

PUBLIC NOTICE

ANR Pipeline Company – Brownsville Compressor Station has applied to the Tennessee Department of Environment and Conservation, Division of Air Pollution Control for renewal of their major source (Title V) operating permit subject to the provisions of Tennessee Air Pollution Control Regulations 1200-03-09-.02(11) (Title V Regulations). A major source operating permit is required by both the Federal Clean Air Act and Tennessee's air pollution control regulations. However, it should be noted that this facility has a current major source operating permit.

The applicant is **ANR Pipeline Company – Brownsville Compressor Station** with a site address of 70 Pumping Station Road, Brownsville, TN 38069. They have applied for renewal of their existing major source (Title V) operating permit for their natural gas compressor station operation.

EPA has agreed to treat this draft Part 70 permit as a proposed Part 70 permit and to perform its 45-day review provided by the law concurrently with the public notice period. If any substantive comments are received, EPA's 45-day review period will cease to be performed concurrently with the public notice period. In this case, EPA's 45-day review period will start once the public notice period has been completed and EPA receives notification from the Tennessee Air Pollution Control Division that comments have been received and resolved. The status regarding EPA's 45-day review of these permits and the deadline for submitting a citizen's petition can be found at the following website address:

<https://www.epa.gov/caa-permitting/tennessee-proposed-title-v-permits>

Copies of the application materials and draft permits are available for public inspection during normal business hours at the following locations:

Jackson Environmental Field Office
1625 Hollywood Drive
Jackson, TN 38305

and

Tennessee Department of Environment and Conservation
Division of Air Pollution Control
Davy Crockett Tower, 7th Floor
500 James Robertson Parkway
Nashville, TN 37243

Electronic copies of the draft permits are available by accessing the TDEC internet site located at:

<https://www.tn.gov/environment/ppo-public-participation/ppo-public-participation/ppo-air.html>

Questions concerning the source(s) may be addressed to Mark A. Landry at (615) 571-2817 or by e-mail at Mark.Landry@tn.gov.

Interested parties are invited to review these materials and comment. In addition, a public hearing may be requested at which written or oral presentations may be made. To be considered, written comments or requests for a public hearing must be received no later than 4:30 PM on **September 16, 2026**. To assure that written comments are received and addressed in a timely manner, written comments must be submitted using one of the following methods:

1. **Mail, private carrier, or hand delivery:** Address written comments to Ms. Michelle W. Owenby, Director, Division of Air Pollution Control, Davy Crockett Tower, 500 James Robertson Parkway, 7th Floor, Nashville, Tennessee 37243.
2. **E-mail:** Submit electronic comments to air.pollution.control@tn.gov.

A final determination will be made after weighing all relevant comments.

Individuals with disabilities who wish to review information maintained at the above-mentioned depositories should contact the Tennessee Department of Environment and Conservation to discuss any auxiliary aids or services needed to facilitate such review. Such contact may be in person, by writing, telephone, or other means, and should be made no less than ten days prior to the end of the public comment period to allow time to provide such aid or services. Contact the Tennessee Department of Environment and Conservation ADA Coordinator, Davy Crockett Tower, 5th Floor, 500 James Robertson Parkway, Nashville, TN 37243, 1-(866)-253-5827. Hearing impaired callers may use the Tennessee Relay Service, 1-(800)-848-0298.

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



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. 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: DRAFT-PROPOSED

Permit Number:

Date Expires: DRAFT-PROPOSED

581930

Issued To:

ANR Pipeline Company - Brownsville Compressor Station

Installation Address:

70 Pumping Station Road
Brownsville, TN

Installation Description:

Natural Gas Pipeline Compressor Station:

38-0053-01: Five (5) Cooper-Bessemer GMWA8 2,000 HP natural gas-fired, compressor
reciprocating engines, two-stroke lean burn

