2</sup> (R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21)

Equipment	Parameter	Time Frame Basis
a. EU-SPMCOREROOM	PM, PM <sub>10</sub> , and PM <sub>2.5</sub> emissions in pph	Monthly average
b. EU-SPMCOREROOM	SO <sub>2</sub> and core sand throughput rates	Monthly and 12-month rolling time period as determined at the end of each calendar month
c. EU-SPMCOREROOM	VOC emissions in tpy	Monthly and 12-month rolling time period as determined at the end of each calendar month
d. Caustic scrubber for EU-SPMCOREROOM	Caustic scrubber monitoring as required in SC VI.2	As defined in the MAP required in SC VI.2.
e. Cartridge collector for EU-SPMCOREROOM	Cartridge collector monitoring as required in SC VI.2	As defined in the MAP required in SC VI.2.

- The permittee shall not operate EU-SPMCOREROOM unless a MAP as described in Rule 911(2), for the air cleaning devices, is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance

with all applicable emission limits.<sup>2</sup> **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, 40 CFR 52.21(c) & (d))**

3. The permittee shall calculate the VOC emission rate from fugitive and cleaning operations in EU-SPMCOREROOM monthly, for the preceding 12-month rolling time period as determined at the end of each calendar month, using a method acceptable to the AQD District Supervisor. The permittee shall keep all records on file at the facility and make them available to the Department upon request.<sup>2</sup> **(R 336.1205, R 336.1702, 40 CFR 52.21)**
4. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material used in EU-SPMCOREROOM, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by the AQD District Supervisor. The permittee shall keep all records on file at the facility and make them available to the Department upon request.<sup>2</sup> **(R 336.1205, R 336.1224, R 336.1225, R 336.1702)**
5. The permittee shall continuously measure pressure drop, scrubber flow, and pH and record every 15 minutes while operating, as an indicator of proper operation of the scrubber. The indicator range for pressure drop is 0.1 to 12 inches. The indicator ranged for pH is greater than 7.5. The indicator range for scrubber liquid flow is greater than 390 gallons per minute. **(40 CFR 64.6(c)(1)(i and ii))**.
6. The pressure gauge, liquid flow meter, and the pH meter shall continuously monitor pressure drop, scrubber liquid flow, and pH respectively. The averaging period is a 3-hour average. These monitors shall be calibrated annually or as specified in the approved Malfunction Abatement Plan, whichever is more frequent. **(40 CFR 64.6(c)(1)(iii))**
7. An excursion is a departure from the indicator ranges defined in SC VI.5 averaged over a 3-hour rolling period. **(40 CFR 64.6(c)(2))**
8. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). If excursions are verified, Malfunction Abatement Plan activities will commence. **(40 CFR 64.7(d))**
9. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(40 CFR 64.6(c)(3), 40 CFR 64.7(c))**
10. The permittee shall properly maintain the monitoring system, including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b))**
11. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan and any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions. **(40 CFR 64.9(b)(1))**
12. Within 30 days following the end of each calendar month, the permittee shall calculate and record emissions from the process for the previous calendar month to demonstrate compliance with the 12-month rolling time period

emission limits specified in the emission limit table. These records shall be made available to the AQD upon request. **(R 336.1213(3))**

**VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. Each semiannual report of monitoring and deviations shall include summary information on the number, duration and cause of excursions and/or exceedances and the corrective actions taken. If there were no excursions and/or exceedances in the reporting period, then this report shall include a statement that there were no excursions and/or exceedances. **(40 CFR 64.9(a)(2)(i))**
5. Each semiannual report of monitoring and deviations shall include summary information on monitor downtime. If there were no periods of monitor downtime in the reporting period, then this report shall include a statement that there were no periods of monitor downtime. **(40 CFR 64.9(a)(2)(ii))**
6. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**

See Appendix 8

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

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-Z05-CC-2	23 <sup>2</sup>	86 <sup>2</sup>	40 CFR 52.21(c) & (d)
2. SV-Z05-ISO-2	36 <sup>2</sup>	86 <sup>2</sup>	40 CFR 52.21(c) & (d)

**IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with all applicable requirements of 40 CFR Part 64. **(40 CFR Part 64)**
2. If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the AQD and if necessary, submit a proposed modification of the CAM Plan to address the necessary monitoring changes. Such a modification may include but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. **(40 CFR 64.7(e))**

**Footnotes:**

<sup>1</sup> This condition is state only enforceable and was established pursuant to Rule 201(1)(b).  
<sup>2</sup> This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**EU-SPMCASTLINE  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Cast Lines – Three cast lines with a nominal maximum combined production rate of 106 castings per hour (2,460 castings per day) and a nominal maximum production rate of 53 castings per hour on any single casting line.

The cast lines consist of the following:

*Section #1:* (3 modular units) making a final mold; mold filling; initial cooling; extraction; and cut sprue. Making a final mold includes mold and core assembly and mold heating with natural gas-fired 16 MMBTU/hr (total heat input rate) burners/torches. Mold filling is conducted by gravity pour. Initial cooling and solidification of the molten metal occurs inside the mold. Extraction of the casting (including sand cores) from the steel mold is completed by the casting extraction unload robot. Top core and down sprue removal. Additional cooling and complete solidification occur in the casting solidification buffer area. Sprue, risers, runners, and other internal scrap are collected and remelted.

*Section #2:* (3 identical modular units) extended casting cooling in the cooling garage.

*Section #3:* (2 identical modular units) Deflash; Decore; Degate. Finishing operations include the removal of excess metal and sand from the casting (EU-FINISH). Metal removed from the casting is collected and remelted.

Process and scrap sand generated from EU-SPMCASTLINE is collected and transported as described in EU-SPMPROCESSAND.

Mold Preparation – Offline mold preparation benches with steel mold heating using natural gas fired burners. Total heat input rate of 3.5 MMBTU/hr.

Mold Coating Repair – Three coating repair booths including a decoating process using inert media.

The most recent PTI for this emission unit is PTI No. 36-12J.

**Flexible Group ID:** FG-FACILITYPM

**POLLUTION CONTROL EQUIPMENT**

Coating emissions are controlled by a 13,000 scfm cartridge collector. Emissions control for Section #1 and Section#2 is three 60,000 scfm fabric filter collectors (one for each cast line). Combined emissions from Section #3 of both cast lines and precision sand finishing operations are routed to a 12,800 scfm cartridge collector (EU-FINISH). Decoating emissions are routed to a 7,500 scfm cartridge collector, vented in-plant.

- (3) 60,000 scfm fabric filters. Each filter is a CAM subject device for Particulate.

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NOx	1.03 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	Off line mold prep	SC V.1, VI.1.b	R 336.1205
2. PM	7.07 pph <sup>2</sup>	Hourly	Section1 & 2 all three cast lines combined including mold preheating	SC V.1, VI.1.b	R 336.1331(1)(c)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
3. PM10	7.07 pph <sup>2</sup>	Hourly	Section1 & 2 all three cast lines combined including mold preheating	SC V.1, VI.1.b	<b>40 CFR 52.21(c) &amp; (d)</b>
4. PM2.5	7.07 pph <sup>2</sup>	Hourly	Section1 & 2 all three cast lines combined including mold preheating	SC V.1, VI.1.b	<b>40 CFR 52.21(c) &amp; (d)</b>
5. VOC	10.81 pph <sup>2</sup>	Hourly	Section1 & 2 all three cast lines combined	SC V.1	<b>R 336.1702</b>
6. NOx	1.9 pph <sup>2</sup>	Hourly	Section1 & 2 all three cast lines combined including mold preheating	SC V.1	<b>40 CFR 52.21(c) &amp; (d)</b>
7. NOx	1.41 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	Section1 & 2 all three cast lines combined including mold preheating	SC V.1, VI.1.d	<b>40 CFR 52.21(c) &amp; (d)</b>
8. CO	12.47 pph <sup>2</sup>	Hourly	Section1 & 2 all three cast lines combined including mold preheating	SC V.1, VI.1.b	<b>40 CFR 52.21(c) &amp; (d)</b>
9. PM	0.88 pph <sup>2</sup>	Hourly	Mold Coating	SC IV.1, VI.1.b	<b>R 336.1331(1)(c)</b>
10. PM10	0.88 pph <sup>2</sup>	Hourly	Mold Coating	SC IV.1, VI.1.b	<b>40 CFR 52.21(c) &amp; (d)</b>
11. PM2.5	0.88 pph <sup>2</sup>	Hourly	Mold Coating	SC IV.1, VI.1.b	<b>40 CFR 52.21(c) &amp; (d)</b>

