STATE OF TENNESSEE
AIR POLLUTION CONTROL BOARD
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37243

MINOR MODIFICATION #1 TO
OPERATING PERMIT (TITLE V) Issued Pursuant to Tennessee Air Quality Act

This permit fulfills the requirements of Title V of the Federal Clean Air Act (42 U.S.C. 7661a-7661e) and the federal regulations promulgated thereunder at 40 CFR Part 70. (FR Vol. 57, No. 140, Tuesday, July 21, 1992 p.32295-32312). This permit is issued in accordance with the provisions of paragraph 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations (TAPCR). The permittee has been granted permission to operate an air contaminant source in accordance with emissions limitations and monitoring requirements set forth herein.

Date Issued: March 1, 2021

Permit Number: 577530

Date Modified September 14, 2021
DATE

Date Expires: February 28, 2026

Issued To:
Johnson Matthey Inc.

Installation Address:
1246 Airport Road
Sevierville

Installation Description: Sponge Catalyst Manufacturing Facility

78-0028-01	24.5 MMBtu/hr. Natural Gas Fired Boiler	78-0028-29	Crushing and Milling Operation
78-0028-15	Two Nickel-Aluminum Digesters (#4 and #6)	78-0028-30	One Nickel-Aluminum Digester (#7)
78-0028-25	One Nickel-Aluminum Digester (#5)	78-0028-31	One Nickel-Aluminum Digester (#8)
78-0028-28	Metals Melting and Alloying Operation		

Facility ID: 78-0028

Renewal Application Due Date:
Between June 3, 2025 and September 1, 2025

Primary NAICS: 325180

Information Relied Upon:
Renewal applications dated September 25, 2019, July 27, 2020, and January 6, 2021.
Minor Modification #1 application dated December 5, 2024

(continued on the next page)

TECHNICAL SECRETARY

No Authority is Granted by this Permit to Operate, Construct, or Maintain any Installation in Violation of any Law, Statute, Code, Ordinance, Rule, or Regulation of the State of Tennessee or any of its Political Subdivisions.

POST AT INSTALLATION ADDRESS

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END OF PERMIT NUMBER 577530

SECTION A
GENERAL PERMIT CONDITIONS

A permit issued under the provisions of Tennessee Air Pollution Control Regulations (TAPCR) paragraph 1200-03-09-.02(11) is a permit issued pursuant to the requirements of Title V of the Federal Act and its implementing Federal regulations promulgated at 40 CFR, Part 70.

A1. **Definitions.** Terms not otherwise defined in the permit shall have the meaning assigned to such terms in the referenced regulations.

TAPCR 1200-03 and 0400-30

A2. **Compliance requirement.** All terms and conditions in a permit issued pursuant to TAPCR paragraph 1200-03-09-.02(11) including any provisions designed to limit a source's potential to emit, are enforceable by the Administrator and citizens under the Federal Act.

The permittee shall comply with all conditions of its permit. Except for requirements specifically designated herein as not being federally enforceable (State Only), non-compliance with the permit requirements is a violation of the Federal Act and the Tennessee Air Quality Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. Non-compliance with permit conditions specifically designated herein as not being federally enforceable (State Only) is a violation of the Tennessee Air Quality Act and may be grounds for these actions.

TAPCR 1200-03-09-.02(11)(e)2(i) and 1200-03-09-.02(11)(e)1(vi)(I)

A3. **Need to halt or reduce activity.** The need to halt or reduce activity is not a defense for noncompliance. It shall not be a defense for a 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 the permit. However, nothing in this item shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations.

TAPCR 1200-03-09-.02(11)(e)1(vi)(II)

A4. **The permit.** The permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

TAPCR 1200-03-09-.02(11)(e)1(vi)(III)

A5. **Property rights.** The permit does not convey any property rights of any sort, or any exclusive privilege.

TAPCR 1200-03-09-.02(11)(e)1(vi)(IV)

A6. **Submittal of requested information.** The permittee shall furnish to the Technical Secretary, within a reasonable time, any information that the Technical Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or termination of the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Technical Secretary copies of records required to be kept by the permit. If the permittee claims that such information is confidential, the Technical Secretary may review that claim and hold the information in protected status until such time that the Board can hear any contested proceedings regarding confidentiality disputes. If the information is desired by EPA, the permittee may mail the information directly to EPA. Any claims of confidentiality for federal purposes will be determined by EPA.

TAPCR 1200-03-09-.02(11)(e)1(vi)(V)

A7. **Severability clause.** The requirements of this permit are severable. A dispute regarding one or more requirements of this permit does not invalidate or otherwise excuse the permittee from their duty to comply with the remaining portion of the permit.

TAPCR 1200-03-09.02(11)(e)1(v)

A8. **Fee payment.**

(a) The permittee shall pay an annual Title V fee in accordance with TAPCR 1200-03-26-.02(9) based upon the applicable base fee; the applicable permit modification fee(s); responsible official's choice of actual emissions, allowable emissions, or a combination of actual and allowable emissions; and on the responsible official's choice of annual accounting period. An emission cap of 4,000 tons per year per regulated pollutant per major source SIC Code shall apply to actual or allowable based emission fees. A Title V annual emission fee will not be charged for emissions in excess of the cap. Title V annual emission fees will not be charged for carbon monoxide or for greenhouse gas pollutants solely because they are greenhouse gases.

(b) Title V sources shall pay allowable based emission fees until the beginning of the next annual accounting period following receipt of their initial Title V operating permit. At that time, the permittee shall begin paying their Title V fee based upon the applicable base fee; the applicable permit modification fee(s); and their choice of actual or allowable based fees, or mixed actual and allowable based fees. Once permitted, the Responsible Official may revise their existing fee choice by submitting a written request to the Division no later than December 31 of the annual accounting period for which the fee is due.

(c) When paying annual Title V emission fees, the permittee shall comply with all provisions of TAPCR Rule 1200-03-26-.02 and paragraph 1200-03-09-.02(11) applicable to such fees.

(d) Where more than one allowable emission limit is applicable to a regulated pollutant, the allowable emissions for the regulated pollutants shall not be double counted. Major sources subject to the provisions of TAPCR paragraph 1200-03-26-.02(9) shall apportion their emissions as follows to ensure that their fees are not double counted.

1. Emissions of hazardous air pollutants (HAP) that are included in the particulate matter (PM_{10}) category or the volatile organic compound category shall be included in those categories.

2. HAP that are not included in either the particulate matter category or volatile organic compound category shall be included in the category of Hazardous Air Pollutants Not Included Above. .

3. Each individual HAP is subject to the 4,000 ton cap provisions of TAPCR subparagraph 1200-03-26-.02(2)(i).

4. Major sources that wish to pay annual emission fees for PM_{10} on an allowable emission basis may do so if they have a specific PM_{10} allowable emission standard. If a major source has a total particulate emission standard but wishes to pay annual emission fees on an actual PM_{10} emission basis, it may do so if the PM_{10} actual emission levels are proven to the satisfaction of the Technical Secretary. The method to demonstrate the actual PM_{10} emission levels must be made as part of the source's major source operating permit in advance in order to exercise this option. The PM_{10} emissions reported under these options shall not be subject to fees under the family of particulate emissions. The 4,000 ton cap provisions of TAPCR subparagraph 1200-03-26-.02(2)(i) shall also apply to PM_{10} emissions.

(e) Emissions of pollutants that do not fall in one of the listed categories shall be included in the category of Miscellaneous Pollutants Not Listed Above. Each miscellaneous pollutant is subject to the 4,000-ton cap provisions.

TAPCR 1200-03-26-.02 and 1200-03-09-.02(11)(e)1(vii)

A9. **Permit revision not required.** A permit revision will not be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or process for changes that are provided for in the permit.

TAPCR 1200-03-09-.02(11)(e)1(viii)

A10. **Inspection and entry.** Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Technical Secretary or an authorized representative to perform the following for the purposes of determining compliance with the permit applicable requirements:

(a) Enter upon, at reasonable times, the permittee's premises where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;

(c) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

(d) As authorized by the Clean Air Act and Chapter 1200-03-10 of the TAPCR, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(e) "Reasonable times" shall be considered to be customary business hours unless reasonable cause exists to suspect noncompliance with the Act, TAPCR Division 1200-03 or any permit issued pursuant thereto and the Technical Secretary specifically authorizes an inspector to inspect a facility at any other time.

TAPCR 1200-03-09-.02(11)(e)3.(ii)

A11. Permit shield.

(a) Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date of permit issuance, provided that:

1. Such applicable requirements are included and are specifically identified in the permit; or

2. The Technical Secretary, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.

(b) Nothing in this permit shall alter or affect the following:

1. The provisions of section 303 of the Federal Act (emergency orders), including the authority of the Administrator under that section. Similarly, the provisions of T.C.A. §68-201-109 (emergency orders) including the authority of the Governor under the section;

2. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

3. The applicable requirements of the acid rain program, consistent with section 408(a) of the Federal Act; or

4. The ability of EPA to obtain information from a source pursuant to section 114 of the Federal Act.

(c) Permit shield is granted to the permittee.

(d) The permit shield does not apply to permit changes made under the minor permit modification procedures of TAPCR subpart 1200-03-09-.02(11)(f)5(ii) nor the administrative permit amendment procedures of TAPCR part 1200-03-09-.02(11)(f)4, except that the permit shield may be extended for administrative permit amendments that meet the relevant requirements of TAPCR subparagraph 1200-03-09-.02(11)(e), subparagraph 1200-03-09-.02(11)(f) and subparagraph 1200-03-09-.02(11)(g) for significant permit modifications.

(e) The permit shield does not apply to off-permit changes made under the operational flexibility provisions of TAPCR part 1200-03-09-.02(11)(a)4.

TAPCR 1200-03-09-.02(11)(e)6 and 1200-03-09-.02(11)(f)4(iv)

A12. Permit renewal and expiration.

(a) An application for permit renewal must be submitted at least 180 days, but no more than 270 days prior to the expiration of this permit. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted.

(b) If the permittee submits a timely and complete application for permit renewal the source will not be considered to be operating without a permit until the Technical Secretary takes final action on the permit application, except as otherwise noted in TAPCR paragraph 1200-03-09-.02(11).

(c) This permit, its shield provided in Condition A11, and its conditions will be extended and effective after its expiration date provided that the source has submitted a timely, complete renewal application to the Technical Secretary.

TAPCR 1200-03-09-.02(11)(f)2 and 3, 1200-03-09-.02(11)(d)1(i)(III), and 1200-03-09-.02(11)(a)2

A13. Reopening for cause.

(a) A permit shall be reopened and revised prior to the expiration of the permit under any of the circumstances listed below:

1. Additional applicable requirements under the Federal Act become applicable to the sources contained in this permit provided the permit has a remaining term of 3 or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the permit expiration date of this permit, unless the original has been extended pursuant to TAPCR part 1200-03-09-.02(11)(a)2.

2. Additional requirements become applicable to an affected source under the acid rain program.

3. The Technical Secretary or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

4. The Technical Secretary or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

(b) Proceedings to reopen and issue a permit shall follow the same proceedings as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists, and not the entire permit. Such reopening shall be made as expeditiously as practicable.

(c) Reopenings for cause shall not be initiated before a notice of such intent is provided to the permittee by the Technical Secretary at least 30 days in advance of the date that the permit is to be reopened except that the Technical Secretary may provide a shorter time period in the case of an emergency. An emergency shall be established by the criteria of T.C.A. 68-201-109 or other compelling reasons that public welfare is being adversely affected by the operation of a source that is in compliance with its permit requirements.

(d) If the Administrator finds that cause exists to terminate, modify, or revoke and reissue a permit as identified in A13, he is required under federal rules to notify the Technical Secretary and the permittee of such findings in writing. Upon receipt of such notification, the Technical Secretary shall investigate the matter in order to determine if he agrees or disagrees with the Administrator's findings. If he agrees with the Administrator's findings, the Technical Secretary shall conduct the reopening in the following manner:

1. The Technical Secretary shall, within 90 days after receipt of such notification, forward to EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate. If the Administrator grants additional time to secure permit applications or additional information from the permittee, the Technical Secretary shall have the additional time period added to the standard 90 day time period.

2. EPA will evaluate the Technical Secretary's proposed revisions and respond as to their evaluation.

3. If EPA agrees with the proposed revisions, the Technical Secretary shall proceed with the reopening in the same manner prescribed under Condition A13 (b) and Condition A13 (c).

4. If the Technical Secretary disagrees with either the findings or the Administrator that a permit should be reopened or an objection of the Administrator to a proposed revision to a permit submitted pursuant to Condition A13(d), he shall bring the matter to the Board at its next regularly scheduled meeting for instructions as to how he should proceed. The permittee shall be required to file a written brief expressing their position relative to the Administrator's objection and have a responsible official present at the meeting to answer questions for the Board. If the Board agrees that EPA is wrong in their demand for a permit revision, they shall instruct the

Technical Secretary to conform to EPA's demand, but to issue the permit under protest preserving all rights available for litigation against EPA.

TAPCR. 1200-03-09-.02(11)(f)6 and 7.

A14. **Permit transference.** An administrative permit amendment allows for a change of ownership or operational control of a source where the Technical Secretary determines that no other change in the permit is necessary, provided that the following requirements are met:

(a) Transfer of ownership permit application is filed consistent with the provisions of TAPCR paragraph 1200-03-09-.03(6), and

(b) written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the Technical Secretary.

TAPCR 1200-03-09-.02(11)(f)4(i)(IV) and 1200-03-09-.03(6)

A15. **Air pollution alert.** When the Technical Secretary has declared that an air pollution alert, an air pollution warning, or an air pollution emergency exists, the permittee must follow the requirements for that episode level as outlined in TAPCR paragraph 1200-03-09-.03(1) and TAPCR Rule 1200-03-15-.03.

A16. **Construction permit required.** Except as exempted in TAPCR Rule 1200-03-09-.04, or excluded in TAPCR subparagraph 1200-03-02-.01(1)(aa) or TAPCR subparagraph 1200-03-02-.01(1)(cc), this facility shall not begin the construction of a new air contaminant source or the modification of an air contaminant source which may result in the discharge of air contaminants without first having applied for and received from the Technical Secretary a construction permit for the construction or modification of such air contaminant source.

TAPCR 1200-03-09-.01(1)(a)

A17. **Notification of changes.** The permittee shall notify the Technical Secretary 30 days prior to commencement of any of the following changes to an air contaminant source which would not be a modification requiring a construction permit.

(a) change in air pollution control equipment

(b) change in stack height or diameter

(c) change in exit velocity of more than 25 percent or exit temperature of more than 15 percent based on absolute temperature.

TAPCR 1200-03-09-.02(7)

A18. **Schedule of compliance.** The permittee will comply with any applicable requirement that becomes effective during the permit term on a timely basis and no later than required by the provisions of the new applicable requirement If the permittee is not in compliance the permittee must submit a schedule for coming into compliance which must include a schedule of remedial measure(s), including an enforceable set of deadlines for specific actions.

TAPCR 1200-03-09-.02(11)(d)3, 1200-03-09-.03(8), 0400-30-38, 0400-30-39, and 40 CFR Part 70.5(c)

A19. **Title VI.**

(a) The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR, Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:

1. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to Section 82.156.

2. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to Section 82.158.

3. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to Section 82.161.

(b) If the permittee performs a service on motor (fleet) vehicles when this service involves ozone depleting substance refrigerant in the motor vehicle air conditioner (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.

(c) The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR, Part 82, Subpart G, Significant New Alternatives Policy Program.

TAPCR 1200-03-09-.03(8)

A20. **112 (r).** Sources which are subject to the provisions of Section 112(r) of the federal Clean Air Act or any federal regulations promulgated thereunder, shall annually certify in writing to the Technical Secretary that they are properly following their accidental release plan. The annual certification is due in the office of the Technical Secretary no later than January 31 of each year. Said certification will be for the preceding calendar year.

TAPCR 1200-03-32-.03(3)

SECTION B
GENERAL CONDITIONS for MONITORING, REPORTING, and ENFORCEMENT

B1. **Recordkeeping.** Monitoring and related record keeping shall be performed in accordance with the requirements specified in the permit conditions for each individual permit unit. In no case shall reports of any required monitoring and record keeping be submitted less frequently than every six months.

(a) Where applicable, records of required monitoring information include the following:

1. The date, place as defined in the permit, and time of sampling or measurements;
2. The date(s) analyses were performed;
3. The company or entity that performed the analysis;
4. The analytical techniques or methods used;
5. The results of such analyses; and
6. The operating conditions as existing at the time of sampling or measurement.

(b) Digital data accumulation which utilizes valid data compression techniques shall be acceptable for compliance determination as long as such compression does not violate an applicable requirement and its use has been approved in advance by the Technical Secretary.

TAPCR 1200-03-09-.02(11)(e)1(iii)

B2. **Retention of monitoring data.** The permittee shall retain records of all required monitoring data and support information for a period of at least 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 for continuous monitoring instrumentation, and copies of all reports required by the permit.

TAPCR 1200-03-09-.02(11)(e)1(iii)(II)II

B3. **Reporting.** Reports of any required monitoring and record keeping shall be submitted to the Technical Secretary in accordance with the frequencies specified in the permit conditions for each individual permit unit. Reports shall be submitted within 60 days of the close of the reporting period unless otherwise noted. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official. Reports required under "State only requirements" are not required to be certified by a responsible official.