38-0053-03: Two (2) Cleaver Brooks 3.35 MMBtu/hr natural gas-fired boilers

38-0053-04: One (1) Solar Mars 100 15,437 HP natural gas-fired turbine engine

38-0053-05: One (1) Cleaver Brooks 1.6 MMBtu/hr natural gas-fired boiler

Facility ID: 38-0053

Renewal Application Due Date:

DRAFT-PROPOSED

Primary SIC: 49

Information Relied Upon:

Title V Renewal Application dated November 13, 2023

(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

RDA-1298

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CONTENTS

SECTION A

GENERAL PERMIT CONDITIONS

A1.	Definitions	1
A2.	Compliance requirement	1
A3.	Need to halt or reduce activity	1
A4.	The permit	1
A5.	Property rights	1
A6.	Submittal of requested information	1
A7.	Severability clause	2
A8.	Fee payment	2
A9.	Permit revision not required	2
A10.	Inspection and entry	2
A11.	Permit shield	3
A12.	Permit renewal and expiration	3
A13.	Reopening for cause	3
A14.	Permit transference	4
A15.	Air pollution alert	4
A16.	Construction permit required	4
A17.	Notification of changes	4
A18.	Schedule of compliance	5
A19.	Title VI	5
A20.	112 (r)	5

SECTION B

GENERAL CONDITIONS for MONITORING, REPORTING, and ENFORCEMENT

B1.	Recordkeeping	6
B2.	Retention of monitoring data	6
B3.	Reporting	6
B4.	Certification	6
B5.	Annual compliance certification	6
B6.	Submission of compliance certification	7
B7.	Emergency provisions	7
B8.	Excess emissions reporting	7
B9.	Malfunctions, startups and shutdowns - reasonable measures required	8
B10.	Reserved	8
B11.	Report required upon the issuance of a notice of violation for excess emissions	8

CONTENTS

SECTION C

PERMIT CHANGES

C1.	Operational flexibility changes	9
C2.	Section 502(b)(10) changes	9
C3.	Administrative amendment	9
C4.	Minor permit modifications	9
C5.	Significant permit modifications	10
C6.	New construction or modifications	10

SECTION D

GENERAL APPLICABLE REQUIREMENTS

D1.	Visible emissions	11
D2.	General provisions and applicability for non-process gaseous emissions	11
D3.	Non-process emission standards	11
D4.	General provisions and applicability for process gaseous emissions	11
D5.	Particulate emissions from process emission sources	11
D6.	Sulfur dioxide emission standards	11
D7.	Fugitive dust	11
D8.	Open burning	12
D9.	Asbestos	12
D10.	Annual certification of compliance	12
D11.	Emission Standards for Hazardous Air Pollutants	12
D12.	Standards of Performance for New Stationary Sources	12
D13.	Gasoline Dispensing Facilities	12
D14.	Internal Combustion Engines	12
D15.	Duty to Maintain/Repair	12

CONTENTS

SECTION E

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

E1.	Fee payment	13
E2.	Reporting requirements.	16
E3.	General Permit Requirements	19
E4.	38-0053-01: Five (5) Cooper-Bessemer GMWA8 2,000 HP compressor reciprocating engines, natural gas-fired, two-stroke lean burn	25
E5.	38-0053-03: Two (2) Cleaver Brooks 3.35 MMBtu/hr boilers, natural gas-fired	27
E6.	38-0053-04: One (1) Solar Mars 100 turbine engine, natural gas-fired	31
E7.	38-0053-05: One (1) Cleaver Brooks 1.6 MMBtu/hr boiler, natural gas-fired	39
	END OF PERMIT NUMBER 581930	42