**II. MATERIAL LIMIT(S)**

Material	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Aluminum	19,412 tons poured per year <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	EU-SPMCASTLINE	SC VI.1.f	<b>40 CFR 52.21(c) &amp; (d)</b>

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

1. The maximum heat input rate of the natural gas fired equipment in EU-SPMCASTLINE shall not exceed a total of 16 MMBTU/hr.<sup>2</sup> **(R 336.1205(1)(a))**
2. The permittee shall not operate EU-SPMCASTLINE for more than 6,032 hours per 12-month rolling time period as determined at the end of each calendar month.<sup>2</sup> **(R 336.1205, 40 CFR 52.21(c) & (d))**

**IV. DESIGN/EQUIPMENT PARAMETERS**

1. The permittee shall not operate EU-SPMCASTLINE unless the respective air cleaning devices are installed, maintained, and operated in a satisfactory manner.<sup>2</sup> **(R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**

- The permittee shall not operate Section #1 and/or Section #2 of EU-SPMCASTLINE unless the fabric filter collector associated with the individual cast line is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the fabric filter dust collector requires a pressure drop range between 0.5 and 10 inches of water column. The minimum pressure drop shall not be less than 1 inch, water gauge, except when a large number of filter bags have been replaced or other reason acceptable to the AQD.<sup>2</sup> **(R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

- No later than December 31, 2022, and thereafter at a minimum, every five years from the date of the last test, the permittee shall verify the PM, PM10 and PM2.5 emission rates from EU-SPMCASTLINE. Testing shall be performed using an approved EPA Method listed in: **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A
PM10 / PM2.5	40 CFR Part 51, Appendix M

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

- Upon request from the AQD Supervisor, the permittee shall verify VOC, NOx, and/or CO emission rates from EU-SPMCASTLINE, by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
VOCs	40 CFR Part 60, Appendix A
NOx	40 CFR Part 60, Appendix A
CO	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.<sup>2</sup> **(R 336.1205, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

- The permittee shall monitor and record, in a satisfactory manner, all data as specified in the following table.<sup>2</sup> **(R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21)**

Equipment	Parameter	Time Frame Basis
a. Off line mold prep area of EU-SPMCASTLINE	Natural gas usage rate	Monthly and 12-month rolling time period as determined at the end of each calendar month
b. EU-SPMCASTLINE, Section 1 & 2 all three cast lines combined including mold preheating	CO and PM, PM10, and PM2.5 emissions in pph	Monthly average



c. Off line mold prep area of EU-SPMCASTLINE	NOx emissions in tpy calculated using AP-42 factors for natural gas combustion	Monthly and 12-month rolling time period as determined at the end of each calendar month
d. EU-SPMCASTLINE, Section 1 & 2 all three cast lines combined including mold preheating	NOx emissions in tpy calculated using emission factors derived from the most recent performance testing	Monthly and 12-month rolling time period as determined at the end of each calendar month
e. Air cleaning devices for EU-SPMCASTLINE	Monitoring as required in SC VI.2	As defined in the MAP required in SC VI.2.
f. EU-SPMCASTLINE, Section 1 & 2 all three cast lines combined including mold preheating	Tons of metal poured	Monthly and 12-month rolling time period as determined at the end of each calendar month

2. The permittee shall not operate EU-SPMCASTLINE unless a MAP as described in Rule 911(2), for the air cleaning devices, is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits.<sup>2</sup> **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, 40 CFR 52.21(c) & (d))**
3. The permittee shall continuously measure the pressure drop and record every 15 minutes while operating, as an indicator of proper operation of the fabric filter dust collectors. The indicator range for each dust collector is 0.1 to 10.0 inches. **(40 CFR 64.6(c)(1)(i and ii))**
4. The pressure gauge shall continuously monitor the pressure drop across the baghouse and record every 15 minutes while operating, as an indicator of proper operation of the baghouse. The averaging period is a 3-hour rolling average. The monitor shall be calibrated annually or as specified in the approved Malfunction Abatement Plan, whichever is more frequent. The condition of the bags shall be inspected and recorded on a semi-annual schedule. An alternative to the semi-annual inspection may be implemented with prior approval of the AQD. **(40 CFR 64.6(c)(1)(iii))**
5. The permittee shall record weekly on production days non-certified visual opacity observation as an indicator of proper operation of the dust collector. If visible emissions are present an USEPA Method 9 will be performed. The indicator is the presence of visible emissions. **(40 CFR 64.6(c)(1)(i and ii))**
6. An excursion for the visible emissions monitoring is defined as presence of visible emissions which appears to be above 5% opacity if performed using USEPA Method 9. An excursion for the pressure monitoring is a departure from the indicator range specified in SC VI.3, based on a 3-hour average. **(40 CFR 64.6(c)(2))**
7. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). If outside of the indicator range, malfunction abatement plan activities will commence. Suspected excursions under the malfunction abatement plan trigger observation of opacity and system inspection. Should abnormal opacity be noted, a Method 9 visible emission evaluation shall be conducted to assess compliance. **(40 CFR 64.7(d))**
8. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all

times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(40 CFR 64.6(c)(3), 40 CFR 64.7(c))**

9. The permittee shall properly maintain the monitoring system, including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b))**
10. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan and any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions. **(40 CFR 64.9(b)(1))**
11. Within 30 days following the end of each calendar month, the permittee shall calculate and record emissions from the process for the previous calendar month to demonstrate compliance with the 12-month rolling time period emission limits specified in the emission limit table. These records shall be made available to the AQD upon request. **(R 336.1213(3))**

**VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. Each semiannual report of monitoring and deviations shall include summary information on the number, duration and cause of excursions and/or exceedances and the corrective actions taken. If there were no excursions and/or exceedances in the reporting period, then this report shall include a statement that there were no excursions and/or exceedances. **(40 CFR 64.9(a)(2)(i))**
5. Each semiannual report of monitoring and deviations shall include summary information on monitor downtime. If there were no periods of monitor downtime in the reporting period, then this report shall include a statement that there were no periods of monitor downtime. **(40 CFR 64.9(a)(2)(ii))**
6. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**

See Appendix 8

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

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-Z05-BH-1	53 <sup>2</sup>	160 <sup>2</sup>	40 CFR 52.21(c) & (d)
2. SV-Z05-BH-2	53 <sup>2</sup>	160 <sup>2</sup>	40 CFR 52.21(c) & (d)

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
3. SV-Z05-BH-3	53 <sup>2</sup>	160 <sup>2</sup>	40 CFR 52.21(c) & (d)
4. SV-Z05-CC-4	30 <sup>2</sup>	73 <sup>2</sup>	40 CFR 52.21(c) & (d)

**IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with all applicable requirements of 40 CFR Part 64. **(40 CFR Part 64)**
2. If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the AQD and if necessary, submit a proposed modification of the CAM Plan to address the necessary monitoring changes. Such a modification may include but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. **(40 CFR 64.7(e))**

**Footnotes:**

<sup>1</sup> This condition is state only enforceable and was established pursuant to Rule 201(1)(b).  
<sup>2</sup> This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**EU-SPMCASTLINE4  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Cast Line – One carousel cast line with a nominal maximum production rate of 50 molds per hour.

The cast line consists of the following:

*Section #1:* making a final mold; mold filling; initial cooling; extraction; and cut sprue.

Making a final mold includes mold and core assembly and mold heating with natural gas fired 16 MMBTU/hr (total heat input rate) burners/torches. Mold filling is by gravity pour. Initial cooling and solidification of the molten metal occurs inside the mold. Extraction of the casting (including sand cores) from the steel mold is completed by the casting extraction unload robot. Core and down sprue removal. Additional cooling and complete solidification occur in the casting solidification buffer area. Sprue, risers, runners, and other internal scrap are collected and remelted.

*Section #2:* extended casting cooling in a cooling area

*Section #3:* Deflash; Decore; Degate. Finishing operations include the removal of excess metal and sand from the casting. Excess metal is collected and remelted.

Process and scrap sand generated from EU-SPMCASTLINE4 is collected and transported as described in EU-SPMPROCESSAND.

The most recent PTI for this emission unit is PTI No. 36-12J.

**Flexible Group ID:** FG-FACILITYPM

**POLLUTION CONTROL EQUIPMENT**

Emissions control for Section #1 and Section #2 is 2 – 30,000 scfm fabric filter collectors. Each filter is a CAM subject device for Particulate.