TAPCR 1200-03-09-.02(11)(e)1(iii)

B4. **Certification.** Except for reports required under “State Only” requirements, any application form, report or compliance certification submitted pursuant to the requirements of this permit shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

TAPCR 1200-03-09-.02(11)(d)4

B5. **Annual compliance certification.** The permittee shall submit annually compliance certifications with terms and conditions contained in Sections A, B, D and E of this permit, including emission limitations, standards, or work practices. This compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable):

(a) The identification of each term or condition of the permit that is the basis of the certification;

(b) The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period; such methods and other means shall include, at a minimum, the methods and means required by this permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Act, which prohibits knowingly making a false certification or omitting material information;

(c) The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the method or means designated in B5(b) above. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion* or exceedance** as defined below occurred; and

(d) Such other facts as the Technical Secretary may require to determine the compliance status of the source.

* "Excursion" shall mean a departure from an indicator range established for monitoring under this paragraph, consistent with any averaging period specified for averaging the results of the monitoring.

** "Exceedance" shall mean a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.

40 CFR Part 70.6(c)(5)(iii) as amended in the Federal Register Vol. 79, No.144, July 28, 2014, pages 43661 through 43667

B6. **Submission of compliance certification.** The compliance certification shall be submitted to:

The Tennessee Department of Environment and Conservation Environmental Field Office specified in Section E of this permit	and	Air Enforcement Branch U. S. EPA Region IV 61 Forsyth Street, SW Atlanta, Georgia 30303

TAPCR 1200-03-09-.02(11)(e)3(v)(IV)

B7. Reserved

B8. **Excess emissions reporting.**

(a) The permittee shall promptly notify the Technical Secretary when any emission source, air pollution control equipment, or related facility breaks down in such a manner to cause the emission of air contaminants in excess of the applicable emission standards contained in TAPCR Division 1200-03 or any permit issued thereto, or of sufficient duration to cause damage to property or public health. The permittee must provide the Technical Secretary with a statement giving all pertinent facts, including the estimated duration of the breakdown, the probable cause of the deviation, and any corrective actions or preventative measures taken. Violations of the visible emission standard which occur for less than 20 minutes in one day (midnight to midnight) need not be reported. Prompt notification will be within 24 hours of the malfunction and shall be provided by telephone to the Division's Nashville office. The Technical Secretary shall be notified when the condition causing the failure or breakdown has been corrected. In attainment and unclassified areas if emissions other than from sources designated as significantly impacting on a nonattainment area in excess of the standards will not and do not occur over more than a 24-hour period (or will not recur over more than a 24-hour period) and no damage to property and or public health is anticipated, notification is not required.

(b) Any malfunction that creates an imminent hazard to health must be reported by telephone immediately to the Division's Nashville office at (615) 532-0554 and to the State Civil Defense.

(c) A log of all malfunctions, startups, and shutdowns resulting in emissions in excess of the standards in TAPCR Division 1200-03 or any permit issued thereto must be kept at the plant. All information shall be entered in the log no later than twenty-four (24) hours after the startup or shutdown is complete, or the malfunction has ceased or has been corrected. Any later discovered corrections can be added in the log as footnotes with the reason given for the change. This log must record at least the following:

1. Stack or emission point involved
2. Time malfunction, startup, or shutdown began and/or when first noticed
3. Type of malfunction and/or reason for shutdown
4. Time startup or shutdown was complete or time the air contaminant source returned to normal operation
5. The company employee making entry on the log must sign, date, and indicate the time of each log entry

The information under items 1. and 2. must be entered into the log by the end of the shift during which the malfunction or startup began. For any source utilizing continuous emission(s) monitoring, continuous emission(s) monitoring collection satisfies the above log keeping requirement.

TAPCR 1200-03-20-.03 and .04

B9. **Malfunctions, startups and shutdowns - reasonable measures required.** The permittee must take all reasonable measures to keep emissions to a minimum during startups, shutdowns, and malfunctions. These measures may include installation and use of alternate control systems, changes in operating methods or procedures, cessation of operation until the process equipment and/or air pollution control equipment is repaired, maintaining sufficient spare parts, use of overtime labor, use of outside consultants and contractors, and other appropriate means. Failures that are caused by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions. This provision does not apply to standards found in 40 CFR, Parts 60(Standards of performance for new stationary sources), 61(National emission standards for hazardous air pollutants) and 63(National emission standards for hazardous air pollutants for source categories).

TAPCR 1200-03-20-.02

B10. Reserved.

B11. **Report required upon the issuance of a notice of violation for excess emissions.** The permittee must submit, within twenty days after receipt of the notice of violation, the data required below. If this data has been made available to the Technical Secretary prior to the issuance of the notice of violation no further action is required of the violating source. However, if the source desires to submit additional information, then this must be submitted within the same 20 day time period. The minimum data requirements are:

(a) The identity of the stack and/or other emission point where the excess emission(s) occurred;

(b) The magnitude of the excess emissions expressed in pounds per hour and the units of the applicable emission limitation(s) and the operating data and calculations used in determining the magnitude of the excess emissions;

(c) The time and duration of the emissions;

(d) The nature and cause of such emissions;

(e) For malfunctions, the steps taken to correct the situation and the action taken or planned to prevent the recurrence of such malfunctions;

(f) The steps taken to limit the excess emissions during the occurrence reported, and

(g) If applicable, documentation that the air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good operating practices for minimizing emissions.

Failure to submit the required report within the 20-day period specified shall preclude the admissibility of the data for determination of potential enforcement action.

TAPCR 1200-03-20-.06(2), (3) and (4)

SECTION C
PERMIT CHANGES

C1. **Operational flexibility changes.** The source may make operational flexibility changes that are not addressed or prohibited by the permit without a permit revision subject to the following requirements:

(a) The change cannot be subject to a requirement of Title IV of the Federal Act or TAPCR Chapter 1200-03-30.

(b) The change cannot be a modification under any provision of Title I of the federal Act or TAPCR Division 1200-03.

(c) Each change shall meet all applicable requirements and shall not violate any existing permit term or condition.

(d) The source must provide contemporaneous written notice to the Technical Secretary and EPA of each such change, except for changes that are below the threshold of levels that are specified in TAPCR Rule 1200-03-09-.04.

(e) Each change shall be described in the notice including the date, any change in emissions, pollutants emitted, and any applicable requirements that would apply as a result of the change.

(f) The change shall not qualify for a permit shield under the provisions of TAPCR part 1200-03-09-.02(11)(e)6.

(g) The permittee shall keep a record describing the changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes. The records shall be retained until the changes are incorporated into subsequently issued permits.

TAPCR 1200-03-09-.02(11)(a)4 (ii)

C2. **Section 502(b)(10) changes.**

(a) The permittee can make certain changes without requiring a permit revision, if the changes are not modifications under Title I of the Federal Act or TAPCR Division 1200-03 and the changes do not exceed the emissions allowable under the permit. The permittee must, however, provide the Administrator and Technical Secretary with written notification within a minimum of 7 days in advance of the proposed changes. The Technical Secretary may waive the 7-day advance notice in instances where the source demonstrates in writing that an emergency necessitates the change. Emergency shall be demonstrated by the criteria of TAPCR part 1200-03-09-.02(11)(e)7 and in no way shall it include changes solely to take advantages of an unforeseen business opportunity. The Technical Secretary and EPA shall attach each such notice to their copy of the relevant permit.

(b) The written notification must be signed by a facility Title V responsible official and include the following:

1. a brief description of the change within the permitted facility;
2. the date on which the change will occur;
3. a declaration and quantification of any change in emissions;
4. a declaration of any permit term or condition that is no longer applicable as a result of the change; and
5. a declaration that the requested change is not a Title I modification and will not exceed allowable emissions under the permit.

(c) The permit shield provisions of TAPCR part 1200-03-09-.02(11)(e)6 shall not apply to Section 502(b)(10) changes.

TAPCR 1200-03-09-.02(11)(a)4 (i)

C3. **Administrative amendment.**

(a) Administrative permit amendments to this permit shall be in accordance with TAPCR part 1200-03-09-.02(11)(f)4. The source may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request.

(b) The permit shield shall be extended as part of an administrative permit amendment revision consistent with the provisions of TAPCR part 1200-03-09-.02(11)(e)6 for such revisions made pursuant to item (c) of this condition which meet the

relevant requirements of TAPCR subparagraph 1200-03-09-.02(11)(e), TAPCR subparagraph 1200-03-09-.02(11)(f) and TAPCR subparagraph 1200-03-09-.02(11)(g) for significant permit modifications.

(c) Proceedings to review and grant administrative permit amendments shall be limited to only those parts of the permit for which cause to amend exists, and not the entire permit.

TAPCR 1200-03-09-.02(11)(f)4

C4. Minor permit modifications.

(a) The permittee may submit an application for a minor permit modification in accordance with TAPCR subpart 1200-03-09-.02(11)(f)5(ii).

(b) The permittee may make the change proposed in its minor permit modification immediately after an application is filed with the Technical Secretary.

(c) Proceedings to review and modify permits shall be limited to only those parts of the permit for which cause to modify exists, and not the entire permit.

(d) Minor permit modifications do not qualify for a permit shield.

TAPCR 1200-03-09-.02(11)(f)5(ii)

C5. Significant permit modifications.

(a) The permittee may submit an application for a significant modification in accordance with TAPCR subpart 1200-03-09-.02(11)(f)5(iv).

(b) Proceedings to review and modify permits shall be limited to only those parts of the permit for which cause to modify exists, and not the entire permit.

TAPCR 1200-03-09-.02(11)(f)5(iv)

C6. New construction or modifications.

Future construction at this facility that is subject to the provisions of TAPCR Rule 1200-03-09-.01 shall be governed by the following:

(a) The permittee shall designate in their construction permit application the route that they desire to follow for the purposes of incorporating the newly constructed or modified sources into their existing operating permit. The Technical Secretary shall use that information to prepare the operating permit application submittal deadlines in their construction permit.

(b) Sources desiring the permit shield shall choose the administrative amendment route of TAPCR part 1200-03-09-.02(11)(f)4 or the significant modification route of TAPCR subpart 1200-03-09-.02(11)(f)5(iv).

(c) Sources desiring expediency instead of the permit shield shall choose the minor permit modification procedure route of TAPCR subpart 1200-03-09-.02(11)(f)5(ii) or group processing of minor modifications under the provisions of TAPCR subpart 1200-03-09-.02(11)(f)5(iii) as applicable to the magnitude of their construction.

TAPCR 1200-03-09-.02(11)(d) 1(i)(V)

SECTION D
GENERAL APPLICABLE REQUIREMENTS

D1. **Visible emissions.** With the exception of air emission sources exempt from the requirements of TAPCR Chapter 1200-03-05 and air emission sources for which a different opacity standard is specifically provided elsewhere in this permit, the permittee shall not cause, suffer, allow or permit discharge of a visible emission from any air contaminant source with an opacity in excess of twenty (20) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than 20 minutes in any twenty-four (24) hour period; provided, however, that for fuel burning installations with fuel burning equipment of input capacity greater than 600 million Btu per hour, the permittee shall not cause, suffer, allow, or permit discharge of a visible emission from any fuel burning installation with an opacity in excess of 20 percent (6-minute average) except for one six minute period per one hour of not more than 40 percent opacity. Sources constructed or modified after July 7, 1992 shall utilize 6-minute averaging.

Consistent with the requirements of TAPCR Chapter 1200-03-20, due allowance may be made for visible emissions in excess of that permitted under TAPCR Chapter 1200-03-05 which are necessary or unavoidable due to routine startup and shutdown conditions. The facility shall maintain a continuous, current log of all excess visible emissions showing the time at which such conditions began and ended and that such record shall be available to the Technical Secretary or an authorized representative upon request.

TAPCR 1200-03-05-.01(1), TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.02(1)

D2. **General provisions and applicability for non-process gaseous emissions.** Any person constructing or otherwise establishing a non-portable air contaminant source emitting gaseous air contaminants after April 3, 1972, or relocating an air contaminant source more than 1.0 km from the previous position after November 6, 1988, shall install and utilize the best equipment and technology currently available for controlling such gaseous emissions.

TAPCR 1200-03-06-.03(2)

D3. **Non-process emission standards.** The permittee shall not cause, suffer, allow, or permit particulate emissions from non-process sources in excess of the standards in TAPCR Chapter 1200-03-06.

D4. **General provisions and applicability for process gaseous emissions.** Any person constructing or otherwise establishing an air contaminant source emitting gaseous air contaminants after April 3, 1972, or relocating an air contaminant source more than 1.0 km from the previous position after November 6, 1988, shall install and utilize equipment and technology which is deemed reasonable and proper by the Technical Secretary.

TAPCR 1200-03-07-.07(2)

D5. **Particulate emissions from process emission sources.** The permittee shall not cause, suffer, allow, or permit particulate emissions from process sources in excess of the standards in TAPCR part 1200-03-07.

D6. **Sulfur dioxide emission standards.** The permittee shall not cause, suffer, allow, or permit sulfur dioxide emissions from process and non-process sources in excess of the standards in TAPCR Chapter 1200-03-14. Regardless of the specific emission standard, new process sources shall utilize the best available control technology as deemed appropriate by the Technical Secretary of the Tennessee Air Pollution Control Board.

D7. **Fugitive Dust.**

(a) The permittee shall not cause, suffer, allow, or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, but not be limited to, the following:

1. Use, where possible, of water or chemicals for control of dust in demolition of existing buildings or structures, construction operations, grading of roads, or the clearing of land;

2. Application of asphalt, water, or suitable chemicals on dirt roads, material stock piles, and other surfaces which can create airborne dusts;

3. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations.

(b) The permittee shall not cause, suffer, allow, or permit fugitive dust to be emitted in such manner to exceed five minutes per hour or 20 minutes per day as to produce a visible emission beyond the property line of the property on which the emission originates, excluding malfunction of equipment as provided in TAPCR Chapter 1200-03-20.

TAPCR 1200-03-08

D8. **Open burning.** The permittee shall comply with the TAPCR Chapter 1200-03-04 for all open burning activities at the facility.

TAPCR 1200-03-04

D9. **Asbestos.** Where applicable, the permittee shall comply with the requirements of 40 CFR Part 61 when conducting any renovation or demolition activities at the facility.

TAPCR 0400-30-38-.01(2) and 40 CFR, Part 61

D10. **Annual certification of compliance.** The generally applicable requirements set forth in Section D of this permit are intended to apply to activities and sources that are insignificant emission units or activities . By annual certification of compliance; with the conditions of this Section the permittee shall be considered to meet the monitoring and related record keeping and reporting requirements of TAPCR subpart 1200-03-09-.02(11)(e)1(iii) and part 1200-03-10-.04(2)(b)1 and the compliance requirements of TAPCR subpart 1200-03-09-.02(11)(e)3(i). The permittee shall submit compliance certification for these conditions annually.

D11. **Emission Standards for Hazardous Air Pollutants.** The permittee shall comply with all applicable requirements of TAPCR Chapter 0400-30-38 for all emission sources subject to a requirement contained therein.

D12. **Standards of Performance for New Stationary Sources.** The permittee shall comply with all applicable requirements of TAPCR Chapters 0400-30-39 and 1200-03-16 for all emission sources subject to a requirement contained therein.

D13. **Gasoline Dispensing Facilities.** The permittee shall comply with all applicable requirements of TAPCR Rule 1200-03-18-.24 for all emission sources subject to a requirement contained therein.

D14. **Internal Combustion Engines.**

(a) All stationary reciprocating internal combustion engines, including engines deemed insignificant activities and insignificant emission units, shall comply with the applicable provisions of TAPCR Rule 0400-30-38-.01.

(b) All stationary compression ignition internal combustion engines, including engines deemed insignificant activities and insignificant emission units, shall comply with the applicable provisions of TAPCR Chapter 0400-30-39-.01.

(c) All stationary spark ignition internal combustion engines, including engines deemed insignificant activities and insignificant emission units, shall comply with the applicable provisions of TAPCR Chapter 0400-30-39.

TAPCR 0400-30-38 and 39

SECTION E

SOURCE SPECIFIC EMISSION STANDARDS, OPERATING LIMITATIONS, and MONITORING, RECORDKEEPING and REPORTING REQUIREMENTS

78-0028	Facility Description:	24.5 MMBtu/hr natural gas-fired boiler, metals melting and alloying operation, crushing and milling operation, and five nickel-aluminum digesters (#4, #5, #6, #7, and #8).

Sections E1 and E2 apply to all sources in Section E of this permit unless otherwise noted.