ATTACHMENT #1	Title V Fee Selection Form APC 36 (CN-1583 (Rev. 4-19))	2 pages
ATTACHMENT #2	Notification of Changes	1 page
ATTACHMENT #3	FERC NGA Gas Tariff Excerpt and Agreement letters	5 pages
ATTACHMENT #4	General Provisions for sources subject to 40 CFR Part 63 Subpart YYYY	6 pages
ATTACHMENT #5	General Provisions for sources subject to 40 CFR Part 63 Subpart DDDDD	3 pages
ATTACHMENT #6	Opacity Matrix Decision Tree for Visible Emission Evaluation by TVEE Method 2, and EPA Method 9, dated June 18, 1996 and Amended September 11, 2013	2 pages
ATTACHMENT #7	EPA AP-42 Fifth Edition, Volume I Chapter 1, Section 1.4, dated 7/98 - Tables 1.4-1 and 1.4-2 Chapter 3, Section 3.1 dated 4/00 - Table 3.1-2a Chapter 3, Section 3.2 dated 7/00 - Table 3.2-1	6 pages
ATTACHMENT #8	Turbine NESHAP 40 CFR, Part 63, Subpart YYYY Monitoring Petition for Combustion-based Emission Controls for Natural Gas- Fired Turbines dated June 21, 2022	13 pages
ATTACHMENT #9	USEPA Subpart YYYY Monitoring Petition Approval Letter dated March 9, 2023	5 pages

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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); the 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 (including PM₁₀) 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 PM₁₀ on an allowable emission basis may do so if they have a specific PM₁₀ allowable emission standard. If a major source has a total particulate emission standard, but wishes to pay annual emission fees on an actual PM₁₀ emission basis, it may do so if the PM₁₀ actual emission levels are proven to the satisfaction of the Technical Secretary. The method to demonstrate the actual PM₁₀ emission levels must be made as part of the source's major source operating permit in advance in order to exercise this option. The PM₁₀ 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 PM₁₀ 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** of this permit, 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 **Conditions A13(b) and Condition A13(c)** of this permit.
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)** of this permit, 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 US EPA Region IV 61 Forsyth Street, SW Atlanta, Georgia 30303
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TAPCR 1200-03-09-.02(11)(e)3(v)(IV)

B7. Emergency provisions. An emergency constitutes an affirmative defense to an enforcement action brought against this source for noncompliance with a technology-based emission limitation due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

(a) The affirmative defense of the emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An emergency occurred and that the permittee can identify the probable cause(s) of the emergency. "Probable" must be supported by a credible investigation into the incident that seeks to identify the causes and results in an explanation supported by generally accepted engineering or scientific principles.

2. The permitted source was at the time being properly operated. In determining whether or not a source was being properly operated, the Technical Secretary shall examine the source's written standard operating procedures which were in effect at the time of the noncompliance and any other code as detailed below that would be relevant to preventing the noncompliance. Adherence to the source's standard operating procedures will be the test of adequate preventative maintenance, careless operation, improper operation or operator error to the extent that such adherence would prevent noncompliance. The source's failure to follow recognized standards of practice to the extent that adherence to such a standard would have prevented noncompliance will disqualify the source from any claim of an emergency and an affirmative defense.

3. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit.

4. The permittee submitted notice of the emergency to the Technical Secretary according to the notification criteria for malfunctions in TAPCR Rule 1200-03-20-.03. For the purposes of this condition, "emergency" shall be substituted for "malfunction(s)" in TAPCR Rule 1200-03-20-.03 to determine the relevant notification threshold. The notice shall include a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

(b) In any enforcement proceeding the permittee seeking to establish the occurrence of an emergency has the burden of proof.

(c) The provisions of this condition are in addition to any emergency, malfunction or upset requirement contained in TAPCR Divisions 1200-03 and 0400-30 or other applicable requirement.

TAPCR 1200-03-09-.02(11)(e)7

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.

(a) 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.

(b) 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 stockpiles, 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 (5) 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 in 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.

(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

D15. Duty to Maintain/Repair.

The permittee shall maintain and repair each emission source, associated air pollution control device(s), and compliance assurance monitoring equipment as required to maintain and assure compliance with the specified emission limits.