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	6.02 pph <sup>2</sup>	Hourly	Cast Line Section 1 & 2 including mold preheating	SC V.1, VI.1a	R 336.1205(1)(a) R 336.1331(1)(c)
2. PM10	3.63 pph <sup>2</sup>	Hourly	Cast Line Section 1 & 2 including mold preheating	SC V.1, VI.1a	R 336.1205(1)(a) 40 CFR 52.21(c) & (d)
3. PM2.5	3.63 pph <sup>2</sup>	Hourly	Cast Line Section 1 & 2 including mold preheating	SC V.1, VI.1a	R 336.1205(1)(a) 40 CFR 52.21(c) & (d)
4. VOC	9.19 pph <sup>2</sup>	Hourly	Cast Line Section 1 & 2 including mold preheating	SC V.1	R 336.1205(1)(a) R 336.1702
5. NOx	2.59 pph <sup>2</sup>	Hourly	Cast Line Section 1 & 2 including mold preheating	SC V.1	R 336.1205(1)(a) 40 CFR 52.21(c) & (d)
6. NOx	1.41 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	Cast Line Section 1 & 2 including mold preheating	SC V.1, VI.1b	R 336.1205(1)(a) 40 CFR 52.21(c) & (d)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
7. CO	10.77 pph <sup>2</sup>	Hourly	Cast Line Section 1 & 2 including mold preheating	SC V.1, VI.1a	R 336.1205(1)(a) 40 CFR 52.21(c) & (d)

**II. MATERIAL LIMIT(S)**

Material	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Aluminum	12,288 tons poured per year <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	EU-SPMCASTLINE4	SC VI.1d	R 336.1205(1)(a) 40 CFR 52.21(c) & (d)

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

1. The maximum heat input rate of the cast lines natural gas fired equipment in EU-SPMCASTLINE4 shall not exceed a total of 16 million British thermal units per hour (MMBTU/hr).<sup>2</sup> (R 336.1205(1)(a))
2. The permittee shall not operate EU-SPMCASTLINE4 for more than 6,032 hours per 12-month rolling time period as determined at the end of each calendar month.<sup>2</sup> (R 336.1205, 40 CFR 52.21(c) & (d))

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

1. The permittee shall not operate EU-SPMCASTLINE4 unless the respective air cleaning devices are installed, maintained, and operated in a satisfactory manner.<sup>2</sup> (R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

1. Upon request from the AQD Supervisor, the permittee shall verify CO, PM, PM10, PM2.5, VOC, and NOx emission rates from EU-SPMCASTLINE4, by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
CO	40 CFR Part 60, Appendix A
PM	40 CFR Part 60, Appendix A
PM10 / PM2.5	40 CFR Part 51, Appendix M
VOCs	40 CFR Part 60, Appendix A
NO <sub>x</sub>	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.<sup>2</sup> (R 336.1205, 40 CFR 52.21(c) & (d))

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall monitor and record, in a satisfactory manner, all data as specified in the following table.<sup>2</sup> **(R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21)**

<b>Equipment</b>	<b>Parameter</b>	<b>Time Frame Basis</b>
a. EU-SPMCASTLINE4	CO and PM, PM10, and PM2.5 emissions in pph	Monthly average
b. EU-SPMCASTLINE4	Annual NOx emissions—using test data	Monthly and 12-month rolling time period as determined at the end of each calendar month
c. Air cleaning devices for EU-SPMCASTLINE4	Monitoring as required in SC VI.2	As defined in the MAP required in SC VI.2
d. EU-SPMCASTLINE4	Tons of metal poured	Monthly and 12-month rolling time period as determined at the end of each calendar month

2. The permittee shall not operate EU-SPMCASTLINE4 unless a malfunction abatement plan (MAP) as described in Rule 911(2), for the air cleaning devices, is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits.<sup>2</sup> **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, 40 CFR 52.21(c) &(d))**
3. The permittee shall record weekly on production days non-certified visual opacity observation as an indicator of proper operation of the dust collector. If visible emissions are present an USEPA Method 9 will be performed. The indicator is the presence of visible emissions. **(40 CFR 64.6(c)(1)(i and ii))**
4. The permittee shall continuously measure the pressure drop and record every 15 minutes while operating, as an indicator of proper operation of the fabric filter collectors. The indicator range is 0.1 to 10.0 inches. **(40 CFR 64.6(c)(1)(i and ii))**
5. The pressure gauge shall continuously monitor the pressure drop across the baghouse and record every 15 minutes while operating, as an indicator of proper operation of the baghouse. The averaging period is a 3-hour rolling average. The monitor shall be calibrated annually or as specified in the approved Malfunction Abatement Plan, whichever is more frequent. The condition of the bags shall be inspected and recorded on a semi-annual schedule. An alternative to the semi-annual inspection may be implemented with prior approval of the AQD. **(40 CFR 64.6(c)(1)(iii))**
6. An excursion for the visible emissions monitoring is defined as the presence of visible emissions which appears to be above 5% opacity if performed using USEPA Method 9. An excursion for the pressure differential monitoring is a departure from the indicator range specified in SC VI.4, based on a 3-hr rolling period. **(40 CFR 64.6(c)(2))**
7. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). If outside of the indicator range, malfunction abatement plan activities will commence. If outside of the indicator range, malfunction abatement plan activities will commence. Suspected excursions under the malfunction abatement

plan trigger observation of opacity and system inspection. Should abnormal opacity be noted, a Method 9 visible emission evaluation shall be conducted to assess compliance. **(40 CFR 64.7(d))**

8. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(40 CFR 64.6(c)(3), 40 CFR 64.7(c))**
9. The permittee shall properly maintain the monitoring system, including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b))**
10. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan and any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions. **(40 CFR 64.9(b)(1))**
11. Within 30 days following the end of each calendar month, the permittee shall calculate and record emissions from the process for the previous calendar month to demonstrate compliance with the 12-month rolling time period emission limits specified in the emission limit table. These records shall be made available to the AQD upon request. **(R 336.1213(3))**

## **VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. Each semiannual report of monitoring and deviations shall include summary information on the number, duration and cause of excursions and/or exceedances and the corrective actions taken. If there were no excursions and/or exceedances in the reporting period, then this report shall include a statement that there were no excursions and/or exceedances. **(40 CFR 64.9(a)(2)(i))**
5. Each semiannual report of monitoring and deviations shall include summary information on monitor downtime. If there were no periods of monitor downtime in the reporting period, then this report shall include a statement that there were no periods of monitor downtime. **(40 CFR 64.9(a)(2)(ii))**
6. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**

**See Appendix 8**

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

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV-Z02BH-5	66 <sup>2</sup>	125 <sup>2</sup>	<b>R 336.1331(1)(c) 40 CFR 52.21(c) &amp; (d)</b>

**IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with all applicable requirements of 40 CFR Part 64. **(40 CFR Part 64)**
2. If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the AQD and if necessary, submit a proposed modification of the CAM Plan to address the necessary monitoring changes. Such a modification may include but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. **(40 CFR 64.7(e))**

**Footnotes:**

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

<sup>2</sup> This condition is federally enforceable and was established pursuant to Rule 201(1)(a).



**EU-PREMACHINING  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Multiple stations for machining to remove excess metal and for surface preparation (includes the use of a coolant).

Casting washing using water jets and a cleaning solution.

Casting leak testing using compressed air.

The most recent PTI for this emission unit is PTI No. 36-12J.

**Flexible Group ID:** FG-FACILITYPM

**POLLUTION CONTROL EQUIPMENT:**

Localized exhaust at each removal/preparation machine, 2,000 scfm with mist eliminator, released to general in-plant exhaust. Localized exhaust at each casting washing machine, 2,000 scfm with mist eliminator, released to general in-plant exhaust.

**I. EMISSION LIMIT(S)**

NA

**II. MATERIAL LIMIT(S)**

NA

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

NA

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

NA

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

NA

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

1. The permittee shall monitor and record, in a satisfactory manner, all data as specified in the following table.<sup>2</sup> (R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21)

Equipment	Parameter	Time Frame Basis
a. EU-PREMACHINING	Fugitive VOC emission rate in tpy using available emission factors	Monthly and 12-month rolling time period as determined at the end of each calendar month

**VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

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

NA

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

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

<sup>2</sup> This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**EU-MACHASM  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Multiple stations for machining to remove excess metal and for surface preparation (includes the use of a coolant).

Casting washing using water jets and a cleaning solution.