E1(MM1). **Fee payment**

FEE EMISSIONS SUMMARY TABLE FOR MAJOR SOURCE 78-0028			
REGULATED POLLUTANTS	**ALLOWABLE EMISSIONS (tons per AAP)**	**ACTUAL EMISSIONS (tons per AAP)**	**COMMENTS**
PARTICULATE MATTER (PM)	**74.17**	**AEAR**	**Does not include PM HAP emissions.**
PM_{10}	**N/A**	**N/A**	
SO_2	**1.40**	**AEAR**	**Includes all fee emissions.**
VOC	**0.59**	**AEAR**	**Includes all fee emissions.**
NO_X	**5.55**	**AEAR**	**Includes all fee emissions.**
Facility-Wide Total HAP Limit	**N/A**	**N/A**	
Facility-Wide Individual HAP Limit	**N/A**	**N/A**	
HAZARDOUS AIR POLLUTANTS (HAPs) NOT INCLUDED ABOVE*			
PM FAMILY GROUP	**0.42**	**AEAR**	**Nickel compounds from sources 15 and 25. Fee emissions are not included in PM above.**
Nickel Compounds Cobalt Compounds Chromium Compounds	**2.76** **Neg.** **Neg.**	**AEAR** **AEAR** **AEAR**	**40 CFR 63 Subpart VVVVVV. Nickel compounds from sources 28 and 29. Fee emissions are not included in PM above.**
MISCELLANEOUS POLLUTANTS NOT LISTED ABOVE**			
EACH MISC POLLUTANT NOT LISTED ABOVE	**N/A**	**N/A**	

NOTES

AAP The **Annual Accounting Period** (**AAP**) is a 12 consecutive month period that **either (a) begins each July 1st and ends June 30th of the following year when fees are paid on a fiscal year basis, or (b) begins January 1st and ends December 31st of the same year when paying on a calendar year basis.** The **Annual Accounting Period** at the time of permit modification issuance began **July 1, 2024,** and ends **June 30, 2025.** The next Annual Accounting Period begins **July 1, 2025** and ends **June 30, 2026** unless a request to change the annual accounting period is submitted by the responsible official as required by subparagraph 1200-03-26-.02(9)(b) of the TAPCR and approved by the Technical Secretary**.** If the permittee wishes to revise their annual accounting period or their annual emission fee basis as allowed by subparagraph 1200-03-26-.02(9)(b) of the TAPCR, the responsible official must submit the request to the Division in writing on or before December 31 of the annual accounting period for which the fee is due. If a change in fee basis from allowable emissions to actual emissions for any pollutant is requested, the request from the responsible official must include the methods that will be used to determine actual emissions. Changes in fee bases must be made using the Title V Fee Selection form, form number APC 36 (CN-1583), included as Attachment 5 to this permit and available on the Division of Air Pollution Control's website.

N/A **N/A** indicates that no emissions are specified for fee computation.

AEAR If the permittee is paying annual emission fees on an actual emissions basis, **AEAR** indicates that an **A**ctual **E**missions **A**nalysis is **R**equired to determine the actual emissions of:

(1) **each regulated pollutant** (Particulate matter [PM], SO_2, VOC, NO_X and so forth. See TAPCR 1200-03-26-.02(2)(i) for the definition of a regulated pollutant.),

(2) the "**HAP Not Included Above" Category (non-VOC and non-PM HAP not included in a facility-wide limit)**, and

(3) the **Miscellaneous Category**

under consideration during the **Annual Accounting Period**.

* **Hazardous Air Pollutants Not Included Above:** This category is made-up of hazardous air pollutants that are not included in the VOC or PM category, such as HCl and HF, and are not included in a facility-wide HAP emission limitation. **For fee computation**, each individual hazardous air pollutant is subject to the 4,000-ton cap provisions of subparagraph 1200-03-26-.02(2)(i) of the TAPCR.

** **Miscellaneous Pollutants Not Listed Above:** This category is for pollutants that are not included in one of the other categories but for which an emission limitation has been established in this permit (including NSPS pollutants). **For fee computation**, each pollutant in this category is subject to the 4,000-ton cap provisions of subparagraph 1200-03-26-.02(2)(i).

END NOTES

The permittee shall:

(1) Pay Title V **annual emission fees** (including the emissions fee, base fee, significant modification fee, & minor modification fee), on the emissions and year bases requested by the responsible official and approved by the Technical Secretary, for each annual accounting period (AAP) by the payment deadline(s) established in TAPCR 1200-03-26-.02(9)(a). Fees may be paid on an **actual**, **allowable**, or **mixed** emissions basis; and on either a **state fiscal year** or a **calendar year**, provided the requirements of TAPCR 1200-03-26-.02(9)(b) are met. If any part of any fee imposed under TAPCR 1200-03-26-.02 is not paid within 15 days of the due date, penalties shall at once accrue as specified in TAPCR 1200-03-26-.02(8).

(2) Sources paying annual emissions fees on an allowable emissions basis: pay annual allowable based emission fees for each annual accounting period no later than April 1 of each year pursuant to TAPCR 1200-03-26-.02(9)(d).
TAPCR 1200-03-26-.02(9)(a)2(i)

(3) Sources paying annual fees on a calendar year basis and an actual or mixed emissions basis: pay annual allowable based emission fees for each AAP no later than April 1 of each year pursuant to TAPCR 1200-03-26-.02(9)(d), except as allowed by TAPCR 1200-03-26-.02(9)(g)3.
TAPCR 1200-03-26-.02(9)(a)2(ii)

(4) Sources paying annual fees on a fiscal year basis and an actual or mixed emissions basis: for each AAP, pay an estimated 65% of the fee due no later than April 1 of the current fiscal year. The remainder of the fee for each annual accounting period is due no later than August 1 of each year pursuant to TAPCR 1200-03-26-.02(9)(d), except as allowed by TAPCR 1200-03-26-.02(9)(g)3.
TAPCR 1200-03-26-.02(9)(a)2(iii)

(5) Sources paying annual emissions fees on an actual emissions basis: prepare an **actual emissions analysis** for each AAP and pay **actual based emission fees** pursuant to TAPCR 1200-03-26-.02(9)(d). The **actual emissions analysis** shall include:
(a) the completed **Fee Emissions Summary Table**,
(b) each **actual emissions analysis** required**,** and

(c) the actual emission records for each pollutant and each source as required for actual emission fee determination, or a summary of the actual emission records required for fee determination, as specified by the Technical Secretary or the Technical Secretary's representative. The summary must include sufficient information for the Technical Secretary to determine the accuracy of the calculations. These calculations must be based on the annual fee basis approved by the Technical Secretary (a state fiscal year [July 1 through June 30] or a calendar year [January 1 through December 31]). These records shall be used to complete the **actual emissions analyses** required by the above **Fee Emissions Summary Table**.

(6) Sources paying annual fees on a Fee Choice of a mixed emissions basis: for all pollutants and all sources for which the permittee has chosen an actual emissions basis, prepare an **actual emissions analysis** for each AAP and pay **actual based emission fees** pursuant to TAPCR 1200-03-26-.02(9)(d). The **actual emissions analysis** shall include:

(a) the completed **Fee Emissions Summary Table**,

(b) each **actual emissions analysis** required**,** and

(c) the actual emission records for each pollutant and each source as required for actual emission fee determination, or a summary of the actual emission records required for fee determination, as specified by the Technical Secretary or the Technical Secretary's representative. The summary must include sufficient information for the Technical Secretary to determine the accuracy of the calculations. These calculations must be based on the fee bases approved by the Technical Secretary (payment on an actual or mixed emissions basis) and payment on a state fiscal year (July 1 through June 30) or a calendar year (January 1 through December 31). These records shall be used to complete the **actual emissions analysis**.

For all pollutants and all sources for which the permittee has chosen an allowable emissions basis, pay allowable based emission fees pursuant to TAPCR 1200-03-26-.02(9)(d).

(7) When paying on an actual or mixed emissions basis, submit the **actual emissions analyses** at the time the fees are paid in full or earlier.
TAPCR 1200-03-26-.02(9)(g)2

(8) Include with each required AEAR report the following statement signed by the Responsible Official: *"I have reviewed this document in its entirety, and to the best of my knowledge, based on information and belief formed after reasonable inquiry, the statements and information contained in this document are true, accurate, and complete."*
TAPCR 1200-03-09-.02(11)(d)4

The annual emission fee due dates are specified in TAPCR 1200-03-26-.02(9)(a) and are dependent on the Responsible Official's choice of fee bases as described above. If any part of any fee imposed under TAPCR 1200-03-26-.02 is not paid within 15 days of the due date, penalties shall at once accrue as specified in TAPCR 1200-03-26-.02(8). Emissions for regulated pollutants shall not be double counted as specified in Condition A8(d) of this permit.

Payment of the fee due and the actual emissions analysis (if required) shall be submitted to The Technical Secretary at the following address:

Payment of Fee to:
The Tennessee Department of Environment and Conservation
Division of Fiscal Services
Consolidated Fee Section – APC
Davy Crockett Tower, 6th Floor
500 James Robertson Parkway
Nashville, Tennessee 37243

and

Actual Emissions Analyses to:
A "Title V Emissions Summary Form" and the AEAR must be submitted electronically as directed by the Division. Additional information can be found at https://www.tn.gov/environment/air/inventory.html

TAPCR 1200-03-26-.02(3), (8), and (9), and 1200-03-09-.02(11)(e)1(vii)

E2. General Facility Conditions

E2-1(MM1). Reporting requirements.

(a) **Semiannual reports.** Semiannual reports shall cover the six-month periods from **January 1** to **June 30** of each calendar year and from **July 1** to **December 31** of each calendar year and shall be submitted within 60 days after the

end of each six-month period. Subsequent reports shall be submitted within 60 days after the end of each six-month period following the first report.

These semiannual reports shall include:

(1) Any monitoring and recordkeeping required by conditions ***E3-3, E3-10, E3-11, E4-1, E4-2, E5-1, E5-2, E7-1, E8-1, E9-1, and E9-2*** of this permit. A summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.

(2) The visible emission evaluation readings from condition ***E2-2*** of this permit if required. A summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.

(3) Identification of all instances of deviations from **ALL PERMIT REQUIREMENTS**.

These reports must be certified by a responsible official consistent with condition B4 of this permit and shall be submitted to The Technical Secretary at the address in Condition E2(b) of this permit.

TAPCR 1200-03-09-.02(11)(e)1.(iii)

(b) **Annual compliance certification.** The permittee shall submit annually compliance certifications with each term or condition contained in Sections A, B, D and E of this permit, including emission limitations, standards, or work practices. This compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable):

(1) The identification of each term or condition of the permit that is the basis of the certification;

(2) The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period; Such methods and other means shall include, at a minimum, the methods and means required by this permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Act, which prohibits knowingly making a false certification or omitting material information;

(3) The status of compliance with each term or condition of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the method or means designated in E2(b)2 above. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion* or exceedance** as defined below occurred; and

(4) Such other facts as the Technical Secretary may require to determine the compliance status of the source.

* "Excursion" shall mean a departure from an indicator range established for monitoring under this paragraph, consistent with any averaging period specified for averaging the results of the monitoring.

** "Exceedance" shall mean a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.

Annual compliance certifications shall cover the 12-month periods from **January 1** to **December 31** of each calendar year and shall be submitted within 60 days after the end of each 12-month period.

These certifications shall be submitted to: TN APCD and EPA

Tennessee Department of Environment and Conservation **Knoxville Environmental Field Office**	**and**	**Air Enforcement Branch** **U. S. EPA Region IV**

Division of Air Pollution Control
3711 Middlebrook Pike
Knoxville, Tennessee 37921

61 Forsyth Street, SW
Atlanta, Georgia 30303

OR

An electronic copy (PDF) copy can be submitted to:
APC.KnoxEFO@tn.gov

40 CFR Part 70.6(c)(5)(iii) as amended in the Federal Register Vol. 79, No.144, July 28, 2014, pages 43661 through 43667
TAPCR 1200-03-09-.02(11)(e)3.(v)

(c) **Retention of Records** All records required by any condition in Section E of this permit must be retained for a period of not less than five years. Additionally, these records shall be kept available for inspection by the Technical Secretary or a Division representative.

TAPCR 1200-03-09-.02(11)(e)1.(iii)(II)II

(d) **MACT Reporting Requirements**. The permittee shall submit the MACT reports required by 40 CFR 63 Subpart VVVVVV (***Condition E6-9***), as applicable. Reports shall cover the six-month periods from January 1 to June 30 and from July 1 through December 31 of each calendar year. Reports shall be submitted within 60 days after the end of each six-month reporting period. The report is **only** required for the reporting period during which the permittee experienced any of the events described in **Condition E6-9**.

These reports must be certified by a responsible official consistent with Condition B4 of this permit and submitted to:

Tennessee Dept. of Environment & Conservation Division of Air Pollution Control Davy Crockett Tower, 7th Floor 500 James Robertson Parkway Nashville, TN 37243	or	Adobe Portable Document Format (PDF) Copy to: Air.Pollution.Control@TN.gov

TAPCR 1200-03-09-.03(8) and 1200-03-10-.02(2)(a)

(e) **NSPS Reporting Requirements**. The permittee shall submit reports consistent with the provisions of 40 CFR §60.48c. Reports shall cover each six-month period (January 1 – June 30 and July 1 – December 31), and must be postmarked by the 60th day following the end of each reporting period. Subsequent reports shall cover each six-month period and must be postmarked by the 30th day following the end of each reporting period. The report is **only** required for the reporting period during which fuel oil is combusted. Each report shall include the following information:

(a) Calendar dates covered in the reporting period.

(b) Records of fuel supplier certification used to demonstrate compliance with **Condition E3-10** of this permit that includes:

(i) The name of the oil supplier.

(ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR §60.41c, and

(iii) The sulfur content of the oil.

(c) A certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.

All reports shall be mailed to the Division of Air Pollution Control at one of these addresses:

Tennessee Dept. of Environment & Conservation Division of Air Pollution Control Davy Crockett Tower, 7th Floor500 James Robertson Parkway	**OR**	Adobe Portable Document Format (PDF) Copy to: Air.Pollution.Control@TN.gov

Nashville, TN 37243

TAPCR 1200-03-09-.03(8), §60.48c

E2-2. Visible emissions from the sources at this facility shall not exhibit greater than 20% opacity, except for one six-minute period in any one-hour period and for no more than four six-minute periods in any 24-hour period. Visible emissions from this source shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average). TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.01(1)

Compliance Method: Compliance with this condition shall be determined by the procedures of the Division's Opacity Matrix dated September 11, 2013 (Attachment 1).

E2-3. Routine maintenance, as required to maintain specified emission limits, shall be performed on the air pollution control device(s). Maintenance records shall be recorded in a suitable permanent form and kept available for inspection by the Division. These records must be retained for a period of not less than five years. All maintenance activities (including any ongoing maintenance that has not been completed) shall be entered in the maintenance log no later than seven days following the start of the maintenance. TAPCR 1200-03-10-.02(2)(a). A summary of the maintenance logs is acceptable for compliance demonstration.

E2-4. Upon the malfunction/failure of any emission control device(s) serving this facility, the operation of the process(es) served by the device(s) shall be regulated by Chapter 1200-03-20 of the Tennessee Air Pollution Control Regulations.

TAPCR 1200-03-09-.03(8)

E2-5. The following recordkeeping requirements shall apply to this facility:

(a) For all monthly logs, all data, including all required calculations, must be entered in the log no later than 30 days from the end of the month for which the data is required.

(b) For all weekly logs, all data, including all required calculations, must be entered in the log no later than seven days from the end of the week for which the data is required.

(c) For all daily logs, all data, including all required calculations, must be entered in the log no later than seven days from the end of the day for which the data is required.

TAPCR 1200-03-10-.02(2)(a)

E2-6. For all emission sources that use opacity matrix decision trees (Attachment 1) to comply with any visible emissions requirement, including emission sources for which visible emissions are not required by the opacity matrix, if the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.

TAPCR 1200-03-10-.02(1)(a)

E2-7. Logs and records specified in this permit shall be made available upon request by the Technical Secretary or a Division representative and shall be retained for a period of not less than five years unless otherwise noted. The logs contained in this permit are based on a recommended format. Any logs that have an alternative format may be utilized provided they contain the same information that is required.

TAPCR 1200-03-09-.03(8)

E2-8. The permittee listed various insignificant and exempt activities in their Title V Application per Rule 1200-03-09-.04(5). Additional insignificant activities may be added and operated at any time with the provision that a written notification shall be submitted to the Technical Secretary including an updated APC 2 application form along with a truth, accuracy, and completeness statement signed by a responsible official.

TAPCR 1200-03-09-.03(8)

E2-9. Due allowance for failure to monitor shall be made during any period of monitoring system malfunction, provided that the source owner or operator shows, to the satisfaction of the Technical Secretary, that the malfunction was unavoidable and is

being repaired as expeditiously as practicable and that a log of all such malfunctions is being kept by the permittee, including time malfunction began, when it was detected, what was wrong, what was done to correct the malfunction, and when the malfunction was corrected.

TAPCR 1200-03-10-.02(1)(e)

E2-10(MM1). Identification of Responsible Official, Technical Contact, and Billing Contact

(a) The applications that were utilized in the preparation of this permit are dated September 25, 2019, July 27, 2020, and January 6, 2021. The application dated January 6, 2021 identifies James Williams, Site Operations Manager, as the Responsible Official for the permitted facility. If this person terminates employment or is assigned different duties and is no longer a Responsible Official for this facility as defined in part 1200-03-09-.02(11)(b)21 of the Tennessee Air Pollution Control Regulations, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within 30 days of the change. The notification shall include the name and title of the new Responsible Official and certification of truth and accuracy. All representations, agreement to terms and conditions, and covenants made by the former Responsible Official that were used in the establishment of the permit terms and conditions will continue to be binding on the facility until such time that a revision to this permit is obtained that would change said representations, agreements, and/or covenants.

(b) The applications that were utilized in the preparation of this permit are dated September 25, 2019 July 27, 2020, and January 6, 2021. The application dated January 6, 2021 identifies Mike Wharton, EHS Manager, as the Principal Technical Contact for the permitted facility. Notification was supplied to the Division in the application dated January 7, 2025, that Floyd Yount would serve as the Technical Contact for the permitted facility. If this person terminates employment or is assigned different duties and is no longer the Principal Technical Contact for this facility, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within 30 days of the change. The notification shall include the name and title of the new Principal Technical Contact and certification of truth and accuracy.

(c) The applications that were utilized in the preparation of this permit are dated September 25, 2019, July 27, 2020, and January 6, 2021. The application dated January 6, 2021 identifies Jason Ownby as the Billing Contact for the permitted facility. If this person terminates employment or is assigned different duties and is no longer the Billing Contact for this facility, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within 30 days of the change. The notification shall include the name and title of the new Billing Contact and certification of truth and accuracy.

TAPCR 1200-03-09-.03(8)

78-0028-01	**24.5 MMBtu/hr Natural Gas-Fired Boiler**. This Cleaver Brooks boiler provides steam for the facility and uses natural gas as a fuel during normal operation. Number 2 fuel oil is only burned during periods of natural gas curtailment and testing. The sulfur content of the number 2 fuel oil is limited to 0.5% by weight. The boiler is equipped with a low-NO_X burner. Conditions E3-1 through E3-11 apply.

E3-1. The design heat input rate of the boiler is 24.5 Million British Thermal Units per hour (MMBtu/hr). Should the permittee modify the boiler in a manner that increases the design heat input rate, a construction permit or Title V modification shall first be applied for in accordance with TAPCR 1200-03-09-.01 or 1200-03-09-.02(11)(d)1.(i)(V) prior to making the change.

TAPCR 1200-03-09-.03(8) and Condition E3-1 of construction permit 968829F.

Compliance Method: The boiler manufacturer specification documents shall be retained as proof of the design heat input rate of the boiler. These documents shall be kept readily available/accessible for review by the Technical Secretary or a Division representative upon request.

E3-2. Only natural gas and No.2 fuel oil shall be used as fuels for this boiler. This boiler is only capable of burning these fuels.

TAPCR 1200-03-09-.03(8) and Condition E3-3 of construction permit 968829F.

Compliance Method: Compliance with this condition shall be demonstrated by the records required by **Condition E3-10.** of this permit.

E3-3. The maximum amount of distillate fuel oil (or No. 2 fuel oil) used by the boiler during periods of gas curtailment, gas supply interruption, startups, and for periodic testing shall not exceed 37,790 gallons per calendar year.

TAPCR 1200-03-09-.03(8) and the agreement contained in the application dated September 18, 2019 (Attachment 4), from the permittee.

Compliance Method: The permittee shall maintain a log of the actual quantity of distillate fuel oil (or No. 2 fuel oil) used during each calendar year. This log must be maintained at the source location, in a form that readily provides the information in the following table (see example below) and kept readily available for inspection by the Technical Secretary or a Division representative upon request. This log may be combined with the distillate fuel oil (or No. 2 fuel oil) recordkeeping requirement identified in **Condition E3-10.** of this permit. All data, including all calculations must be entered into the log no later than 30 days from the end of the month for which the data is required. This log must be retained for a period of not less than five years.

Table E3-3: Yearly Distillate Fuel Oil (No. 2 Fuel Oil) Usage Log for 78-0028-01
Year_____

Month	Distillate Fuel Oil (No. 2 Fuel Oil) Usage (gals./12 -Consecutive Months)	Month	Distillate Fuel Oil (No. 2 Fuel Oil) Usage (gals./12 -Consecutive Months)

TAPCR 1200-03-10-.02(2)(a)

E3-4. Particulate matter (PM) emitted from the boiler shall not exceed 1.13 pounds per hour (lb/hr) on a daily average basis.

TAPCR 1200-03-06-.01(7), Condition E3-2 of construction permit 968829F, and the agreement letter dated March 15, 2010 (Attachment 4).

Compliance Method: Compliance with this condition is assured by compliance with **Conditions E3-1 and E3-2** of this permit.

E3-5. Sulfur dioxide (SO_2) emitted from the boiler shall not exceed 12.43 lb/hr and 1.40 tons during any period of 12 consecutive months.

TAPCR 1200-03-14-.01(3), Condition E3-6 of construction permit 968829F, and the agreement letter dated September 18, 2019 (Attachment 4).

Compliance Method: Compliance with the hourly emission limitation is assured by the design heat input specified in **Condition E3-1**, the fuel requirements specified in **Conditions E3-2 and E3-10,** and the SO_2 emission factors of 0.6 lb/10^6 scf found in AP-42, Chapter 1.4, Natural Gas Combustion and 142S lb/10^3 gal. found in Chapter 1.3, Fuel Oil Combustion. The "S" in the AP-42 emission factor for fuel oil is the percent sulfur in the fuel oil. Compliance with the annual emission limitation shall be demonstrated by compliance with **Condition s E3-3 and E3-10**.

E3-6. Carbon Monoxide (CO) emitted from the boiler shall not exceed 9.0 tons during any period of 12 consecutive months.

TAPCR 1200-03-06-.03(2) and Condition E3-7 of construction permit 968829F.

Compliance Method: Compliance with this condition is assured by compliance with **Conditions E3-1, and E3-2, and E3-10** of this permit and the CO emission factors of 84 lb/10^6 scf found in AP-42, Chapter 1.4, Natural Gas Combustion and 5 lbs./10^3 gal. found in Chapter 1.3, Fuel Oil Combustion.

E3-7. The permittee shall utilize Best Available Control Technology (BACT) for nitrogen oxides (NO_X), as specified by the Technical Secretary. NO_X emissions from the boiler shall not exceed the following limits (**Table E3-7**):

Table E3-7: Table of Allowable NO_X Emissions for 78-0028-01

Fuel	Allowable Low-NOx emission requirement	Allowable NOx emission rate (Daily Average Basis)
No. 2 Fuel Oil	16.8 pounds NO_X per thousand gallons of No. 2 oil (80% of AP-42 table 1.3-1 value of 20 pounds per 1,000 gallons)	2.94 lb/hr
Natural Gas	50 pounds NO_X per million cubic feet of natural gas (AP-42 Table 1.4-1 Controlled low-NOx burners)	1.22 lb/hr

TAPCR 1200-03-06-.03(2), , 1200-03-09-.01(5)(b)2.(ii), Condition E3-8 of construction permit 968829F.

Compliance Method: The permittee has specified that this unit is equipped with a low-NO_X burner. This source shall not operate unless the low-NO_X burner is fully operational. Documentation from the manufacturer for this unit which specifies that these features are present, and which provides NOx emission factors, shall be maintained onsite and made available to the Technical Secretary or a Division representative upon request. Compliance with this condition is assured by compliance with **Conditions E3-1 and E3-2** of this permit and the NO_X emission factors of 50 lb/10^6 scf found in AP-42, Chapter 1.4, Natural Gas Combustion and 16.8 lb/10^3 gal found in Chapter 1.3, Fuel Oil Combustion.

E3-8. Under the provisions of 40 CFR 60 Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units), this steam generating unit is an affected facility because construction of the boiler commenced after June 9, 1989, and the boiler has a maximum design heat input capacity of 29 megawatts (MW) (100 MMBtu/hr) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr). The permittee must comply with the applicable requirements of 40 CFR 60 Subpart A (Attachment 3) and Conditions **E3-9** through **E3-11** of this permit. The applicable requirements of 40 CFR part 60, subpart Dc are incorporated into this permit pursuant to TAPCR 1200-03-09-.03(8).

TAPCR 1200-03-09-.03(8), 40 CFR §60.40c(a)

E3-9. The sulfur content of the No. 2 fuel oil used for the boiler shall contain less than 0.5% sulfur by weight

TAPCR 1200-03-09-.03(8), Condition E3-4 of construction permit 968829F, and 40 CFR §60.42c(d).

Compliance Method: When combusting No. 2 fuel oil, the permittee shall demonstrate compliance with this condition through fuel supplier certification. Fuel supplier certifications shall include the name of the oil supplier, a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR §60.41c, and the sulfur content of the oil. The fuel supplier certifications must be kept readily available for inspection by the Technical Secretary or a Division representative upon request. These records must be retained for a period of not less than five years.

Note to Condition E3-9: §60.41c defines *distillate oil* as fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17), diesel fuel oil numbers 1 or 2, as defined in ASTM D975 (incorporated by reference, see §60.17), kerosene, as defined in ASTM D3699 (incorporated by reference, see §60.17), biodiesel as defined in ASTM D6751 (incorporated by reference, see §60.17), or biodiesel blends as defined in ASTM D7467 (incorporated by reference, see §60.17).

40 CFR §60.42c(h) and 40 CFR §60.48c(f)(1)

E3-10. The permittee shall record and maintain records of the amount of natural gas and No. 2 fuel oil combusted by the boiler during each calendar month.

Compliance Method: A log of the actual quantity of natural gas and No. 2 fuel oil used per month for the boiler must be maintained at the facility, in a form that readily provides the information required in the following tables (see example below), and kept readily available for inspection by the Technical Secretary or a Division representative upon request. If No. 2 fuel oil is used, the purpose of use shall be stated whether it is used for testing or as backup fuel. If testing is conducted, the number of hours of use for testing purposes shall be recorded. All data, including all required calculations, must be entered into the log no later than 30 days from the end of the day for which the data is required. This log must be retained for a period of not less than five years.

Table E3-10a: Monthly Natural Gas Usage Log for 78-0028-01
Year _____

Month	Natural Gas Usage (ft^3)	Month	Natural Gas Usage (ft^3)
January		July	
February		August	
March		September	

April		October	
May		November	
June		December	

Table E3-10b: Monthly Distillate Fuel Oil (No. 2 Fuel Oil) Usage Log for 78-0028-01
Year_____

Month	Distillate Fuel Oil (No. 2 Fuel Oil) Usage (gal)		Month	Distillate Fuel Oil (No. 2 Fuel Oil) Usage (gal)	
	Testing	Backup		Testing	Backup
January			July		
February			August		
March			September		
April			October		
May			November		
June			December		

40 CFR §60.48c(g)(1) and (2) and TAPCR 1200-03-10-.02(2)(a)

E3-11. 40 CFR 63 Subpart JJJJJJ (National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources)

Pursuant to §63.11195(e), gas-fired boilers, as defined in §63.11237, are not subject to Subpart JJJJJJ and to any requirements in Subpart JJJJJJ. In order to qualify as "gas-fired" unit for the boiler, as defined in §63.11237, the boiler shall meet the following operational definition:

Gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing (only) of liquid fuel shall not exceed 48 hours per boiler during any calendar year.

Conformance with the above definition means that the boiler at this facility is not subject to 40 CFR 63, Subpart JJJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources.

TAPCR 1200-03-09-.03(8), Condition E3-10 of construction permit 968829F, and 40 CFR §63.11195(e).

Compliance Method: Compliance with this condition shall be demonstrated by the records required by **Condition E2-1(e)** of this permit.

78-0028-28	**Metals Melting and Alloying Operation:** This emission source melts and alloys aluminum and nickel with smaller quantities of copper, cobalt, molybdenum and chromium in two electric induction furnaces. The furnaces operate in consecutive alternating batches and are equipped with side-mounted hoods and covers, which provide essentially 100% capture efficiency of the dust and fumes from the melting operation. The exhaust from the melting furnaces is routed to a wet scrubber ("Small Wet Scrubber") for control of metal-HAP particulate. Following melting, the metal is poured onto inclined surfaces known as pouring boards. Emissions generated during the pouring process are collected by two pouring-board hoods and routed to a second wet scrubber ("Large Wet Scrubber"). The metal alloy cools and solidifies as sheets on the pouring boards. The sheets of solidified metal alloy are then broken into smaller pieces. The metal alloy pieces are removed from the pouring boards and are placed in a large hopper known as a lazy pan. The lazy pan is placed under a hood to vent any additional emissions from the cooling metal alloy. The lazy pan hood exhausts to the same wet scrubber ("Small Wet Scrubber") used to control emissions from the melting furnaces. The exhaust from the two wet scrubbers are routed to a combined stack. Conditions E4-1 through E4-3 apply.

E4-1. The maximum process material (aluminum ingots, clean aluminum scrap, copper, cobalt, molybdenum, iron and chromium) input rate shall not exceed 3,489.1 lb/hr (24-hour average basis).

TAPCR 1200-03-09-.03(8), Condition 4 of operating permit 060535P.

Compliance Method: A log of the material input rate, in a form that readily shows compliance with **Condition E4-1**, must be maintained at the source location and kept available for inspection by the Technical Secretary or a Division representative. This log must be retained for a period of not less than five years.

TAPCR 1200-03-10-.02(2)(a),

E4-2. Particulate matter emitted from this source shall not exceed 5.1 lb/hr (24-hour average basis).

TAPCR 1200-03-07-.03(1), Condition 3 of operating permit 060535P.

Compliance Method: Compliance with this condition shall be assured by compliance with **Condition E4-1**, by operating the scrubbers in accordance with **Condition E6-5,** and by monitoring and recording the pressure drop across each scrubber in accordance with **Condition E6-8**.

E4-3. Nickel emitted from this source shall not exceed 0.2 lb/hr (24-hour average basis).

TAPCR 1200-03-09-.01(1)(d), Condition 11 of construction permit 958968F.

Compliance Method: Annual certification of compliance in accordance with **Condition E2-1(b)**.

78-0028-29	**Crushing and Milling Operation:** After the metal alloy in the lazy pan have completely cooled, it is sized in crushing and milling (grinding) operations conducted in a pair of semi-enclosed rooms. One room contains a jaw crusher and the second room contains a grinding mill. The jaw crusher and grinding mill do not operate at the same time. The metal alloy is loaded into the jaw crusher, crushed, and then conveyed to a day bin that feeds the grinding mill. The crushed metal enters the grinding mill where it is ground into a fine powder. Afterwards, the metal alloy is sized and separated by screens and two process cyclones (Product Cyclone, Exhaust Cyclone). Fine material in the airstream exiting the Exhaust Cyclone is expelled to the Baghouse serving all crushing and grinding operations. Heavy material that drops out of the airstream entering the Product and Exhaust Cyclones is collected in closed containers known as powder cans. The filled powder cans are transported to the digestion (activation) processing area comprised of Digesters #4 and #6 (ESRN 78-0028-15), Digester #5 (ESRN 78-0028-25), New Digester #7 (ESRN 78-0028-30), and New Digester #8 (ESRN 78-0028-31). Following a fire in 2022 that destroyed the baghouse tested for CMAS compliance in July of 2013, a replacement baghouse/HEPA dust control system was installed in 2024 which provides equivalent or superior performance as determined by an Engineering Assessment as allowed by §63.11496(f)(3)(ii). Conditions E5-1 through E5-3 apply.

E5-1. The maximum process material (nickel aluminum alloy) input rate shall not exceed 6,000 lb/hr (24-hour average basis).

TAPCR 1200-03-09-.03(8), Condition 2 of operating permit 061092P.

Compliance Method: A log of the material input rate, in a form that readily shows compliance with this condition, must be maintained at the source location and kept available for inspection by the Technical Secretary or a Division representative. This log must be retained for a period of not less than five years.

TAPCR 1200-03-10-.02(2)(a)

E5-2(MM1). Particulate matter emitted from this source shall not exceed 7.1 lb/hr (24-hour average basis).

TAPCR 1200-03-07-.03(1), Conditions 3 and 11 of operating permit 061092P

Compliance Method: Compliance with this requirement shall be assured by compliance with **Condition E5-1**, by operating the baghouse/HEPA dust control system in accordance with **Condition E6-5,** and by monitoring and recording the pressure drop across the baghouse/HEPA dust control system in accordance with **Condition E6-8**. The acceptable operating range of the baghouse/HEPA dust control system is a pressure drop of greater than or equal to 1.3 inches of water column.

E5-3(MM1). Nickel emitted from this source shall not exceed 0.43 lb/hr (24-hour average basis).

TAPCR 1200-03-09-.01(1)(d), Condition 12 of construction permit 960514P

Compliance Method: Compliance with this requirement shall be assured by monitoring and recording the pressure drop across the baghouse/HEPA dust control system in accordance with **Condition E6-8**. The acceptable operating range of the baghouse/HEPA dust control system is a pressure drop of greater than or equal to 1.3 inches of water column.

78-0028-28 & 29	**NESHAP Requirements (40 CFR 63 Subpart VVVVVV): Metals Melting and Alloying Operation (78-0028-28) and Crushing and Milling Operation (78-0028-29).** Subpart VVVVVV applies to chemical manufacturing process units (CMPUs), as follows: (1) the CMPU is located at an area source of HAP emissions; (2) HAP listed in Table 1 to Subpart VVVVVV ("Table 1 HAP") are present in the CMPU; and (3) the CMPU uses as feedstock, any material that contains quinoline, manganese, and/or trivalent chromium at an individual concentration greater than 1.0% by weight, or any other Table 1 HAP at an individual concentration greater than 0.1% by weight. The Notification of Compliance Status for Subpart VVVVVV is included as Attachment 2 to this permit. The applicable requirements of 40 CFR part 63, subpart VVVVVV are incorporated into this permit pursuant to TAPCR 1200-03-09-.03(8).

E6-1. Each process vessel must be equipped with a cover or lid that must be closed at all times when it is in organic HAP service or metal HAP service, except for manual operations that require access, such as material addition and removal, inspection, sampling and cleaning. This requirement does not apply to process vessels containing only metal HAP that are in a liquid solution or other form that will not result in particulate emissions of metal HAP (e.g., metal HAP that is in ingot, paste, slurry, or moist pellet form or other form).