Casting leak testing using compressed air; dry machining and assembly operations.

The most recent PTI for this emission unit is PTI No. 36-12J.

**Flexible Group ID:** FG-FACILITYPM

**POLLUTION CONTROL EQUIPMENT**

Localized exhaust at each removal/preparation machine, 2,000 scfm with mist eliminator, released to general in-plant exhaust. Localized exhaust at each casting washing machine, 2,000 scfm with mist eliminator, released to general in-plant exhaust.

**I. EMISSION LIMIT(S)**

NA

**II. MATERIAL LIMIT(S)**

NA

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

NA

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

NA

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

NA

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

1. The permittee shall monitor and record, in a satisfactory manner, all data as specified in the following table.<sup>2</sup> (R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21)

Equipment	Parameter	Time Frame Basis
a. EU-MACHASM	Fugitive VOC emission rate in tpy using available emission factors	Monthly and 12-month rolling time period as determined at the end of each calendar month

**VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

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

NA

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

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

<sup>2</sup> This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**EU-6ML-EF-02  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Exhaust to Well #1&2 Furnace (Open ended duct at Launder, #1 & #2 furnace). This emission unit is considered backup equipment.

The most recent PTI for this emission unit is PTI No. 36-12J.

**Flexible Group ID:** FG-FACILITYPM

**POLLUTION CONTROL EQUIPMENT**

NA

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM-10	0.02 lb/1000 lb exhaust gas on a dry gas basis <sup>2</sup>	Hourly	EU-6ML-EF-02	SC V.1	R 336.1331
2. PM-10	4.5 pph <sup>2</sup>	Hourly	EU-6ML-EF-02	SC V.1	R 336.1331
3. PM-10	13.5 tpy <sup>2</sup>	12-Month Rolling*	EU-6ML-EF-02	SC VI.1, VI.2	R 336.1205(3) R 336.1331

\* 12-Month Rolling Time period, as determined at the end of each calendar month.

4. Visible emissions from the #6 Mold Line shall not exceed a 6-minute-average of 10 percent opacity.<sup>2</sup>  
 (R 336.1301(c))

**II. MATERIAL LIMIT(S)**

NA

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

NA

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

NA

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

1. Upon request from the AQD Supervisor, the permittee shall verify PM10 emission rates from EU-6ML-EF-02, by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM10	40 CFR Part 51, Appendix M

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.<sup>2</sup> **(R 336.2001)**

## **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall record the hours of operation for #6 Mold Line on a monthly basis. The permittee shall keep the records on file at the facility, in a format acceptable to the AQD District Supervisor, for a period of at least five years and make them available to the Department upon request. **(R 336.1213(3))**
2. Within 30 days following the end of each calendar month, the permittee shall calculate and record emissions from the process for the previous calendar month to demonstrate compliance with the 12-month rolling time period emission limits specified in this table. These records shall be made available to the AQD upon request. **(R 336.1213(3))**
3. The permittee shall perform and record the results of a non-certified visible emissions check on EU-6ML-EF-02 at least weekly while operating EU-6ML-EF-02. The visible emissions check shall verify the presence of any visible emissions and need not follow the procedures specified in USEPA Method 9; therefore, multiple stacks may be observed simultaneously. The date, time, name of visible emissions observer, and whether any visible emissions were observed shall be recorded. If any visible emissions are observed, the permittee shall immediately implement one of the following procedures: **(R 336.1213(3), R 336.1301)**
  - a. If any visible emissions have been observed during the non-certified visible emissions check, the permittee shall perform and record the results of a 6-minute USEPA Method 9 visible emissions observation. If the results of the Method 9 visible emissions observation indicate a violation of the opacity standard, the permittee shall immediately initiate corrective actions and document the corrective actions taken.
  - b. The permittee shall immediately initiate corrective actions and document the corrective actions taken based upon the initial non-certified visible emissions check that indicated the presence of any visible emissions.

## **VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**

**See Appendix 8**

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

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV-6ML-EF-02	53 <sup>2</sup>	99 <sup>2</sup>	<b>40 CFR 52.21(c) &amp; (d)</b>

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

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

<sup>2</sup> This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

## D. FLEXIBLE GROUP SPECIAL CONDITIONS

Part D outlines the terms and conditions that apply to more than one emission unit. The permittee is subject to the special conditions for each flexible group in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no special conditions that apply to more than one emission unit, this section will be left blank.

### 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
FG-6ML-ALMELT	Aluminum Reverberatory Furnace #1 (West) and Aluminum Reverberatory Furnace #2 (East).	EU-6ML-GV-01 EU-6ML-GV-02
FG-FACILITYPM	Particulate emissions associated with the facility.	EU-6ML-EF-02 EU-6ML-GV-01 EU-6ML-GV-02 EU-PSANDALUMINUM EU-PSANDPROCESS EU-PSANDCORERROOM EU-PSANDCASTLINE EU-PSANDSCCSH EU-FINISH EU-SPMALUMINUM EU-SPMPROCESSAND EU-SPMCORERROOM EU-SPMCASTLINE EU-SPMCASTLINE4 EU-PREMACHINING EU-MACHASM
FG-EMERGENCYRICE	Existing compression (CI) emergency RICE with a maximum site rate of less than 500 brake horsepower (HP) and greater than 500 brake horsepower (HP) located at a Major Source of HAP emissions.	EU-PATTERNSHOP EU-FIREPUMP1 EU-FIREPUMP2
FG-EMERGENERATOR	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines as found at 40 CFR Part 60, Subpart JJJJ	EU-Z02EG001 EU-Z03EG001 EUZ06EG001 EU-Z07EG001
FG-COLD CLEANERS	Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278, Rule 278a and Rule 281(2)(h) or Rule 285(2)(r)(iv) (h). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.	EU-COLDCLEANER



**FG-6ML-ALMELT  
 FLEXIBLE GROUP CONDITIONS**

**DESCRIPTION**

Aluminum Reverberatory Furnace #1 (West) and Aluminum Reverberatory Furnace #2 (East). This flexible group is used as back up emission units.

The most recent PTI for this emission unit is PTI No. 36-12J.

**Emission Units:** EU-6ML-GV-01 and EU-6ML-GV-02

**POLLUTION CONTROL EQUIPMENT**

NA

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM-10	0.02 lb/1,000 lb on a dry gas basis <sup>2</sup>	Hourly / Holding, Charging	EU-6ML-GV-01 and EU-6ML-GV-02	SC V.1	R 336.1331
2. PM-10	2.3 pph <sup>2</sup>	Hourly/Holding, Charging	EU-6ML-GV-01 and EU-6ML-GV-02	SC V.1, VI.1, VI.2	R 336.1331
3. PM-10	9.8 tpy <sup>2</sup>	12-Month rolling* / Holding, Charging	EU-6ML-GV-01 and EU-6ML-GV-02	SC VI.1, VI.2	R 336.1331 R 336.1205(3)
4. CO	3.5 pph <sup>2</sup>	Hourly / Holding, Charging	EU-6ML-GV-01 and EU-6ML-GV-02	SC V.1, VI.1, VI.2	R 336.1201
5. CO	15 tpy <sup>2</sup>	12-Month rolling* / Holding, Charging	EU-6ML-GV-01 and EU-6ML-GV-02	SC VI.1, VI.2	R 336.1201 R 336.1205(3)
6. NOx	4.2 pph <sup>2</sup>	Hourly / Holding, Charging	EU-6ML-GV-01 and EU-6ML-GV-02	SC V.1, VI.1, VI.2	R 336.1201
7. NOx	18 tpy <sup>2</sup>	12-Month rolling* / Holding, Charging	EU-6ML-GV-01 and EU-6ML-GV-02	SC VI.1, VI.2	R 336.1201 R 336.1205(3)
8. VOC	0.46 pph <sup>2</sup>	Hourly / Holding, Charging	EU-6ML-GV-01 and EU-6ML-GV-02	SC V.1, VI.1, VI.2	R 336.1201 R 336.1702
9. VOC	2.02 tpy <sup>2</sup>	12-Month rolling* / Holding, Charging	EU-6ML-GV-01 and EU-6ML-GV-02	SC VI.1, VI.2	R336.1201 R 336.1205(3) R 336.1702
10. Hydrogen chloride (HCl)	2.4 pph <sup>2</sup>	Hourly / Charging	EU-6ML-GV-01 and EU-6ML-GV-02	SC V.1, VI.1, VI.2	R 336.1201
11. HCl	7.2 tpy <sup>2</sup>	12-Month rolling* / Charging	EU-6ML-GV-01 and EU-6ML-GV-02	SC VI.1, VI.2	R 336.1201 R 336.1205(3)
12. Chlorine (Cl <sub>2</sub> )	0.6 pph <sup>2</sup>	Hourly / Charging	EU-6ML-GV-01 and EU-6ML-GV-02	SC V.1, VI.1, VI.2	R 336.1201
13. Cl <sub>2</sub>	1.8 tpy <sup>2</sup>	12-Month rolling* / Charging	EU-6ML-GV-01 and EU-6ML-GV-02	SC VI.1, VI.2	R 336.1201 R 336.1205(3)
14. PM10	0.08 lb/1,000 lb on a dry gas basis <sup>2</sup>	Hourly / Fluxing, Drossing	EU-6ML-GV-01 and EU-6ML-GV-02	SC V.1	R 336.1331
15. PM10	8.3 pph <sup>2</sup>	Hourly / Fluxing, Drossing	EU-6ML-GV-01 and EU-6ML-GV-02	SC V.1, VI.1, VI.2	R 336.1331

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
16. PM10	1.4 tpy <sup>2</sup>	12-Month rolling* / Fluxing, Drossing	EU-6ML-GV-01 and EU-6ML-GV-02	SC VI.1, VI.2	R 336.1331 R 336.1205(3)
17. CO	3.5 pph <sup>2</sup>	Hourly / Fluxing, Drossing	EU-6ML-GV-01 and EU-6ML-GV-02	SC V.1, VI.1, VI.2	R 336.1201
18. CO	0.64 tpy <sup>2</sup>	12-Month rolling* / Fluxing, Drossing	EU-6ML-GV-01 and EU-6ML-GV-02	SC VI.1, VI.2	R 336.1201 R 336.1205(3)
19. NOx	4.2 pph <sup>2</sup>	Hourly / Fluxing, Drossing	EU-6ML-GV-01 and EU-6ML-GV-02	SC V.1, VI.1, VI.2	R 336.1201
20. NOx	0.76 tpy <sup>2</sup>	12-Month rolling* / Fluxing, Drossing	EU-6ML-GV-01 and EU-6ML-GV-02	SC VI.1, VI.2	R 336.1201 R 336.1205(3)
21. VOC	0.92 pph <sup>2</sup>	Hourly / Fluxing, Drossing	EU-6ML-GV-01 and EU-6ML-GV-02	SC V.1, VI.1, VI.2	R 336.1201 R 336.1702
22. VOC	0.17 tpy <sup>2</sup>	12-Month rolling* / Fluxing, Drossing	EU-6ML-GV-01 and EU-6ML-GV-02	SC VI.1, VI.2	R 336.1201 R 336.1205(3) R 336.1702
23. HCl	2.2 pph <sup>2</sup>	Hourly / Fluxing	EU-6ML-GV-01 and EU-6ML-GV-02	SC V.1, VI.1, VI.2	R 336.1201
24. HCl	0.4 tpy <sup>2</sup>	12-Month rolling* / Fluxing	EU-6ML-GV-01 and EU-6ML-GV-02	SC VI.1, VI.2	R 336.1201 R 336.1205(3)
25. Cl <sub>2</sub>	0.5 pph <sup>2</sup>	Hourly / Fluxing	EU-6ML-GV-01 and EU-6ML-GV-02	SC V.1, VI.1, VI.2	R 336.1201
26. Cl <sub>2</sub>	0.1 tpy <sup>2</sup>	12-Month rolling* / Fluxing	EU-6ML-GV-01 and EU-6ML-GV-02	SC VI.1, VI.2	R 336.1201 R 336.1205(3)
27. Hydrogen Fluoride (HF)	1.9 pph <sup>2</sup>	Hourly / Fluxing	EU-6ML-GV-01 and EU-6ML-GV-02	SC V.1, VI.1, VI.2	R 336.1201
28. HF	0.34 tpy <sup>2</sup>	12-Month rolling* / Fluxing	EU-6ML-GV-01 and EU-6ML-GV-02	SC VI.1, VI.2	R 336.1201 R 336.1205(3)

\* 12-Month Rolling Time period, as determined at the end of each calendar month.

\*\* Operating Scenario Definitions:

Holding: Molten aluminum is held at temperature waiting to be poured into molds.

Charging: Molten aluminum is being received from an outside supply into the furnace

Fluxing: Molten aluminum bath is in the process of chemical purification via the addition of HCl or HF flux media that attracts impurities and floats them to the surface for removal. Fluxing includes reaction time up to one hour after flux addition begins.

Drossing: The removal of the impurities (dross) from the surface of the molten aluminum after fluxing.

\*\*\* All limits apply to each furnace separately

29. Visible emissions from the FG-6ML-ALMELT shall not exceed a 6-minute-average of 10% opacity, except during flux and dross on the two reverberatory furnaces, where opacity may not exceed 20%, except for one 6-minute average of 27%.<sup>2</sup> (R 336.1301(c))

## II. MATERIAL LIMIT(S)

1. The permittee shall not process more than 156.5 tons of injection and broadcast flux annually through FG-6ML-ALMELT based on a 12-month rolling time period, as determined at the end of each calendar month.<sup>1</sup> (R 336.1225)

2. The permittee shall only input through FG-6ML-ALMELT clean liquid aluminum, clean aluminum charges (ingots, sows, or pigs) or clean internal aluminum reruns (scrap, gating, sprue).<sup>1</sup> (R 336.1225)

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

1. The permittee shall only actively add flux to one of the aluminum furnaces during any one-hour period. The permittee shall not flux more than 180 hours per year per furnace of FG-6ML-ALMELT. The permittee shall not dross more than 180 hours per year per furnace of FG-6ML-ALMELT.<sup>1</sup> **(R 336.1225)**

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

NA

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

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. Upon request from the AQD Supervisor, the permittee shall verify emission rates from the holding/charging operating scenario and the fluxing/drossing operating scenario by testing at owner's expense, in accordance with Department requirements. Verification of emission rates includes the submittal of complete report of the test results.<sup>2</sup> **(R 336.1201(3), R 336.2001(a)(e))**
  - a. The permittee shall submit a complete test protocol to the AQD for approval at least 30 days prior to the anticipated test date. **(R 336.1201(3))**
  - b. The permittee shall notify the District Supervisor or the Technical Programs Unit no less than 7 days prior to the anticipated test date. **(R 336.2001(3))**
  - c. The permittee shall submit a complete test report of the test results to the District Supervisor or the Technical Programs Unit within 60 days following the last date of the test. **(R 336.2001(4))**

### **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall record monthly flux usage and duration in hours (rounded to 1/4 hour) of the fluxing for the aluminum furnaces (EU-6ML-GV-01, EU-6ML-GV-02). Fluxing includes reaction time up to one hour after flux addition begins.<sup>2</sup> **(R 336.1205(3))**
2. The permittee shall record the monthly natural gas usage on the aluminum furnaces (EU-6ML-GV-01, EU-6ML-GV-02).<sup>2</sup> **(R 336.1205(3))**
3. Within 30 days following the end of each calendar month, the permittee shall calculate and record emissions from the process for the previous calendar month to demonstrate compliance with the 12-month rolling time period emission limits specified in this table. These records shall be made available to the AQD upon request. **(R 336.1213(3))**
4. The permittee shall perform and record the results of a non-certified visible emissions check on FG-6ML-ALMELT at least once weekly while operating EU-6ML-GV-01 or EU-6ML-GV-02. The visible emissions check shall verify the presence of any visible emissions and need not follow the procedures specified in USEPA Method 9; therefore, multiple stacks may be observed simultaneously. The date, time, name of visible emissions observer, and whether any visible emissions were observed shall be recorded. If any visible emissions are observed, the permittee shall immediately implement one of the following procedures: **(R 336.1213(3), R 336.1301)**
  - a. If any visible emissions have been observed during the non-certified visible emissions check, the permittee shall perform and record the results of a 6-minute USEPA Method 9 visible emissions observation. If the results of the Method 9 visible emissions observation indicate a violation of the opacity standard, the permittee shall immediately initiate corrective actions and document the corrective actions taken.
  - b. The permittee shall immediately initiate corrective actions and document the corrective actions taken based upon the initial non-certified visible emissions check that indicated the presence of any visible emissions.
5. The permittee shall record the date and time of flux added to Aluminum Reverberatory Furnace #1 (West) and Aluminum Reverberatory Furnace #2 (East). **(R 336.1213(3))**

**VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**

See Appendix 8

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

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV-6ML-GV-01	60 <sup>2</sup>	71 <sup>2</sup>	<b>40 CFR 52.21(c) &amp; (d)</b>
2. SV-6ML-GV-02	60 <sup>2</sup>	71 <sup>2</sup>	<b>40 CFR 52.21(c) &amp; (d)</b>

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

<sup>1</sup> This condition is state only enforceable and was established pursuant to Rule 201(1)(b).  
<sup>2</sup> This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**FG-FACILITYPM  
 FLEXIBLE GROUP CONDITIONS**

**DESCRIPTION**

Particulate emissions associated with the facility.