40 CFR §63.11495(a)(1)

E6-2. The permittee shall conduct inspections of process vessels and equipment for each CMPU in metal HAP service, as specified below, to demonstrate compliance with **Condition E6-1** and to determine that the process vessels and equipment are sound and free of leaks.

(a) Inspections must be conducted at least quarterly.

(b) For these inspections, detection methods incorporating sight, sound, or smell are acceptable. Indications of a leak identified using such methods constitute a leak unless the permittee demonstrates that the indications of a leak are due to a condition other than loss of HAP. If indications of a leak are determined not to be HAP in one quarterly monitoring period, the permittee must still perform the inspection and demonstration in the next quarterly monitoring period.

(c) Inspections must be conducted while the subject CMPU is operating.

(d) No inspection is required in a calendar quarter during which the subject CMPU does not operate for the entire calendar quarter and is not in organic HAP service or metal HAP service. If the CMPU operates at all during a calendar quarter, an inspection is required.

40 CFR §63.11495(a)(3)

E6-3. The permittee shall repair any leak within 15 calendar days after detection of the leak or document the reason for any delay of repair. For the purposes of this condition, a leak will be considered "repaired" if a condition specified in one of the following paragraphs is met.

(a) The visual, audible, olfactory, or other indications of a leak to the atmosphere have been eliminated,

(b) No bubbles are observed at potential leak sites during a leak check using soap solution, or

(c) The system will hold a test pressure.

40 CFR §63.11495(a)(4)

E6-4. The permittee shall keep records of the dates and results of each inspection event, the dates of equipment repairs, and, if applicable, the reasons for any delay in repair.

40 CFR §63.11495(a)(5)

E6-5. At all times, the permittee shall operate and maintain any affected CMPU, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Technical Secretary, which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the CMPU.

40 CFR §63.11495(d)

E6-6. The permittee shall comply with the following requirements for metal HAP emissions from each CMPU.

(a) If the collective uncontrolled metal HAP emissions from all metal HAP process vents from a CMPU are greater than or equal to 400 lb/year, comply with the emission limits and other requirements in Table 4 of Subpart VVVVVV (reduce collective uncontrolled emissions of total metal HAP by greater than or equal to 95% by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices). This requirement does not apply to metal HAP process vents from CMPU containing only metal HAP that are in a liquid solution or other form that will not result in particulate emissions of metal HAP (e.g., metal HAP that is in ingot, paste, slurry, or moist pellet form or other form).

(b) The permittee shall determine the sum of metal HAP emissions from all metal HAP process vents within a CMPU subject to this subpart, except the permittee is not required to determine the annual emissions if the permittee controls the metal HAP process vents within a CMPU in accordance with Table 4 of 40 CFR part 63 subpart VVVVVV or if the permittee determines the total metal HAP usage in the process unit is less than 400 lbs./yr. To determine the mass emission rate the permittee may use process knowledge, engineering assessment, or test data. The permittee shall keep records of the emissions calculations.

(c) The permittee shall operate and maintain the control device according to a site-specific monitoring plan at all times (see Attachment 2 for a summary of monitored parameters). The plan must be maintained onsite and be available on request. The monitoring plan must contain the following information:

(i) A description of the device;

(ii) Results of a performance test or engineering assessment conducted in accordance with this condition verifying the performance of the device for reducing HAP metals or particulate matter (PM) to the levels required by 40 CFR 63 Subpart VVVVVV;

(iii) Operation and maintenance plan for the control device (including a preventative maintenance schedule consistent with the manufacturer's instructions for routine and long-term maintenance) and continuous monitoring system (CMS);

(iv) A list of operating parameters that will be monitored to maintain continuous compliance with the applicable emissions limits; and

(v) Operating parameter limits based on either monitoring data collected during the performance test or established in the engineering assessment.

40 CFR §63.11496(f)

Compliance Method: The permittee conducted a source test on July 25, 2013 and documented the results in the NOCS dated September 19, 2013. The test results indicated a reduction in emissions of particulate matter (metal HAP surrogate) of 95.3%. Compliance shall be assured by operating in accordance with the monitoring plan requirements of this condition. Following a fire that destroyed the baghouse controlling emissions from ESRN 29 – Crushing and Milling and as tested in 2013, a replacement baghouse/HEPA dust control system was installed. Based on an engineering assessment of the replacement baghouse/HEPA dust control system, the overall removal particulate matter (metal HAP surrogate) efficiency is equivalent or better than the original system.

E6-7. The permittee shall comply with the requirements of 40 CFR 63 Subpart A (General Provisions), as shown in Table 9 of 40 CFR 63 Subpart VVVVV (see Attachment 2). The General Provisions in other parts do not apply except when a requirement in an overlapping standard, which the permittee determined is at least as stringent as Subpart VVVVVV and with which the permittee has opted to comply, requires compliance with general provisions in another part.

40 CFR §63.11501(a)

Compliance Method: Annual certification of compliance in accordance with **Condition E2-1(b)**.

E6-8. The permittee shall maintain files of all information required by Subpart VVVVVV for at least five years following the date of each occurrence according to the requirements in 40 CFR §63.10(b)(1). If the permittee is subject, the permittee shall comply with the recordkeeping and reporting requirements of 40 CFR §63.10(b)(2)(iii) and (vi) through (xiv). For each CMPU subject to Subpart VVVVVV, the permittee shall keep the records specified below:

(a) Records of management practice inspections, repairs, and reasons for any delay of repair, as specified in 40 CFR §63.11495(a)(5).

(b) Records of metal HAP emission calculations as specified in 40 CFR §63.11496(f)(1) and (2). If total uncontrolled metal HAP process vent emissions from a CMPU subject to 40 CFR part 63 subpart VVVVVV are estimated to be less than 400 lb/year, also keep records of either the number of batches per month or operating hours, as specified in 40 CFR §63.11496(f)(2).

(c) Records of the date, time, and duration of each malfunction of operation of process equipment, control devices, recovery devices, or continuous monitoring systems used to comply with this subpart that causes a failure to meet a standard. The record must include a list of the affected sources or equipment, an estimate of the volume of each regulated pollutant emitted over the standard, and a description of the method used to estimate the emissions.

(d) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR §63.11495(d), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(e) For existing metal HAP process vents subject to Table 4 of Subpart VVVVVV, maintain a monitoring plan, as specified in 40 CFR §63.11496(f)(3)(i), and keep records of monitoring results, as specified in 40 CFR §63.11496(f)(3).

40 CFR §63.11501(c)

Compliance Method: The permittee shall maintain the records required by this condition.

E6-9. The permittee shall submit semiannual compliance reports that contain the following information. Reports are required only for semiannual periods during which the permittee experienced any of the events described in this condition.

(a) The permittee shall clearly identify any deviation from the requirements of Subpart VVVVVV.

(b) The permittee shall provide the following information for each delay of leak repair beyond 15 days for any process equipment, storage tank, surge control vessel, bottoms receiver, and each delay of leak repair beyond 45 days for any heat exchange system with a cooling water flow rate less than 8,000 gal/min: information on the date the leak was identified, the reason for the delay in repair, and the date the leak was repaired.

(c) The permittee shall report each process change that affects a compliance determination and submit a new certification of compliance with the applicable requirements in accordance with the procedures specified in 40 CFR §63.11501(b).

(d) If a malfunction occurred during the reporting period, the report must include the number of instances of malfunctions that caused emissions in excess of a standard. For each malfunction that caused emissions in excess of a standard, the report must include a list of the affected sources or equipment, an estimate of the volume of each regulated pollutant emitted over the standard, and a description of the method used to estimate the emissions. The report must also include a description of actions the permittee took during a malfunction of an affected source to minimize emissions in accordance with 40 CFR §63.11495(d), including actions taken to correct a malfunction.

40 CFR §63.11501(d)

Compliance Method: The permittee shall submit reports in accordance with **Condition E2-1(d)**.

E6-10. In response to an action to enforce the standards set forth in 40 CFR §§63.11495 through 63.11499, the permittee may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at 40 CFR §63.2. Appropriate penalties may be assessed if the permittee fails to meet the burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not available for claims for injunctive relief.

40 CFR §63.11501(e)

Compliance Method: If the permittee seeks to assert an affirmative defense, the permittee must submit a written report, with all necessary supporting documentation, that the permittee has met the requirements set forth in §63.11501(e)(1). This affirmative defense report must be included in the first periodic compliance report, deviation report, or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance report, deviation report, or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance report, deviation report, or excess emission report due after the initial occurrence of the violation of the relevant standard.

78-0028-15	**Two Nickel-Aluminum Digesters (#4 and #6).** The powder cans containing the fine ground nickel-aluminum alloy is transferred across the facility to the digestion (activation) processing area. During the digestion process, a chemical reaction occurs between the alloy and a 50% solution of sodium hydroxide, resulting in the leaching of aluminum from $NiAl_3$ and Ni_2Al_3. Most of the nickel remains as NiAl, which provides the structural and thermal stability of the nickel-sponge catalyst. This reaction is represented by the following chemical equation: $$2\ Ni_2Al_3 + 6\ NaOH + 6\ H_2O \rightarrow 4NiO + 6\ NaAlO_2 + 9\ H_2 + \Delta\ (heat)$$ Digesters #4 and #6 operate as batch processes. At the beginning of the batch, sodium hydroxide (50% solution) and water are added to the digester with only physical mixing occurring. No emissions occur during this phase of the process. Next, the nickel-aluminum alloy powder is mixed with water to form a slurry. The slurry is then added to the digester over the course of approximately 4.5 hours. Additional sodium hydroxide (50% solution) is then added to the digester for approximately 1.5 hours. Particulate matter emissions begin when the slurry is added to the digester filled with sodium hydroxide and water and continue until the chemical reaction is completed. Hydrogen and steam are also generated in the process. The batch process ends with rinsing, which takes a minimum of 10 hours and up to 20 hours to complete. Particulate matter emissions from Digesters #4 and #6 are controlled with wet scrubbers, one for each digester. Conditions E7-1 through E7-3 apply.

E7-1. The maximum material (metal alloy) input rate for this source shall not exceed 4,602 lb/hr on a daily average basis.

TAPCR 1200-03-09-.03(8), Condition 3 of construction permit 962472P.

Compliance Method: A log of the material input rate for this source, in a form that readily shows compliance with this condition, must be maintained at the source location and kept available for inspection by the Technical Secretary or a Division representative. This log must be retained for a period of not less than five years.

TAPCR 1200-03-10-.02(2)(a),

E7-2. Particulate matter emitted from this source shall not exceed 2.0 lb/hr. on a daily average basis.

TAPCR 1200-03-07-.01(5), Condition 2 of construction permit 962472P, agreement letter dated August 8, 2008 (Attachment 4).

Compliance Method: A stack test was conducted on January 18, 2007, to determine the PM and nickel emissions from digester #6 (included in the application dated August 13, 2008, construction permit 962472P). The stack test results indicated an emission rate of 0.015 lb/hr (average value for the entire batch). Digester #4 is identical to digester #6, and the test results were used to estimate the emissions from Digester #4. Compliance with this condition shall be assured by operating the wet scrubber in accordance with **Condition E7-3.**

E7-3. The wet scrubber must be in operation at all times when either digester contained in this source is in operation.

TAPCR 1200-03-09-.03(8)

Compliance Method: Annual certification of compliance in accordance with **Condition E2-1(b)**.

78-0028-25	**Nickel-Aluminum Digester #5:** The powder cans containing the fine ground nickel-aluminum alloy is transferred across the facility to the digestion (activation) processing area. During the digestion process, a chemical reaction occurs between the alloy and a 50% solution of sodium hydroxide, resulting in the leaching of aluminum from $NiAl_3$ and Ni_2Al_3. Most of the nickel remains as NiAl, which provides the structural and thermal stability of the nickel-sponge catalyst. This reaction is represented by the following chemical equation: $2\ Ni_2Al_3 + 6\ NaOH + 6\ H_2O \rightarrow 4NiO + 6\ NaAlO_2 + 9\ H_2 + \Delta$ (heat) Digester #5 operate as a batch process. At the beginning of the batch, sodium hydroxide (50% solution) and water are added to the digester with only physical mixing occurring. No emissions occur during this phase of the process. Next, the nickel-aluminum alloy powder is mixed with water to form a slurry. The slurry is then added to the digester over the course of approximately 4.5 hours. Additional sodium hydroxide (50% solution) is then added to the digester for approximately 1.5 hours. Particulate matter emissions begin when the slurry is added to the digester filled with sodium hydroxide and water and continue until the chemical reaction is completed. Hydrogen and steam are also generated in the process. The batch process ends with rinsing, which takes a minimum of 10 hours and up to 20 hours to complete. As of 2017, Digester #5 has been idled due to a failing agitator gearbox and repurposing of the wet scrubber. Conditions E8-1 through E8-3 apply.

E8-1. The maximum material (metal alloy) input rate for this source shall not exceed 2,301 lb/hr on a daily average basis.

TAPCR 1200-03-09-.03(8), Condition 3 of construction permit 962773P

Compliance Method: A log of the material input rate for this source, in a form that readily shows compliance with this condition, must be maintained at the source location and kept available for inspection by the Technical Secretary or a Division representative. This log must be retained for a period of not less than five years.

E8-2. Particulate matter emitted from this source shall not exceed 1.0 lb/hr on a daily average basis.

TAPCR 1200-03-07-.01(5), Condition 2 of construction permit 962773P, agreement letter dated August 8, 2008 (Attachment 4).

Compliance Method: A stack test was conducted on January 18, 2007 to determine the PM and nickel emissions from digester #6 (included in the application dated August 13, 2008, construction permit 962472P). The stack test results indicated an emission rate of 0.015 lb/hr (average value for the entire batch). Digester #5 is identical to digester #6, and the test results were used to estimate the emissions from Digester #5. Compliance with this condition shall be assured by operating the wet scrubber in accordance with **Condition E8-3.**

E8-3. The wet scrubber must be in operation at all times when this source is in operation.

TAPCR 1200-03-09-.03(8), Condition 5 of construction permit 962773P

Compliance Method: Annual certification of compliance in accordance with **Condition E2-1(b)**.

78-0028-30 & 31	**Nickel-Aluminum Digesters (#7 and #8).** Digesters #7 and #8 operate as batch processes. The batch process begins with the addition of sodium hydroxide (50% solution) and water to these digesters. This initial phase is approximately one hour, and no emissions are expected to occur. Next, a nitrogen purge cycle is conducted on the digesters, wet scrubber, wet scrubber water tank, and associated piping to displace air in the system. The purge cycle is about 15 minutes, with no expected emissions. Following the nitrogen purge, nickel-aluminum alloy powder is mixed with water to form a slurry. The slurry is then added to the digester, which initiates the chemical reaction: $2\ Ni_2Al_3 + 6\ NaOH + 6\ H_2O \rightarrow 4NiO + 6\ NaAlO_2 + 9\ H_2 + \Delta$ (heat) Particulate matter emissions, hydrogen, and steam are generated during the chemical reaction. This phase lasts approximately 3.4 hours. After the addition of the slurry, the contents of the digester are heated for about 1.5 hours with steam delivered to the digester heating coils. Hydrogen and steam continue to be produced, but particulate matter emissions are less than the previous phase. Subsequently, the contents of the digester are cooled for about 1 hour. Hydrogen and steam are emitted in much lower quantities during cooling, and no particulate matter emissions are expected to occur. Following cooling, the contents of the digester are transferred to wash vessels for final rinsing, then are packaged for shipment. The transfer takes less than 1 hour, with little or no expected emissions. After the transfer is complete, the digester undergoes a wash involving water and sodium hydroxide, lasting 45 minutes to 1 hour. Particulate matter emissions are considered to be minimal during the wash cycle. Overall, the batch process lasts about 9 to 12 hours, with particulate matter being emitted approximately 5 hours of the duration. Particulate matter emissions from Digesters #7 and #8 are controlled with wet scrubbers, one for each digester. The application states that the digesters and scrubbers are not equipped with fans. The exhaust from this equipment is produced by continuous purging of the digesters with nitrogen, which prevents the buildup of gases (hydrogen, steam) during the chemical reaction process. Because these gases fluctuate during the batch cycle, the exhaust flow rate is variable. The application states that if the internal pressure of the digester becomes too great due to an upset event, an emergency pressure relief vent will open, allowing the exhaust to bypass the wet scrubber. If the emergency pressure relief vent opens, the process is halted immediately and there is only a very short period of uncontrolled emissions. There is no bypassing of the wet scrubber during normal production. Conditions E9-1 and E9-2 apply.

E9-1. The maximum material input to each digester (total inputs excluding water) for each digester shall not exceed 18,977 pounds per batch (excluding water) .

TAPCR 1200-03-09-.03(8) and the application dated September 25, 2019.

Compliance Method: A log of the material input rate for each digester, in a form that readily shows compliance with this condition must be maintained at the source location and kept available for inspection by the Technical Secretary or a Division representative upon request. This log must be retained for a period of not less than five years.

TAPCR 1200-03-10-.02(2)(a)

E9-2. Particulate matter emitted from each digester shall not exceed 0.25 grains per dry standard cubic foot (gr/dscf) (0.66 lb/hr and 2.91 tons/year for each digester).