**Emission Units:** EU-6ML-EF-02, FG-6ML-ALMELT (EU-6ML-GV-01, EU-6ML-GV-02), EU-PSANDALUMINUM, EU-PSANDPROCESS, EU-PSANDCORERROOM, EU-PSANDCASTLINE, EU-SPMCASTLINE4, EU-FINISH, EU-PSANDSCCSH, EU-SPMALUMINUM, EU-SPMPROCESSAND, EU-SPMCORERROOM, EU-SPMCASTLINE, EU PREMACHINING, EU-MACHASM

The most recent PTI for this emission unit is PTI No. 36-12J.

**POLLUTION CONTROL EQUIPMENT**

Various collection and control equipment for each emission unit

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	128.99 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	FG-FACILITYPM	SC VI.1	R 336.1331(1)(c)
2. PM10	132.94 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	FG-FACILITYPM	SC VI.1	R 336.2810 40 CFR 52.21(c) & (d)
3. PM2.5	132.94 tpy <sup>2</sup>	12-month rolling time period as determined at the end of each calendar month	FG-FACILITYPM	SC VI.1	R 336.2810 40 CFR 52.21(c) & (d)

**II. MATERIAL LIMIT(S)**

NA

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

NA

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

NA

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

NA

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall monitor and record, in a satisfactory manner, all data as specified in the following table.<sup>2</sup> **(R 336.1205, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21)**

Equipment	Parameter	Time Frame Basis
a. FG-FACILITYPM	PM, PM10, and PM2.5 in tpy	Monthly and 12-month rolling time period as determined at the end of each calendar month

2. Within 30 days following the end of each calendar month, the permittee shall calculate and record emissions from the process for the previous calendar month to demonstrate compliance with the 12-month rolling time period emission limits specified in the emission limit table. These records shall be made available to the AQD upon request. **(R 336.1213(3))**

**VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

**VIII. STACK/VENT RESTRICTIONS**

NA

**IX. OTHER REQUIREMENTS**

NA

**Footnotes:**

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

<sup>2</sup>This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

## FG-EMERGENCYRICE FLEXIBLE GROUP CONDITIONS

### DESCRIPTION

Emergency generators subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE), Title 40 of the Code of Federal Regulations (CFR), Part 63, Subpart ZZZZ (40 CFR 63.6580-6675). The engines are regulated as existing compression (CI) emergency RICE with a maximum site rate of less than 500 brake horsepower (HP) (EU-FIREPUMP1, EU-FIREPUMP2) and greater than 500 brake horsepower (HP) (EU-PATTERNSHOP) located at a Major Source of HAP emissions.

The most recent PTI for this emission unit is PTI No. 36-12J.

**Emission Units:** EU-PATTERNSHOP, EU-FIREPUMP1, EU-FIREPUMP2

### POLLUTION CONTROL EQUIPMENT

NA

#### I. EMISSION LIMIT(S)

NA

#### II. MATERIAL LIMIT(S)

NA

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

1. The permittee shall limit operation of each stationary emergency RICE with a site rating of less than or equal to 500 brake HP or greater than 500 brake HP as follows:
  - a. There is no time limit on the use of emergency stationary RICE in emergency situations. **(40 CFR 63.6640(f))**
  - b. Emergency stationary RICE may be operated for the purposes of maintenance checks and readiness testing up to 100 hours per year. The permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year. **(40 CFR 63.6640(f))**
  - c. Emergency stationary RICE may be operated up to 50 hours per year in non-emergency situations, but those hours are to be counted towards the 100 hours per year for maintenance and readiness testing. These 50 hours per year for non-emergency situations cannot be used for peak-shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. Up to 15 hours per year can be used as part of a demand response program. **(40 CFR 63.6640(f))**
2. The permittee shall operate and maintain existing emergency stationary RICE with a site rate of less than or equal to 500 brake HP according to the manufacturer's emission-related operation and maintenance instructions or a plan developed by the facility that provides for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 63.6625(e), 40 CFR 63.6640(a) Table 6(9)(a))**
3. For existing emergency CI RICE with a site rate of less than or equal to 500 brake HP, the permittee shall inspect the air cleaner every 1000 hours of operation or annually, whichever comes first. **(40 CFR 63.6603(a) and Table 2d (4)(b))**

4. For existing emergency CI RICE with a site rate of less than or equal to 500 brake HP, the permittee shall change the oil and filter every 500 hours of operation or annually, whichever comes first. In lieu of changing the oil and filter, the permittee may implement an oil analysis program to have the oil analyzed at the same frequency specified for changing the oil as described in 40 CFR 63.6625(i). **(40 CFR 63.6603(a) and Table 2d (4)(a) & (5)(a))**
5. If implementing an oil analysis program and if the analytical results of the oil analysis program for emergency stationary CI engines with a site rate of less than or equal to 500 brake HP indicate any of the following limits are exceeded, the permittee shall change the oil within 2 days of receiving the results of the analysis. If the engine is not in operation when the results of the analysis are received, the permittee shall change the oil within 2 days or before commencing operation, whichever is later. **(40 CFR 63.6625(i))**
  - a. Total Base Number is less than 30 percent of the Total Base Number of the oil when new.
  - b. Viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new.
  - c. Percent water content (by volume) is greater than 0.5.
6. For existing emergency CI RICE with a site rate of less than or equal to 500 brake HP, the permittee shall inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. **(40 CFR 63.6603(a) and Table 2d (4)(c) & (5)(c))**
7. If an existing emergency CI RICE with a site rate of less than or equal to 500 brake HP is operating during an emergency and it is not possible to shutdown to perform the management practice requirements (change oil and filter, inspect air cleaner and spark plugs, and inspect hoses and belts) on the required schedule, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice shall be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. **(40 CFR 63.6603(a) and Table 2d footnote 2)**
8. The permittee shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission standards apply. **(40 CFR 63.6625(h), 40 CFR 63.6640(a))**

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

1. For existing emergency CI RICE with a site rating of 500 brake HP or less, the permittee shall install a nonresettable hour meter. **(40 CFR 63.6625(f))**

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

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. If implementing an oil analysis program for emergency stationary CI engines with a site rate of less than or equal to 500 brake HP, the permittee shall at a minimum analyze the oil for the following three parameters: **(40 CFR 63.6625(i))**
  - a. Total Base Number;
  - b. Viscosity;
  - c. Percent water content.

#### **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall maintain a copy of each notification and report submitted, including supporting documentation. **(40 CFR 63.6655(a)(1))**
2. The permittee shall maintain a record of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. **(40 CFR 63.6655(a)(2))**



3. The permittee shall maintain a record of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. **(40 CFR 63.6655(a)(5))**
4. The permittee shall maintain records of the maintenance conducted on the stationary RICE in order to demonstrate that the stationary RICE was operated and maintained according to the facility maintenance plan. **(40 CFR 63.6655(e)(2))**
5. For existing emergency stationary RICE that do not meet the emission standards applicable to nonemergency stationary RICE, permittee shall maintain records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The records must document how many hours are spent for emergency operation; including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response. **(40 CFR 63.6655(f))**
6. If implementing an oil analysis program, the permittee shall keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. **(40 CFR 63.6625(i) and (j))**

## **VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The permittee shall report any failure to perform a management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable. **(40 CFR Part 63, Table 2c, footnote 1)**

See Appendix 8

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

NA

## **IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with all applicable provisions of the RICE MACT as specified in 40 CFR Part 63, Subparts A and ZZZZ, by the initial compliance date. **(40 CFR 63.6595, 40 CFR Part 63, Subparts A and ZZZZ)**

### **Footnotes:**

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

<sup>2</sup>This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**FG-EMERGENERATOR  
 FLEXIBLE GROUP CONDITIONS**

**DESCRIPTION**

Standards of Performance for Stationary Spark Ignition Internal Combustion Engines as found at 40 CFR Part 60, Subpart JJJJ.

**Emission Units:** EU-Z02EG001, EU-Z03EG001, EU-Z06EG001, EU-Z07EG001

**POLLUTION CONTROL EQUIPMENT**

NA

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NOx	2.0 g/hp-hr*	Hourly	FG-EMERGENERATOR-1	SC VI.3	<b>40 CFR 60.4233(e)</b>
2. CO	4.0 g/hp-hr*	Hourly	FG-EMERGENERATOR-1	SC VI.3	<b>40 CFR 60.4233(e)</b>
3. VOC	1.0 g/hp-hr*	Hourly	FG-EMERGENERATOR-1	SC VI.3	<b>40 CFR 60.4233(e)</b>

\*Applies to engine in FG-EMERGENERATOR.

**II. MATERIAL LIMIT(S)**

1. The permittee shall only burn pipeline quality natural gas in FG-EMERGENERATOR. **(40 CFR 60.4233, 40 CFR 63.6590, 40 CFR 60.4241)**

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

1. There is no time limit on the use of emergency stationary RICE in emergency situations. **(40 CFR 60.4243(d)(1))**
2. The permittee may operate each engine in FG-EMERGENERATOR for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per calendar year. Each engine covered by FG-EMERGENERATOR may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. **(40 CFR 60.4243(d)(2 and 3))**
3. The permittee shall operate and maintain each engine covered by FG-EMERGENERATOR such that it meets the emission limits in SC I.1, I.2, and I.3 over the entire life of the engine. **(40 CFR 60.4234)**
4. If the permittee purchased a certified engine, according to procedures specified in 40 CFR Part 60, Subpart JJJJ, for the same model year, the permittee shall meet the following requirements for each engine covered by FG-EMERGENERATOR:
  - a. Operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions,

- b. Keep a maintenance plan and the permittee may only change those engine settings that are permitted by the manufacturer. If you do not operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine, and
  - c. Meet the requirements as specified in 40 CFR 1068 Subparts A through D. **(R 336.1911, 40 CFR 60.4234(b)(1))**
5. If the permittee purchased a non-certified engine or a certified engine operating in a non-certified manner, the permittee shall keep a maintenance plan for each engine covered by FG-EMERGENERATOR and shall, to the extent practicable, maintain and operate each engine in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 60.4243(b)(2))**

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

1. The permittee shall equip and maintain each engine covered by FG-EMERGENERATOR with a non-resettable hours meters to track the operating hours. **(R 336.1225, 40 CFR 60.4237)**
2. It is expected that air-to-fuel ratio controllers will be used with the operation of three-way catalysts/non-selective catalytic reduction. The AFR controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. **(40 CFR 60.4243(g))**

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

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall conduct an initial performance test for each engine covered by FG-EMERGENERATOR within one year after initial startup of the engine to demonstrate compliance with NO<sub>x</sub>, CO, and VOC emission limits in 40 CFR 60.4233(e), unless the engines have been certified by the manufacturer as required by 40 CFR Part 60, Subpart JJJJ and the permittee maintains the engine as required by 40 CFR 60.4243(b)(1). If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4244, and the hourly emission rates shall be determined by the average of the acceptable three test runs. No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD Technical Programs Unit and District Office. The final plan must be approved by the AQD prior to testing. Verification of emission limits includes the submittal of a complete report of the test results to the AQD Technical Programs Unit within 60 days following the last date of the test. After conducting the initial performance test, the permittee shall conduct subsequent performance testing, for non-certified engines, every 8,760 hours or 3 years, whichever comes first. **(R 336.2001, R 336.2003, R 336.2004, 40 CFR 60.4243, 40 CFR 60.4244, 40 CFR Part 60, Subpart JJJJ)**

#### **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall keep, in a satisfactory manner, records of testing required in SC V.1 or manufacturer certification and maintenance records documenting that each engine covered by FG-EMERGENERATOR meets the applicable emission limitations contained in the federal Standards of Performance for New Stationary Sources 40 CFR Part 60, Subpart JJJJ. The permittee shall keep all records on file and make them available to the Department upon request. If any engine in FG-EMERGENERATOR is or becomes uncertified then the permittee must also keep records of a maintenance plan and maintenance activities. The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4245)**
2. The permittee shall monitor and record the total hours of operation and the hours of operation during non-emergencies for each engine covered by FG-EMERGENERATOR, on a monthly and calendar year basis, in a manner acceptable to the AQD District Supervisor. The permittee shall document how many hours are spent for emergency operation of FG-EMERGENERATOR, including what classified the operation as emergency and how many hours are spent for non-emergency operation. These records shall be completed within 30 days following the end of each calendar month and be made available to the AQD upon request. **(40 CFR 60.4243, 40 CFR 60.4245(b), R336.1213(3))**

3. The permittee shall keep records of the following information for each engine covered by FG-EMERGENERATOR:
  - a. All notifications submitted to comply with 40 CFR Part 60, Subpart JJJJ and all documentation supporting any notification.
  - b. Maintenance conducted on each engine covered by FG-EMERGENERATOR.
  - c. If an engine covered by FG-EMERGENERATOR is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR Parts 90, 1048, 1054, and 1060, as applicable.
  - d. If an engine covered by FG-EMERGENERATOR is not a certified engine or is a certified engine operating in a non-certified manner and subject to 40 CFR 60.4243(a)(2), documentation that engine meets the emission standards. **(40 CFR 60.4245(a))**

## **VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The permittee must submit an initial notification as required in 40 CFR 60.7(a)(1), if any engine in FG-EMERGENERATOR has not been certified by an engine manufacturer to meet the emission standards in 40 CFR 60.4231. The notification must include the following information: **(40 CFR 60.4245(c))**
  - a. Name and address of the owner or operator;
  - b. The address of the affected source;
  - c. The engine make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
  - d. The engine emission control equipment; and
  - e. Fuel used in the engine.
5. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**

See Appendix 8

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

NA

## **IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60, Subparts A and JJJJ, as they apply to each engine covered by FG-EMERGENERATOR. **(40 CFR Part 60, Subparts A and JJJJ, 40 CFR 63.6590)**
2. The permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subparts A and ZZZZ, as they apply to each engine covered by FG-EMERGENERATOR. **(40 CFR Part 63, Subparts A and ZZZZ, 40 CFR 63.6595)**

### **Footnotes:**

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

<sup>2</sup> This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

## **FG-COLDCLEANERS FLEXIBLE GROUP CONDITIONS**

### **DESCRIPTION**

Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278, Rule 278a and Rule 281(2)(h) or Rule 285(2)(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.

**Emission Unit:** EU-COLDCLEANER

### **POLLUTION CONTROL EQUIPMENT**

NA

### **I. EMISSION LIMIT(S)**

NA

### **II. MATERIAL LIMIT(S)**

1. The permittee shall not use cleaning solvents containing more than five percent by weight of the following halogenated compounds: methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chloroform, or any combination thereof. **(R 336.1213(2))**

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

1. Cleaned parts shall be drained for no less than 15 seconds or until dripping ceases. **(R 336.1611(2)(b), R 336.1707(3)(b))**
2. The permittee shall perform routine maintenance on each cold cleaner as recommended by the manufacturer. **(R 336.1213(3))**

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

1. The cold cleaner must meet one of the following design requirements:
  - a. The air/vapor interface of the cold cleaner is no more than ten square feet; **(R 336.1281(2)(h))**
  - b. The cold cleaner is used for cleaning metal parts and the emissions are released to the general in-plant environment. **(R 336.1285(2)(r)(iv))**
2. The cold cleaner shall be equipped with a device for draining cleaned parts. **(R 336.1611(2)(b), R 336.1707(3)(b))**
3. All new and existing cold cleaners shall be equipped with a cover and the cover shall be closed whenever parts are not being handled in the cold cleaner. **(R 336.1611(2)(a), R 336.1707(3)(a))**
4. The cover of a new cold cleaner shall be mechanically assisted if the Reid vapor pressure of the solvent is more than 0.3 psia or if the solvent is agitated or heated. **(R 336.1707(3)(a))**
5. If the Reid vapor pressure of any solvent used in a new cold cleaner is greater than 0.6 psia; or, if any solvent used in a new cold cleaner is heated above 120 degrees Fahrenheit, then the cold cleaner must comply with at least one of the following provisions:
  - a. The cold cleaner must be designed such that the ratio of the freeboard height to the width of the cleaner is equal to or greater than 0.7; **(R 336.1707(2)(a))**