TAPCR 1200-03-07-.04(2)

Compliance Method: This emission limitation limit is based on the design exhaust flow rate of 310 dry standard cubic foot per minute (dscf/min) from each passive scrubber and included in the minor permit modification application dated May 17, 2019. The passive wet scrubbers must be in operation at all times the digesters are in operation. Compliance with this condition shall be demonstrated by annual certification of compliance in accordance with **Condition E2-1(b)**.

END OF PERMIT NUMBER 577530

ATTACHMENT 1

OPACITY MATRIX DECISION TREE FOR VISIBLE EMISSION EVALUATION METHOD 9 DATED SEPTEMBER 11, 2013

Decision Tree PM for Opacity for Sources Utilizing EPA Method 9*

Notes:

PM = Periodic Monitoring required by 1200-03-09-.02(11)(e)(iii).

This Decision Tree outlines the criteria by which major sources can meet the periodic monitoring and testing requirements of Title V for demonstrating compliance with the visible emission standards set forth in the permit. It is not intended to determine compliance requirements for EPA's Compliance Assurance Monitoring (CAM) Rule (formerly referred to as Enhanced Monitoring – Proposed 40 CFR 64).

Examine each emission unit using this Decision Tree to determine the PM required.*

Use of continuous emission monitoring systems eliminates the need to do any additional periodic monitoring.

Visible Emission Evaluations (VEEs) are to be conducted utilizing EPA Method 9. The observer must be properly certified to conduct valid evaluations.

Typical Pollutants
Particulates, VOC, CO, SO_2, NO_x, HCl, HF, HBr, Ammonia, and Methane.

Initial observations are to be repeated within 90 days of startup of a modified source, if a new construction permit is issued for modification of the source.

A VEE conducted by TAPCD personnel after the Title V permit is issued will also constitute an initial reading.

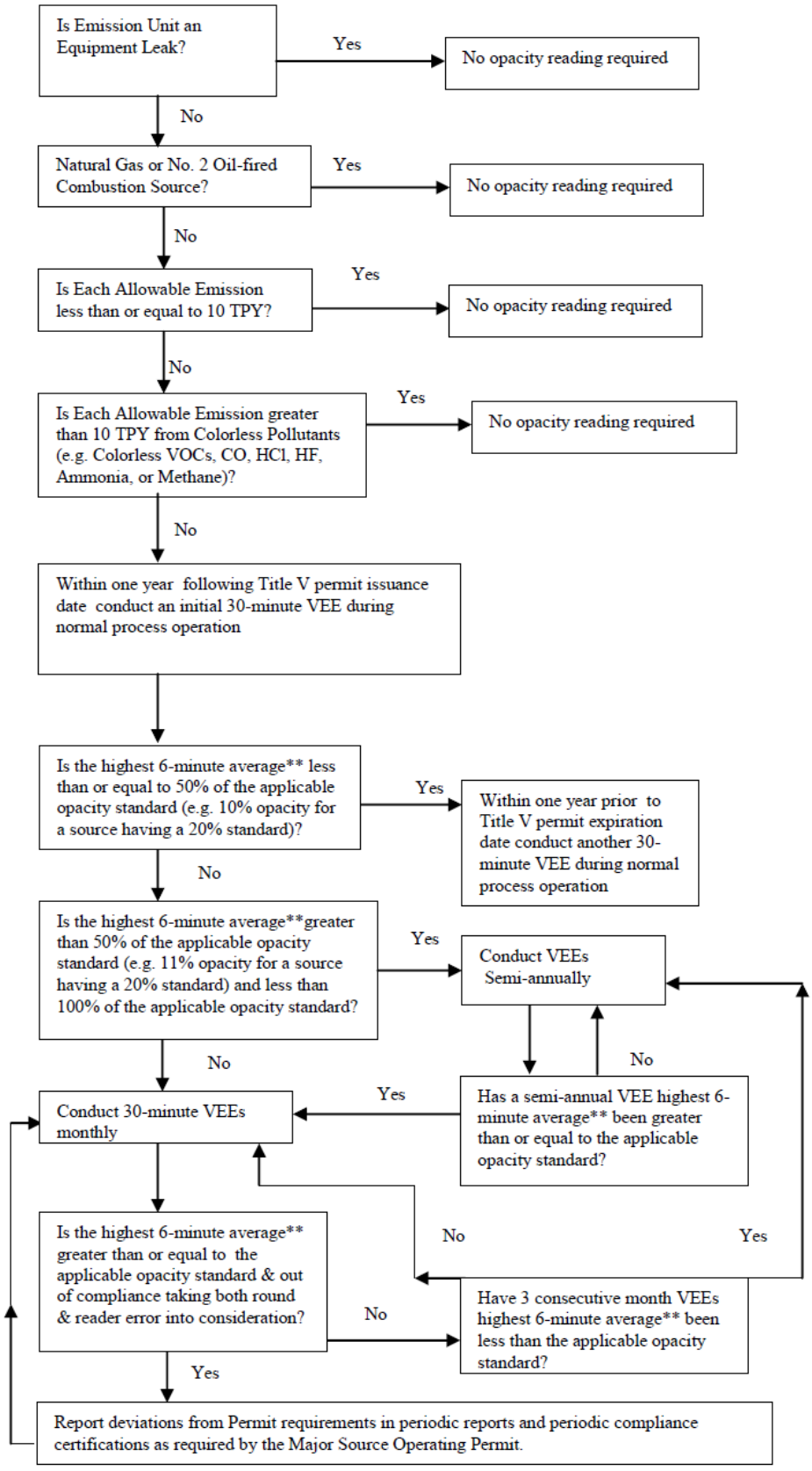
Reader Error
EPA Method 9, Non-NSPS or NESHAPS stipulated opacity standards:
The TAPCD guidance is to declares non-compliance when the highest six-minute average** exceeds the standard plus 6.8% opacity (e.g. 26.8% for a 20% standard).

EPA Method 9, NSPS or NESHAPS stipulate opacity standards:
EPA guidance is to allow only engineering round. No allowance for reader error is given.

*Not applicable to Asbestos manufacturing subject to 40 CFR 61.142

**Or second highest six-minute average, if the source has an exemption period stipulated in either the regulations or in the permit.

Dated June 18, 1996
Amended September 11, 2013



ATTACHMENT 2

40 CFR 63 SUBPART VVVVVV NOTIFICATION OF COMPLIANCE STATUS (NOCS), SUMMARY OF SITE-SPECIFIC MONITORING PLAN, AND GENERAL PROVISIONS APPLICABILITY

Johnson Matthey
Catalysts

September 19, 2013

Barry Stephens
Division of Air Pollution Control
Tennessee Department of Environment and Conservation
9th Floor L&C Annex
401 Church Street
Nashville, TN 37243

Subject: Johnson Matthey Inc.
Sevierville, Tennessee
Notice of Compliance Status (NOCS) under Chemical Manufacturing Area Source NESHAP (40 CFR Part 63, Subpart VVVVVV)

Dear Mr. Stephens:

Please find enclosed the Notice of Compliance Status (NOCS) for Johnson Matthey Inc. under 40 CFR Part 63, Subpart VVVVVV. (National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources). Included with this NOCS report is a copy of the performance testing completed at our facility which demonstrates compliance with emission limitation requirement for metal-HAP vents as contained in §63.1149(f) and Table 2 of the subpart requiring a collective reduction of uncontrolled metal-HAP emissions of 95% by weight. Note that our facility has elected to demonstrate compliance based on filterable particulate testing as allowed by the subpart.

Johnson Matthey is subject to and has complied with all of the applicable requirements for Emissions from Metal HAP Process Vents under CFR Part 63, Subpart VVVVVV.

If you have any questions concerning the NOCS, please contact our EHS Superintendent, Sherman Meade at (865) 453-7177.

Sincerely,

Robert J Fair

Robert "Bob" Fair
Site Manager

2013 SEP 20 PM 1:08

Catalysts and Chemicals
1246 Airport Road, Sevierville, TN 37862 • Telephone: (865) 453-7177 • Fax: (865) 428-3446

Notification of Compliance Status (NOCS)
National Emission Standards for Hazardous Air Pollutants
For Chemical Manufacturing Area Sources
40 CFR Part 63, Subpart VVVVVV

Johnson Matthey Inc.
Sevierville, TN

SECTION I: FACILITY INFORMATION

Our facility is subject to 40 CFR part 63, subpart VVVVVV National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Chemical Manufacturing[1]

Company Name:	Johnson Matthey Inc.
Company Mailing Address:	1246 Airport Road Sevierville, TN 37864
Company Physical Address:	1246 Airport Road Sevierville, TN 37864
Company Phone:	(865) 453-7177
Source category:	Existing Chemical Manufacturing Area Source with one (1) CMPU subject only to the requirements for Emissions from Metal HAP Process Vents contained in §§63.11494, 63.11495 and 63.11496(f).
NAICS code(s):	323180 - Other Basic Inorganic Chemical Manufacturing The subject CMPU manufactures Sponge Nickel Catalyst.

[1]
- An affected source under 40 CFR 63 subpart VVVVVV is the facility-wide collection of CMAS CMPUs and each heat exchange system and wastewater system associated with a CMAS CMPU located at an area source.
- A CMAS CMPU uses as feedstocks, generates as byproducts, or produces as products any of the Table 1 organic HAP or Table 1 Metal HAP in concentrations greater than 0.1% for carcinogens or greater than 1% for noncarcinogens, during the production of a product (or isolated intermediate) described by NAICS code 325.

SECTION II: COMPLIANCE AND NOCS DUE DATES

Type of Affected Source: Existing, Metal HAP Emissions

Compliance Date: March 21, 2013

NOCS Due Date: September 23, 2013

(If a performance test is required to demonstration compliance, the notification must be sent before close of business on the 60th day following completion of the performance test. Performance Testing was completed on July 25, 2013.)

Section III: Description of Operation

This facility does not use, produce, or generate a Table 1 organic HAP.

This facility does use, produce, or generate a Table 1 metal HAP. Specifically, Nickel and Chromium are used and are emitted as Nickel Compounds and Chromium Compounds.

Please list the amounts of HAP emitted by this source, reported in units and averaging times and in accordance with the test methods specified in this standard.

The total metal HAP annual usage in the affected CMPU is greater than 400 lb/yr. Per §63.11496(f), the facility is not required to determine the annual emissions if it controls the metal HAP process vents in accordance with Table 4 of the subpart. Further, §63.11496(f) allows the facility to demonstrate initial compliance by showing that the overall reduction in total PM is equal to or greater than 95 percent. Johnson Matthey elected to perform particulate matter testing. Johnson Matthey estimates the actual particulate matter emissions from the affected CMPU at 0.3 tons per year.

Types of emission sources at this facility:

- ☐ Batch Process Vents
- ☐ Continues Process Vents
- ☐ Halogenated Process Vents
- ☐ Storage Vessels
- ☐ Bottoms receivers and/or surge control vessels
- ☒ Metal HAP Process Vents
- ☐ Wastewater
- ☐ Transfer Operations
- ☐ Equipment (i.e., valves, pumps, compressors, etc.)
- ☐ Heat exchange systems

Brief Description of CMPU Operations:

This facility manufactures nickel sponge catalyst and is a hazardous air pollutant (HAP) area source. Production of the catalyst relies on five separate operations. Each of operations; melting and pouring, breaking and loading, crushing, grinding, and digestion are summarized below. Collectively, these operations constitute a chemical process manufacturing unit (CMPU) which is subject to 40 CFR Part 63, Subpart VVVVVV, the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources (CMAS NESHAP). The facility produces approximately 3,000 tons per year of sponge nickel catalyst.

Melting and Pouring: Johnson Matthey melts and alloys aluminum and nickel with smaller quantities of copper, cobalt, molybdenum and chromium in two electric furnaces. The melting furnaces operate in consecutive alternating batches. Following melting, the metal is poured out on to inclined surfaces (pouring boards). Emissions are collected with hoods and directed to wet scrubbers.

Breaking and Loading: When cool, the solidified metal is broken into smaller pieces and loaded into bins (lazy pans) for transportation to crushing and grinding. Emissions from the melting furnaces and pouring boards are controlled using the same two wet scrubbers used to control emissions from Melting and Pouring. It is important to note that the melting and pouring processes and the breaking and loading processes do not operate at the same time.

Crushing: Following melting and pouring, the nickel-aluminum alloy is loaded into a jaw crusher and conveyed to a day bin which feeds the grinding mill. Particulate matter emissions are controlled using a fabric filter.

Grinding: The crushed material is ground into a fine powder and sized prior to loading into containers for transport to the Digestion Operations. The grinding operation emissions are controlled by the same baghouse used to control emissions from the crushing operation. Again, the crushing and grinding operations do not operate at the same time.

Digestion: The aluminum in the powdered alloy is dissolved in three reactors (Digesters #4, #5, and #6) using a sodium hydroxide solution which generates steam and hydrogen emissions. Emissions from the digesters are controlled with wet scrubbers. The digesters operate in batch cycles. Note that under §63.11496(f)(1), the Digester process vents are not required to be included in the emission limitation for the CMPU because the metal HAP are in a liquid solution at this stage of the process.

If you are complying with the alternative standard as specified in Table 2 to this subpart for batch process vents, you must include the information specified in 63.1258(b)(5), as applicable. You may either include the information below or as an attachment. **N/A**

If you are complying with the alternative standard as specified in Table 3 to this subpart for continuous process vents, you must provide the information specified in 63.1258(b)(5), as applicable. You may either provide the information below or as an attachment. **N/A**

If you established an operating limit for a parameter that will not be monitored continuously in accordance with §§63.11496(g)(4) and 63.2450(k)(6), provide the information as specified in §§63.11496(g)(4) and 63.2450(k)(6). You may provide the information below or as an attachment. **N/A**

List all transferred liquids that are reactive or resinous materials, as defined in §63.11502(b). **N/A**

Our facility is subject to 40 CFR part 63, subpart VVVVVV and another Federal standard (as described in §63.11500) and will comply with the alternative standard as specified in Table 2 to this subpart or Table 3 of this subpart. Provide a description of the alternative standard with which you will comply. The alternative standards must be at least as stringent as the corresponding requirements in this subpart VVVVVV. **N/A**

SECTION IV: CERTIFICATION

Per §63.11501(b), the NOCS must include the following as applicable:

This facility complies with the management practices in §63.11495 as detailed below.

(a)(1) – Requirement for cover or lid on Process Vessels. With the possible exception of the melting furnaces which are equipped with close fitting bonnet-style hoods, there are no process vessels used in the manufacturing process that meet the definition of Process Vessel as contained in the Subpart.

(a)(2) – Control organic HAP emissions from transfer of organic liquids. **N/A**

(a)(3) – Process Vessel and Equipment inspections and leak repairs. The facility inspects the exhaust ductwork on a quarterly basis and repairs any leaks as they are found. The inspections rely on sight and sound as the methods of leak detection.

(a)(4) – Leaks are repaired within 15 days of discovery.

(a)(5) – Records are kept of the dates of the inspections, the results of the inspections, and any necessary leak repairs.

(b) – Develop and operate in accordance with an inspection plan for small heat exchangers. (**N/A**, the affected CMPU does not include a small heat exchanger as defined by the subpart.)

(c) – Startup, Shutdown, and Malfunction provisions do not apply to this subpart. The facility must operate the affected CMPU according to the requirements of the subpart at all times.

(d) – The facility operates and maintains the affected CMPU, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.

This facility complies with the requirements in §63.11496 for HAP emissions from process vents.

Note that this facility is only subject to the requirements for existing sources of metal HAP under §63.11496(f)(1)-(3). Johnson Matthey has elected to demonstrate compliance with the regulation by conducting a performance test to demonstrate that the collective uncontrolled emission of total metal HAP emissions from the CMPU are reduced by greater than or equal to 95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices. Further, the facility has elected to test particulate emission reduction in place of metal HAP as allowed in §63.11496(f)(3). Based on the results of the performance testing, the collective reduction of uncontrolled emissions from the CMPU is 95.3% and therefore the emission limitation is met.

In addition to performance testing, this facility is also required to establish monitoring parameters based on information gathered during the test, prepare a monitoring plan, and an operation and maintenance plan for each control device. A copy of the performance test is included with this NOCS report.

This facility complies with the requirements in §63.11496 and §63.11497 for surge control vessels, bottoms receivers, and storage tanks. (N/A)

This facility complies with the requirements in §63.11498 to treat wastewater streams. (N/A)

This facility complies with the requirements in §63.11499 for heat exchange systems. (N/A)

I certify that my facility has complied with all the relevant standards and other requirements of 40 CFR Part 63, subpart VVVVVV.

I certify that the information presented here is true, accurate, and complete to the best of my knowledge.

Name (please print): Robert "Bob" Fair, Site Manager

Robert J Fair
Signature

Date: 9/19/13

40 CFR 63 Subpart VVVVVV Site-Specific Monitoring Plan: Process and Control Device Parameters to be Monitored					
Process or Control Equipment	**Parameter to be Measured or Monitored**	**Acceptable Range**	**Reason(s) for or Notes about the Range**	**Monitoring Frequency**	**Monitoring & Recording Summary**
Wet Scrubber for Melting Furnaces/Lazy Pan Cooling Station (Small Scrubber) during Melting and Pouring, and during Lazy Pan Loading	Pressure Drop Across the Scrubber	Minimum pressure drop of 7.5 inches of water column	Established according to manufacturer's recommendation and data gathered during actual operation.	The pressure drop across the scrubber is to be read once per day while the source and control device are in normal operation.	The pressure drop reading will be recorded once per day. Days when the process did not operate will be noted.
Wet Scrubber (Large Scrubber) for Pouring Board Hoods during Melting and Pouring, and during Breaking and Loading.	Pressure Drop Across the Scrubber	Minimum pressure drop of 7.5 inches of water column	Established according to manufacturer's recommendation and data gathered during actual operation.	The pressure drop across the scrubber is to be read once per day while the source and control device are in normal operation.	The pressure drop reading will be recorded once per day. Days when the process did not operate will be noted.
Baghouse/HEPA dust control system	Pressure Drop Across the Baghouse/HEPA dust control system	Minimum pressure drop reading of 1.3 inches of water column based on initial operation following installation of replacement baghouse/HEPA dust control system	Established according to data gathered during actual operation.	The pressure drop across the baghouse/HEPA dust control system is to be read once per day while the source and control device are in normal operation.	The pressure drop reading will be recorded once per day. Days when the process did not operate will be noted.

Table 9 to 40 CFR 63 Subpart VVVVVV – Applicability of MACT General Provisions			
Citation	**Subject**	**Applies to Subpart VVVVVV?**	**Explanation**
§§63.1(a)(1), (a)(2), (a)(3), (a)(4), (a)(6), (a)(10)-(a)(12) (b)(1), (b)(3), (c)(1), (c)(2), (c)(5), (e)	Applicability	Yes	
§§63.1(a)(5), (a)(7)-(a)(9), (b)(2), (c)(3), (c)(4), (d)	Reserved	No	
§63.2	Definitions	Yes	
§63.3	Units and Abbreviations	Yes	
§63.4	Prohibited Activities and Circumvention	Yes	
§63.5	Preconstruction Review and Notification Requirements	Yes	
§§63.6(a), (b)(1)-(b)(5), (b)(7), (c)(1), (c)(2), (c)(5), (e)(1)(iii), (g), (i), (j)	Compliance with Standards and Maintenance Requirements	Yes	
§§63.6(b)(6), (c)(3), (c)(4), (d), (h)(3), (h)(5)(iv)	Reserved	No	
§§63.6(e)(1)(i) and (ii), (e)(3), and (f)(1)	SSM Requirements	No	See §63.11495(d) for general duty requirement.
§§63.6(h)(1)-(h)(4), (h)(5)(i)-(h)(5)(iii), (h)(6)-(h)(9)		No	Subpart VVVVVV does not include opacity or visible emissions (VE) standards or require a continuous opacity monitoring system (COMS).
§§63.7(a)(1), (a)(3), (a)(4), (c), (e)(4), and (f)-(h)	Performance Testing Requirements	Yes	
63.7(a)(2), (b), (d), (e)(2)-(e)(3)	Performance Testing Schedule, Notification of Performance Test, Performance Testing Facilities, and Conduct of Performance Tests	Yes/No	Requirements apply if conducting test for metal HAP control; requirements in §§63.997(c)(1), (d), (e), and 63.999(a)(1) apply, as referenced in §63.11496(g), if conducting test for organic HAP or hydrogen halide and halogen HAP control device.
§63.7(e)(1)	Performance Testing	No	See §63.11496(f)(3)(ii) if conducting a test for metal HAP emissions. See §§63.11496(g) and 63.997(e)(1) if conducting a test for continuous process vents or for hydrogen halide and halogen emissions. See §§63.11496(g) and 63.2460(c) if conducting a test for batch process vents.
§63.8(a)(1), (a)(4), (b), (c)(1)(ii), (c)(2)-(c)(3), (f)(1)-(5)	Monitoring Requirements	Yes	
§63.8(a)(2)	Monitoring Requirements	No	
§63.8(a)(3)	Reserved	No	
§63.8(c)(1)(i)	General Duty to Minimize Emissions and CMS Operation	No	
§63.8(c)(1)(iii)	Requirement to Develop SSM Plan for CMS	No	

Table 9 to 40 CFR 63 Subpart VVVVVV – Applicability of MACT General Provisions			
Citation	**Subject**	**Applies to Subpart VVVVVV?**	**Explanation**
§63.8(c)(4)		Yes	Only for CEMS. CPMS requirements in 40 CFR part 63, subpart SS are referenced from §63.11496. Requirements for COMS do not apply because subpart VVVVVV does not require COMS.
§63.8(c)(5)		No	Subpart VVVVVV does not require COMS.
§§63.8(c)(6)-(c)(8), (d)(1)-(d)(2), (e), (f)(6)		Yes	Requirements apply only if you use a continuous emission monitoring system (CEMS) to demonstrate compliance with the alternative standard in §63.11496(e).
§63.8(d)(3)	Written Procedures for CMS	Yes	Requirement applies except for last sentence, which refers to an SSM plan. SSM plans are not required.
§§63.8(g)(1)-(g)(4)		Yes	Data reduction requirements apply only if you use CEMS to demonstrate compliance with alternative standard in §63.11496(e). COMS requirements do not apply. Requirement in §63.8(g)(2) does not apply because data reduction for CEMS are specified in 40 CFR part 63, subpart FFFF.
§63.8(g)(5)		No	Data reduction requirements for CEMS are specified in §63.2450(j)(4), as referenced from §63.11496. CPMS requirements are specified in 40 CFR part 63, subpart SS, as referenced from §63.11496.
§§63.9(a), (b)(1), (b)(2), (b)(4), (b)(5), (c), (d), (e), (i)	Notification Requirements	Yes	
§§63.9(b)(3), (h)(4)	Reserved	No	
§63.9(f)		No	Subpart VVVVVV does not contain opacity or VE limits.
§63.9(g)		Yes	Additional notification requirement applies only if you use CEMS to demonstrate compliance with alternative standard in §63.11496(e).
§63.9(h)(1)-(h)(3), (h)(5)-(h)(6)		Yes	Except subpart VVVVVV does not contain opacity or VE limits.
§63.9(i)		Yes	
§63.9(j)	Change in Information Already Provided	No	Notification of process changes that affect a compliance determination are required in §63.11501(d)(4).
§63.10(a)	Recordkeeping Requirements	Yes	
§63.10(b)(1)		Yes	
§63.10(b)(2)(i)	Recordkeeping of Occurrence and Duration of Startups and Shutdowns	No	See §63.11501(c)(8) for recordkeeping of occurrence and duration of each startup and shutdown for continuous process vents that are subpart to Table 3 to this subpart.
§63.10(b)(2)(ii)	Recordkeeping of Malfunctions	No	See §63.11501(c)(1)(vii) and (viii) for recordkeeping of (1) date, time, duration, and volume of excess emissions and (2) actions taken during malfunction.
§63.10(b)(2)(iii)	Maintenance Records	Yes	
§63.10(b)(2)(iv) and (v)	Actions Taken to Minimize Emissions During SSM	No	

Table 9 to 40 CFR 63 Subpart VVVVVV – Applicability of MACT General Provisions			
Citation	**Subject**	**Applies to Subpart VVVVVV?**	**Explanation**
§§63.10(b)(2)(vi), (x), (xi), (xiii)		Yes	Apply only if you use CEMS to demonstrate compliance with alternative standard in §63.11496(e).
§§63.10(b)(2)(vii)-(b)(2)(ix), (b)(2)(xii), (b)(2)(xiv)		Yes	
§63.10(b)(3)		Yes	
§63.10(c)(1), (c)(5)-(c)(6), (c)(13)-(c)(14)		Yes	Apply only if you use CEMS to demonstrate compliance with alternative standard in §63.11496(e).
§63.10(c)(7)-(8)	Additional Recordkeeping Requirements for CMS—Identifying Exceedances and Excess Emissions	Yes	
§63.10(c)(10)	Recordkeeping Nature and Cause of Malfunctions	No	See §63.11501(c)(1)(vii) and (viii) for malfunctions recordkeeping requirements.
§63.10(c)(11)	Recording Corrective Actions	No	See §63.11501(c)(1)(vii) and (viii) for malfunctions recordkeeping requirements.
§63.10(c)(12)		Yes	
§63.10(c)(15)	Use of SSM Plan	No	
§§63.10(c)(2)-(c)(4), (c)(9)	Reserved	No	
§§63.10(d)(1), (d)(2), (d)(4), (e)(1), (e)(2), (f)	Reporting Requirements	Yes	
§63.10(d)(3)		No	Subpart VVVVVV does not include opacity or VE limits.
§63.10(d)(5)	SSM Reports	No	See §63.11501(d)(8) for reporting requirements for malfunctions.
§§63.10(e)(1)-(e)(2)		Yes	Apply only if you use CEMS to demonstrate compliance with alternative standard in §63.11496(e).
§63.10(e)(3)		Yes	
§63.10(e)(4)		No	Subpart VVVVVV does not include opacity or VE limits.
§63.11	Control Device Requirements	Yes	
§63.12	State Authorities and Delegations	Yes	
§63.13	Addresses	Yes	
§63.14	Incorporations by Reference	Yes	
§63.15	Availability of Information and Confidentiality	Yes	
§63.16	Performance Track Provisions	Yes	

ATTACHMENT 3

APPLICABILITY OF NSPS GENERAL PROVISIONS TO 40 CFR 60 SUBPART Dc

Table 1: Applicability of NSPS General Provisions to 40 CFR Part 60 Subpart Dc

The permittee must meet each applicable requirement in the following table

Rule Citation	Subject of Citation	Applies to Subpart	Explanation
§60.1	General Applicability of the General Provisions	Yes	General/initial applicability determination; applicability after standard established.
§60.2	Definitions	Yes	General definitions. Additional Terms defined in §60.41c.
§60.3	Units and Abbreviations	Yes	General units and abbreviations.
§60.4	Address	Yes	Addresses for regional EPA offices and State/local agencies.
§60.5	Determination of Construction or Modification	Yes	Outlines Administrator's (Technical Secretary) authority on whether actions by the owner/operator are construction or modification.
§60.6	Review of Plans	Yes	Outlines Administrator's (Technical Secretary) authority to review plans and provide technical advice to owner/operator due to construction or modification.
§60.7	Notification and Recordkeeping	Yes	General notification and recordkeeping guidelines.
§60.8	Performance Tests	Yes	General performance test guidelines. §60.8(f) does not apply to this subpart.
§60.9	Availability of Information	Yes	General notification to the public of information obtained by the Administrator (Technical Secretary)
§60.10	State Authority	Yes	Outlines the State/local authority regarding emission standards, limitations, permit approvals, etc.
§60.11	Compliance with Standards and Maintenance Requirements	Yes	General compliance and maintenance requirements.
§60.12	Circumvention	Yes	Prohibits owners or operators from concealing an emission that would otherwise constitute a violation of an applicable standard.
§60.13	Monitoring Requirements	Yes	General monitoring requirements.
§60.14	Modification	Yes	General requirements pertaining to modification of a source.
§60.15	Reconstruction	Yes	General requirements pertaining to reconstruction of a source.
§60.16	Priority List	No	Prioritized major source categories.
§60.17	Incorporations by Reference	Yes	Outline of materials incorporated by reference.
§60.18	General Control Device Requirements	Yes	General requirements for control devices used to comply with applicable subparts of 40 CFR Part 60.
§60.19	General Notification and Reporting Requirements	Yes	General requirements for notification and reporting.

TAPCR 1200-03-09-.03(8)

ATTACHMENT 4

AGREEMENT LETTERS DATED AUGUST 8, 2008, MARCH 15, 2010, AND SEPTEMBER 18, 2019

Johnson Matthey
Catalysts

2008 AUG 22 AM 9:39

August 8, 2008

Mr. Barry Stephens, P.E.
Division of Air Pollution Control
9th Floor, L&C Annex
401 Church Street
Nashville, Tennessee 37243-1531

Re: Construction/Conditional Major Operating Permit Application
Johnson Matthey, Sevierville, Tennessee
Emission Source Reference No. 78-0096, 78-0028

Dear Mr. Stephens:

Johnson Matthey, located in Sevierville, manufactures sponge nickel catalyst. The current manufacturing facility is composed of three formerly separate business units. The purpose of this application is to combine all of the emission units into a single facility under a single Conditional Major Operating Permit. The physical locations of the three business units occupy a contiguous site and are as follows:

Sponge Catalyst Manufacture – 1246 Airport Road

Platinum and Palladium Catalyst Manufacture and Laboratories – 1240 Airport Road

PTI Manufacture – 1238 Airport Road

A fourth business unit (Facility ID 78-0113), formerly located at 904 Old Knoxville Highway, has been closed and some of the equipment relocated to the 1246 Airport Road site. The appropriate construction and operating permits were obtained for these sources. The following describes each of the requested permit actions at the combined facility.

Natural Gas Boiler, ESRN 78-0028-01, Operating Permit No. 057243F

The current operating permit is for two boilers, a primary boiler with a burner capacity of 25.1 MMBTU/hr, and a smaller secondary boiler with a capacity of 12.6 MMBTU/hr. The smaller secondary boiler has been removed from service. The remaining boiler is fired with natural gas with #2 fuel oil as a back-up. Please find included application forms for the remaining boiler. In addition to removing the smaller boiler, this application requests an increase in the allowable hourly particulate and sulfur dioxide emissions from the primary boiler. Further, this application proposes that the #2 fuel oil usage limitation be removed. Finally, please remove any reference to the use of #6 fuel oil from this permit. No physical modifications have been made to the remaining boiler, and no new regulations apply.

Agreed Emission Limits for Boiler, ESRN 78-0028-01

Johnson Matthey will agree to limit particulate emissions from this source to 1.13 pounds per hour. (1200-3-6-.01(7))

Johnson Matthey will agree to limit sulfur dioxide emissions from this source to 12.73 pounds per hour. (1200-3-14-.01(3))

Process Catalysts and Technologies
1246 Airport Road, Sevierville, TN 37862 • Telephone: (865) 453-7177 • Fax: (865) 428-3446

Johnson Matthey will agree to limit the sulfur content of the #2 fuel oil to 0.5% by weight. (1200-3-14-.01(3))

Metals Melting and Alloying Operations, ESRN 78-0096-05, Operating Permit No. 060535P

Johnson Matthey melts and alloys nickel, aluminum, copper, cobalt, molybdenum, iron and chromium in two electric melting furnaces. The molten metal is poured out on to inclined surfaces (pouring boards). The metal is allowed to cool and solidify and is then broken into smaller pieces. Emissions from the melting furnaces and pouring boards are controlled using a wet scrubber.

No changes in the method of operation of this source are proposed. No increases in allowable emissions are requested.

Crushing and Milling Operation, ESRN 78-0096-06, Operating Permit No. 061092P

Following melting and pouring, the nickel-aluminum alloy is loaded into a jaw crusher and conveyed to a grinding mill. Particulate matter emissions are controlled using a fabric filter. No changes will be made in equipment or the method of operation. No changes to the existing permit are proposed.

Digesters #4 and #6, ESRN 78-0028-15, Operating Permit No. 058161P

Digesters #4 and #6 digest nickel-aluminum alloy using a sodium hydroxide solution, generating steam and hydrogen. Emissions from the digesters are controlled with wet scrubbers. One purpose of this application is to correct a long-standing discrepancy. Operating Permit No. 004374P was issued for a single digester in November 1976. Johnson Matthey applied for a construction permit in July 2004, proposing the addition of a second digester to the existing source. Construction Permit No. 957447P was issued on December 28, 2004 for *two* digesters. Johnson Matthey applied for an operating permit for two digesters in February 2005. An amended construction permit was issued on March 1, 2005 for two digesters to reflect a change in the person responsible for binding the facility in permitting affairs. A second application for an operating permit for two digesters was filed in April 2005. However, Operating Permit No. 058161P issued July 5, 2005 only lists a single digester.

In addition to correcting the permit to reflect the addition of a second digester to the source, Johnson Matthey also proposes to update the allowable pollutant limitations to reflect the use of wet scrubbers to control particulate matter. The emissions from the Digesters were estimated using the results of stack testing conducted on Digester #6.

Agreed Emission Limits for Digesters #4 and #6, ESRN 78-0028-15

Johnson Matthey will agree to a combined particulate emission limitation of 2.0 pounds per hour from the two digesters. (1200-3-7-.01(5))

Johnson Matthey will agree to limit emissions of nickel compounds to 0.5 pounds per batch (0.55 tons per year). (1200-3-7-.01(5))

Digester #5, ESRN 78-0028-24

Digester #5 digests nickel-aluminum alloy using a sodium hydroxide solution, generating steam and hydrogen. Emissions from the digester are controlled with a wet scrubber. Johnson Matthey applied for a construction permit for the installation of this digester in November 1999. TAPC issued an exemption letter for this digester on November 30, 1999.

The exemption cited, 1200-3-9-.04(4)(h), was for sources with emissions of less than 0.1 pounds per hour. (The current citation for this exemption is 1200-3-9-.04((4)(d)8.) However, this exemption only applies to sources with *uncontrolled* potential emissions of less than 0.1 pounds per hour. The original permit application and emission calculation includes the reduction of emissions from the use of the scrubber. As a result, this unit does not qualify as an exempt source and requires a permit.

No physical changes or change in the method of operation of the digester will be made. The emissions from Digester #5 were estimated using the results of informational testing conducted on Digester #6.