- b. The solvent bath must be covered with water if the solvent is insoluble and has a specific gravity of more than 1.0; **(R 336.1707(2)(b))**
- c. The cold cleaner must be controlled by a carbon adsorption system, condensation system, or other method of equivalent control approved by the AQD. **(R 336.1707(2)(c))**

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

NA

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

- 1. For each new cold cleaner in which the solvent is heated, the solvent temperature shall be monitored and recorded at least once each calendar week during routine operating conditions. **(R 336.1213(3))**
- 2. The permittee shall maintain the following information on file for each cold cleaner: **(R 336.1213(3))**
  - a. A serial number, model number, or other unique identifier for each cold cleaner;
  - b. The date the unit was installed, manufactured or that it commenced operation;
  - c. The air/vapor interface area for any unit claimed to be exempt under Rule 281(2)(h);
  - d. The applicable Rule 201 exemption;
  - e. The Reid vapor pressure of each solvent used;
  - f. If applicable, the option chosen to comply with Rule 707(2).
- 3. The permittee shall maintain written operating procedures for each cold cleaner. These written procedures shall be posted in an accessible, conspicuous location near each cold cleaner. **(R 336.1611(3), R 336.1707(4))**
- 4. As noted in Rule 611(2)(c) and Rule 707(3)(c), if applicable, an initial demonstration that the waste solvent is a safety hazard shall be made prior to storage in non-closed containers. If the waste solvent is a safety hazard and is stored in non-closed containers, verification that the waste solvent is disposed of so that not more than 20 percent, by weight, is allowed to evaporate into the atmosphere shall be made on a monthly basis. **(R 336.1213(3), R 336.1611(2)(c), R 336.1707(3)(c))**

**VII. REPORTING**

- 1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
- 2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
- 3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

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

NA

**IX. OTHER REQUIREMENT(S)**

NA

## **E. NON-APPLICABLE REQUIREMENTS**

At the time of the ROP issuance, the AQD has determined that no non-applicable requirements have been identified for incorporation into the permit shield provision set forth in the General Conditions in Part A pursuant to Rule 213(6)(a)(ii).

## APPENDICES

### Appendix 1. Acronyms and Abbreviations

Common Acronyms		Pollutant / Measurement Abbreviations	
AQD	Air Quality Division	acfm	Actual cubic feet per minute
BACT	Best Available Control Technology	BTU	British Thermal Unit
CAA	Clean Air Act	°C	Degrees Celsius
CAM	Compliance Assurance Monitoring	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	CO <sub>2</sub> e	Carbon Dioxide Equivalent
CEMS	Continuous Emission Monitoring System	dscf	Dry standard cubic foot
CFR	Code of Federal Regulations	dscm	Dry standard cubic meter
COM	Continuous Opacity Monitoring	°F	Degrees Fahrenheit
Department/ department	Michigan Department of Environment, Great Lakes, and Energy	gr	Grains
EGLE	Michigan Department of Environment, Great Lakes, and Energy	HAP	Hazardous Air Pollutant
EU	Emission Unit	Hg	Mercury
FG	Flexible Group	hr	Hour
GACS	Gallons of Applied Coating Solids	HP	Horsepower
GC	General Condition	H <sub>2</sub> S	Hydrogen Sulfide
GHGs	Greenhouse Gases	kW	Kilowatt
HVLP	High Volume Low Pressure*	lb	Pound
ID	Identification	m	Meter
IRSL	Initial Risk Screening Level	mg	Milligram
ITSL	Initial Threshold Screening Level	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	NMOC	Non-methane Organic Compounds
MAP	Malfunction Abatement Plan	NO <sub>x</sub>	Oxides of Nitrogen
MSDS	Material Safety Data Sheet	ng	Nanogram
NA	Not Applicable	PM	Particulate Matter
NAAQS	National Ambient Air Quality Standards	PM10	Particulate Matter equal to or less than 10 microns in diameter
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
NSPS	New Source Performance Standards	pph	Pounds per hour
NSR	New Source Review	ppm	Parts per million
PS	Performance Specification	ppmv	Parts per million by volume
PSD	Prevention of Significant Deterioration	ppmw	Parts per million by weight
PTE	Permanent Total Enclosure	%	Percent
PTI	Permit to Install	psia	Pounds per square inch absolute
RACT	Reasonable Available Control Technology	psig	Pounds per square inch gauge
ROP	Renewable Operating Permit	scf	Standard cubic feet
SC	Special Condition	sec	Seconds
SCR	Selective Catalytic Reduction	SO <sub>2</sub>	Sulfur Dioxide
SNCR	Selective Non-Catalytic Reduction	TAC	Toxic Air Contaminant
SRN	State Registration Number	Temp	Temperature
TEQ	Toxicity Equivalence Quotient	THC	Total Hydrocarbons
USEPA/EPA	United States Environmental Protection Agency	tpy	Tons per year
VE	Visible Emissions	µg	Microgram
		µm	Micrometer or Micron
		VOC	Volatile Organic Compounds
		yr	Year

\*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.



## Appendix 2. Schedule of Compliance

The permittee certified in the ROP application that this stationary source is in compliance with all applicable requirements and the permittee shall continue to comply with all terms and conditions of this ROP. A Schedule of Compliance is not required. (R 336.1213(4)(a), R 336.1119(a)(ii))

## Appendix 3. Monitoring Requirements

Specific monitoring requirement procedures, methods or specifications are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

## Appendix 4. Recordkeeping

Specific recordkeeping requirement formats and procedures are detailed in Part A or the appropriate source-wide, emission unit and/or flexible group special conditions. Therefore, this appendix is not applicable.

## Appendix 5. Testing Procedures

There are no specific testing requirement plans or procedures for this ROP. Therefore, this appendix is not applicable.

## Appendix 6. Permits to Install

The following table lists any PTIs issued or ROP revision applications received since the effective date of the previously issued ROP No. MI-ROP-B1991-2015. Those ROP revision applications that are being issued concurrently with this ROP renewal are identified by an asterisk (\*). Those revision applications not listed with an asterisk were processed prior to this renewal.

Source-Wide PTI No MI-PTI-B1991-2015c is being reissued as Source-Wide PTI No. MI-PTI-B1991-2021.

Permit to Install Number	ROP Revision Application Number	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
36-12C	201500043	Add a scrubber, reconfigure Mold Line 6 exhaust. Change to definition of fluxing for FG-6ML-ALMELT.	EU-6ML-EF-03 EU-6ML-EF-04 EU-6ML-DC-67 FG-6ML-ALMELT
36-12D	NA	Removed baghouse on EU-PSANDALUMINUM, increased PM limits. Removed stack melter monitoring.	EU-PSANDALUMINUM
36-12E	201600098	Increase on CO emission limit.	EU-SPMCASTLINE
36-12F	201600125	Increased aluminum throughput in Precision Mold. Removed stack melter with EU-PSANDALUMINUM and stack parameter with EU-PSANDSCCSH. Added new castline EU-SPMCASTLINE4.	EU-PSANDALUMINUM EU-PSANDSCCSH EU-SPMCASTLINE4
36-12H	201800116	Remove EU-SANDSEP, stack configuration and PM/PM10/PM2.5 emission limits for EU-SPMCASTLINE4 and removed Mold Line 6.	EU-SANDSEP EU-SPMCASTLINE4

36-121	202000053	Removed fabric filter collector on EU-SPMALUMINUM. Changed FG-6ML-ALMELT to backup equipment and removed testing requirement.	EU-SPMALUMINUM FG-6ML-ALMELT
--------	-----------	---	---------------------------------

**Appendix 7. Emission Calculations**

Specific emission calculations to be used with monitoring, testing or recordkeeping data are detailed in the appropriate Source-Wide, Emission Unit and/or Flexible group Special Conditions. Therefore, this appendix is not applicable.

**Appendix 8. Reporting**

**A. Annual, Semiannual, and Deviation Certification Reporting**

The permittee shall use EGLE, AQD, Report Certification form (EQP 5736) and EGLE, AQD, Deviation Report form (EQP 5737) for the annual, semiannual and deviation certification reporting referenced in the Reporting Section of the Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Alternative formats must meet the provisions of Rule 213(4)(c) and Rule 213(3)(c)(i), respectively, and be approved by the AQD District Supervisor.

**B. Other Reporting**

Specific reporting requirement formats and procedures are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, Part B of this appendix is not applicable.