Agreed Emission Limits for Digester #5, ESRN 78-0028-24

Johnson Matthey will agree to limit particulate matter emissions to 1.0 pounds per hour from the digester. (1200-3-7-.01(5))

Johnson Matthey will agree to limit emissions of nickel compounds to 0.5 pounds per batch (0.275 tons per year). (1200-3-7-.01(5))

Manufacture of aqueous dihydrogen Tetrachloropalladous acid and aqueous dihydrogen Hexachloroplatinic acid. Gas scrubber control, ESRN 78-0096-03, Operating Permit No. 057244P

No changes in the method or operation of this source are proposed. No increases in allowable emissions are requested.

Miscellaneous Exempt Sources

The facility also includes several exempt sources:

Lab Exhaust Hoods, ESRN's 78-0028-17 and 78-0028-18

These hoods were originally exempted under 1200-3-9-.04(4)(i), for laboratory equipment used exclusively for chemical and physical analysis, including ventilating and exhaust systems for laboratory hoods used for air contaminants other than carcinogenic or radioactive air contaminants. See attached letter dated August 03, 1995. The current exemption is 1200-3-9-.04(5)(f)19.

Steam-heated Evaporator, ESRN 78-0028-20

Steam heated evaporator for concentrating sodium aluminate solution emitting less than 0.1 pounds per hour of a pollutant excluding hazardous air contaminants or pollutants. The evaporator was originally exempted under 1200-3-9-.04(4)(h). See attached letter dated October 24, 1996. The corresponding current exemption citation is 1200-3-9-.04(4)(d)8 – Any process emission source emitting less than 0.1 pounds per hour of a pollutant.

Catalyst Impregnation Operations, ESRN 78-0096-01 & 02

Impregnation process for granular catalyst including the addition of sodium formate and sodium borohydride. Emissions to the air would consist of only water vapor. This operation was classified as exempt under current citation 1200-3-9-.04(4)(d)8. See attached letter dated August 11, 2003.

PTI Manufacturing Operation

This operation comprises the third business unit referenced earlier, and includes a small natural gas boiler with a maximum burner capacity of 1.43 MMBTU/hr with no backup fuel. The operation also includes a collection of small reaction vessels with emissions exempt under 1200-3-9-.04(4)(d)8.

As stated above, Johnson Matthey requests a Conditional Major Operating permit for the collection of sources at the combined facility. Johnson Matthey will agree to limit facility-wide particulate matter emissions to less than 90 tons during any period of twelve consecutive months. Johnson Matthey will also agree to limit facility-wide hazardous air pollutants (HAP) to less than 25 tons of all HAP combined during any twelve consecutive months and to less than 10 tons during any consecutive months of any single HAP.

Included with this application is a check for $100 to cover the construction permit application for this source.

Thank you in advance for your assistance. Should you have any questions regarding this matter please call Sherman Meade with Johnson Matthey at (865) 453-7177 or our consultant, Jeff Twaddle, with ERM at (615) 373-3350.

Sincerely,

Robert J. Fair

Robert J. "Bob" Fair
Site Manager

cc: Sherman Meade, Johnson Matthey EHS Superintendent
Jeff Twaddle, ERM

JM Johnson Matthey

2010 MAR 16 PM 12: 39

Mr. Barry Stephens
Tennessee Department of Environment and Conservation
Division of Air Pollution Control
9th Floor, L&C Annex
401 Church Street
Nashville, TN 37243-1531

Subject: Johnson Matthey Catalysts, Emission Source Reference Number: 78-0028-01
Construction Application for Natural Gas-Fired Boiler

Dear Mr. Stephens:

Johnson Matthey Catalysts (Johnson Matthey) proposes to add a new 24.494 MMBTU natural gas fired boiler with #2 fuel oil as backup, to the existing older 25.1 MMBTU boiler already at the facility. The proposed boiler will be equipped with a burner which meets the Division's "reasonable and proper" and "best equipment and technology" low-NO_X burner requirement. The proposed new boiler will carry the service load while the existing 25 MMBTU boiler will remain in operation in a reserve capacity.

The proposed boiler will also be subject to 40 CFR Part 60 Subpart Dc, New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Units (Small Boiler NSPS) per §60.40c(a). As allowed by §60.42c(d) of the NSPS, Johnson Matthey has elected to comply with the standard for sulfur dioxide contained in this rule by agreeing to burn #2 fuel oil with a sulfur content of no greater than 0.5 percent by weight. Compliance with this limitation will be shown through certification of the sulfur content from the fuel supplier per §60.42c(h). Due to the size of the proposed boiler (< 30 MMBTU), and because Johnson Matthey has agreed to burn fuel oil with a sulfur content of less than 0.5 percent, the boiler is not subject to a particulate matter emission limitation per §60.43c(c)&(e)(4). As allowed by §60.48c(g)(3), instead of maintaining a log of daily fuel usage, Johnson Matthey elects to record and maintain records of the amount of #2 fuel oil consumed in the proposed boiler on a monthly basis. This construction permit application serves as initial notification as required by §60.48c(a) and §60.7.

In order to avoid the Title V operating permit program, Johnson Matthey will only operate one boiler at a time except during periods of startup and shutdown. As a result, the maximum hourly and annual potential emissions would result when continuously operating the existing boiler at its maximum burner capacity. No changes in equipment or method of operation will be made to the existing 25.1 MMBTU boiler.

Johnson Matthey makes the following agreements concerning the boilers:

1. Johnson Matthey Catalysts formally agrees to limit the sulfur content of the #2 distillate fuel oil to 0.5 percent by weight.

2. Johnson Matthey Catalysts formally agrees to limit particulate matter emissions from the proposed boiler to 1.13 pounds per hour.

3. Johnson Matthey Catalysts formally agrees to only operate one boiler at a time, except during periods of startup and shutdown.

1

Any technical questions regarding this application should be directed to our EHS Superintendent, Sherman Meade at (865) 453-7177.

I, the undersigned, am the official responsible to represent and bind this facility in environmental permitting affairs for which this application is submitted. I hereby certify, based on the information and belief formed after reasonable inquiry, that the statements made and data contained in this application addendum are true, accurate, and complete.

Robert Fair
Site Manger

Signature: Robert J Fair Date: 3/15/10

cc Sherman Meade, Johnson Matthey
Tanya Stinson, Johnson Matthey
Steve Marquardt, ERM

JM

Johnson Matthey
Inspiring science, enhancing life

September 18, 2019

Submitted Electronically to Air.Pollution.Control@tn.gov

Ms. Michelle Owenby
Technical Secretary
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243

Subject: **Johnson Matthey Inc.**
Emission Source Reference No. (ESRN): 78-0028
Title V Operating Permit No. 568189
Minor Modification Permit Application
Boiler (ESRN 01) Allowable Emission Limits

Dear Ms. Owenby:

Johnson Matthey Inc. (Johnson Matthey) manufactures nickel-sponge catalyst at their facility located at 1246 Airport Road in Sevierville. Johnson Matthey holds Title V Permit 568189 issued March 27, 2015, and most recently modified on August 19, 2019. Included in the operating permit is ESRN 78-0028-01 – 24.5 MMBtu/hr Natural Gas-fired Boiler. This boiler is subject to the Boiler NSPS (40 CFR Part 60, Subpart Dc), as well as potentially subject to the Boiler Area Source MACT, (40 CFR Part 63, Subpart JJJJJJ).

As allowed by §60.42c(d) of the NSPS, Johnson Matthey elected to limit the sulfur content of the #2 fuel oil to a maximum of 0.5% by weight. (See the July 7, 2010 letter from Johnson Matthey to TNAPC, and current Title V Condition E3-4.) Further as allowed by §60.48c(g)(3), instead of maintaining a log of daily fuel usage, Johnson Matthey maintains a record of the amount of #2 fuel oil consumed in the boiler on a monthly basis.

In October of 2010, Johnson Matthey agreed to restrict the use of #2 fuel oil in order to meet the definition of Gas-fired boiler found at §63.11237 of the Area Source MACT Standard for Boilers. Per the definition, "Gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year." Because this boiler is only permitted to burn #2 fuel oil during the

allowed 48 hours of testing, maintenance, and training, as well as during periods of natural gas supply curtailment or supply interruption, it is not subject to the Boiler Area Source MACT.

As part of the initial Title V Operating Permit application submitted in December of 2013, Johnson Matthey calculated the maximum hourly SO_2 emission rate using the AP-42 emission factor from Table 1.3-1 for distillate oil fired boilers of less than 100 MMBtu/hr, of 142S lb/10^3gal, where S indicates the weight percent of sulfur in the oil. A heat content of 140 MMBtu/10^3 gal as used to convert lb SO_2/MMBtu. (24.494 MMBtu/hr x 10^3 gal/140 MMBtu x 142 x 0.5 = 12.42 lb SO_2/hr.) In an effort to establish a realistic annual SO_2 emission rate, Johnson Matthey estimated the number of days of natural gas curtailment as 7 days per year. In combination with the agreed 48 hours per year allowed for testing, maintenance, and operator training, the total period for use of #2 fuel oil was nine days. Assuming the boiler was operated at maximum firing capacity, the resulting volume of #2 fuel oil consumed would be 37,790.74 gallons per year (9 days/yr x 24 hrs/day x 24.494 MMBtu/hr x 1000 gal/140 MMBtu). The remainder of the year, the boiler would operate on natural gas, resulting in a worst-case SO_2 annual emission rate of 1.40 tons per year (1.34 tons from #2 fuel oil, 0.06 tons from natural gas). Note that this value was included in Condition E1 of the initial Title V (568189, issued March 27, 2015).

However, effective upon the issuance of Minor Modification #2 to Title V Permit 568189 on August 19, 2019, in the absence of a stated lower annual SO_2 limit, the annual allowable sulfur dioxide (SO_2) emissions for the boiler were increased by the State from 1.40 tons per annual accounting period (AAP) to 54.44 tons per AAP. In response, Johnson Matthey is submitting a formal agreement to limit the volume of #2 fuel oil burned to 37,790 gallons per year.

Sulfur Dioxide

To ensure compliance with an allowable SO_2 limit of 1.40 tons per year, Johnson Matthey formally agrees to limit No. 2 fuel oil usage to 37,790 gallons per calendar year. The 37,790 gallons of No. 2 fuel oil usage represents the boiler operating for 48 hours per calendar year for testing, plus a minimum of 168 hours per calendar year for natural gas curtailment or supply interruption, with an assumed No. 2 fuel oil heat content of 140 MMBtu/1,000 gallons, at the maximum heat input design capacity (24.494 MMBtu/hr). Johnson Matthey requests that the SO_2 allowable limit for ESRN 01 in Condition E1 be reverted to 1.40 tons per AAP.

Nitrogen Oxides (Natural Gas Combustion)

Condition E3-8 requires nitrogen oxide (NOx) emissions from ESRN 01 be limited to 50 pounds per MMscf of natural gas combustion, consistent with the emission factor for

small boilers (< 100 MMBtu/hr Heat Input) controlled by low NOx burners in AP-42 Table 1.4-1. Based on this requirement and the maximum boiler natural gas usage rate of 0.0245 MMscf per hour (24.494 Heat Input [MMBtu/hr] / 1,000 Assumed Natural Gas Heat Content [Btu/scf]), the hourly allowable NOx emission rate would be 1.22 pounds per hour (50 [lbs/MMscf] x 0.0245 [MMscf/hr]). However, Condition E3-8 currently states the allowable NOx emission rate for natural gas combustion is 1.25 pounds per hour. Johnson Matthey requests that the NOx allowable limit be changed to 1.22 pounds per hour to be consistent with the NOx limit of 50 pounds per MMscf of natural gas combustion.

***

Emission calculations and proposed permit conditions incorporating these requested changes are included as Attachment 1 and Attachment 2 respectively. Applicable Title V permit application forms to process this minor modification application are included as Attachment 3.

The requested changes meet the requirements to be a minor modification as stated in Tenn. Comp. R. & Regs. 1200-03-09-.02(11)(f)5(ii)(I) based on the following:

I. Do not violate any applicable requirement;

The requested changes to the permit do not violate any applicable requirement.

II. Do not involve significant changes to existing monitoring, reporting or recordkeeping requirements in the permit;

The requested changes to the permit do not involve significant changes to the monitoring, reporting, or recordkeeping.

III. Do not require a case-by-case determination of an emissions limitation or other standard required by the federal Act, or a source-specific determination for temporary sources of ambient impacts as required by the federal Act, or a visibility or increments analysis as required by the federal Act;

The requested changes to the permit do not require a case-by-case determination.

IV. Do not seek to establish a permit term or condition for which there is a corresponding underlying application requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and condition include:

A. A federal enforceable emission cap assumed to avoid a classification as a modification under a provision of Title I of the federal Act. Further, federally enforceable emission caps assume to avoid classification as a modification under Chapter 1200-3-11, Chapter 1200-3-16, Chapter 1200-3-31, paragraph 1200-3-9-.01(4) or paragraph 1200-3-9-.01(5) are included in the criteria of this section 1200-3-9-.02(11)(f)5(ii)(I)IV A.

B. An alternate emission limit approved pursuant to section 112(i)(5) of the federal Act or rule 1200-3-31-.06;

The requested changes to the permit is not for the purpose of avoiding an applicable regulation that the facility would otherwise be subject to.

V. Are not modifications under Title I of the federal Act or the federal regulations promulgated pursuant thereto. Further, the minor permit modification process may be used only for changes that are not modification under Chapter 1200-3-11, Chapter 3-31, Chapter 3-16, paragraph 1200-3-9-.01(4) or paragraph 1200-3-9-.01(5); and

The requested changes to the permit are not a Title I modification.

VI. Are not otherwise required in paragraph 1200-03-09-.02(11) to be processed as a significant modification.

The requested changes to the permit do not meet the significant modification regulations established in Tenn. Comp. R. & Regs. 1200-03-09-.02(11)(f)5(iv).

VII. Do not violate any applicable requirement;

The requested changes to the permit do not violate any applicable requirement.

This submittal meets the application requirements of a minor modification as stated in Tenn. Comp. R. & Regs. 1200-03-09-.02(11)(f)5(ii)(II) based on the following:

I. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;

A description of the requested changes to the permit is found above in this letter. Emission calculations and applicable requirements are found in Attachments 1 and 3, respectively.

II. The source's suggested draft permit;

See Attachment 2.

III. Certification by a responsible official, consistent with the part Tenn. Comp. R. & Regs. 1200-03-09-.02(11)(d)4, that the proposed modification meets the criteria for use of minor permit modification procedures and a request that such procedures be used; and

A certification by the responsible official is found below in this letter.

IV. Completed forms for the Technical Secretary to use to notify the Administrator and affected States as required under subparagraph 1200-3-9-.02(11)(g).

See Attachment 3.

Please consider this letter and attachments as a minor modification permit application. If you have any questions regarding this application, please contact Mike Kyer, EHS Superintendent of our facility, at (865) 963-5262 or Steve Marquardt of ERM, our environmental consultant, at (615) 656-7100.

I have reviewed this minor modification permit application in its entirety and to the best of my knowledge, and based on information and belief formed after reasonable inquiry, the statements and information contained herein are true, accurate, and complete.

Sincerely,

Eddie De Amorim
Site Manager

cc Mike Kyer, Johnson Matthey
Sherman Meade, Johnson Matthey
Steve Marquardt, ERM

ATTACHMENT 5

TITLE V FEE SELECTION FORM APC 36 (CN-1583)

DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF AIR POLLUTION CONTROL
Davy Crockett Tower, 7th Floor
500 James Robertson Parkway, Nashville, TN 37243
Telephone: (615) 532-0554, Email: Air.Pollution.Control@TN.gov

TITLE V FEE SELECTION

Type or print and submit to the email address above.

FACILITY INFORMATION

1. Organization's legal name and SOS control number [as registered with the TN Secretary of State (SOS)]

2. Site name (if different from legal name)

3. Site address (St./Rd./Hwy.)	County name
City	Zip code

4. Emission source reference number	**5.** Title V permit number

FEE SELECTION

This fee selection is effective beginning January 1, _____. When approved, this selection will be effective until a new Fee Selection form is submitted. Fee Selection forms must be submitted on or before December 31 of the annual accounting period.

6. Payment Schedule (choose one):

Calendar Year Basis (January 1 – December 31) ☐ Fiscal Year Basis (July 1 – June 30) ☐

7. Payment Basis (choose one):

Actual Emissions Basis ☐ Allowable Emissions Basis ☐ Combination of Actual and Allowable Emissions Basis ☐

8. If Payment Basis is "Actual Emissions" or "Combination of Actual and Allowable Emissions", complete the following table for each permitted source and each pollutant for which fees are due for that source. See instructions for further details.

Source ID	**Pollutant**	**Allowable or Actual Emissions**	**If allowable emissions: Specify condition number and limit.** **If actual emissions: Describe calculation method and provide example. Provide condition number that specifies method, if applicable.**

8. (Continued)

Source ID	Pollutant	Allowable or Actual Emissions	If allowable emissions: Specify condition number and limit. If actual emissions: Describe calculation method and provide example. Provide condition number that specifies method, if applicable.

CONTACT INFORMATION (BILLING)

9. Billing contact			Phone number with area code
Mailing address (St./Rd./Hwy.)			Fax number with area code
City	State	Zip code	**Email address**

SIGNATURE BY RESPONSIBLE OFFICIAL

Based upon information and belief formed after reasonable inquiry, I, as the responsible person of the above mentioned facility, certify that the information contained in the submittal is accurate and true to the best of my knowledge. As specified in TCA Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

10. Signature		Date
Signer's name (type or print)	**Title**	Phone number with area code