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

SECTION E**SOURCE SPECIFIC EMISSION STANDARDS, OPERATING LIMITATIONS, and MONITORING, RECORDKEEPING and REPORTING REQUIREMENTS****38-0053****Facility Description:**

Natural gas pipeline compressor station, consisting of five Cooper-Bessemer GMWA8 2,000 HP natural gas-fired, compressor reciprocating engines, two-stroke lean burn, two Cleaver Brooks 3.35 MMBtu/hr natural gas-fired boilers, one Solar Mars 100 15,437 HP natural gas-fired turbine engine, and one Cleaver Brooks 1.6 MMBtu/hr natural gas-fired boiler

Conditions E1 through E3-14 apply to all sources in Section E of this permit unless otherwise noted.

E1. Fee payment**FEE EMISSIONS SUMMARY TABLE FOR MAJOR SOURCE 38-0053**

REGULATED POLLUTANTS	ALLOWABLE EMISSIONS (tons per AAP)	ACTUAL EMISSIONS (tons per AAP)	COMMENTS
PARTICULATE MATTER (PM)	24.05	AEAR	Includes all fee emissions.
SO₂	50.32	AEAR	Includes all fee emissions.
VOC	69.37	AEAR	Includes all fee emissions.
NO_x	2164.30	AEAR	Includes all fee emissions.
Facility-Wide Total HAP Limit	N/A	AEAR	N/A
Facility-Wide Individual HAP Limit	N/A	AEAR	N/A
HAZARDOUS AIR POLLUTANTS (HAPs) NOT INCLUDED ABOVE*			
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
MISCELLANEOUS POLLUTANTS NOT LISTED ABOVE**			
EACH MISC POLLUTANT NOT LISTED ABOVE			
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	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 AAP at the time of permit renewal issuance began January 1, 2026 and ends December 31, 2026. The next AAP begins January 1, 2027 and ends December 31, 2027 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 an attachment (Attachment #1) 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 Actual Emissions Analysis is Required to determine the actual emissions of:

- (1) **each regulated pollutant** (Particulate matter [PM], SO₂, 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 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 fees on an allowable emissions basis: pay annual fees for each AAP 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 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 Fee Year 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**.

TAPCR 1200-03-26-.02(9)(g)2

- (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 Year 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 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).

TAPCR 1200-03-26-.02(9)(g)2

- (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 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:

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

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

E2. Reporting requirements.

- (a) **Semiannual reports.** Semiannual reports shall cover the six-month periods from **July 1** to **December 31** and **January 1** to **June 30** 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 6-month period following the first report. The first semiannual report following issuance of this permit shall cover the following permits and reporting periods:

Permit Number	Reporting Period Begins	Reporting Period Ends
572769	January 1, 2026	day before new permit issuance (with year)
581930	Issuance Date of new permit (with year)	June 30, 2026

These semiannual reports shall include:

- (1) The visible emission evaluation readings from **Conditions E4-2, and E6-2** of this permit if required. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.
- (2) Identification of all instances of deviations from **ALL PERMIT REQUIREMENTS**. The record of deviations/excursions shall include, at a minimum, the time the deviation/excursion was discovered, the corrective action taken, and the time that the deviation/excursion was rectified.

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 period from **July 1** to **June 30** and shall be submitted within 60 days after the end of each 12-month period. The first annual compliance certification following issuance of this permit shall cover the following permits and reporting periods:

Permit Number	Reporting Period Begins	Reporting Period Ends
572769	July 1, 2025	day before new permit issuance (with year)
581930	Issuance Date of new permit (with year)	June 30, 2026

These certifications shall be submitted to:

TN APCD

and

EPA

Division of Air Pollution Control
Jackson Environmental Field Office
1625 Hollywood Drive
Jackson, TN 38305
or
APC.JackEFO@tn.gov

Air Enforcement Branch
US EPA Region IV
61 Forsyth Street, SW
Atlanta, Georgia 30303
or
Through the EPA CDX
(<https://cdx.epa.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) **Other Reporting Requirements.** The permittee must submit the NSPS and/or NESHAP reports listed below, *each under separate cover or as a separate electronic (pdf) file, as follows:*

(1) **NSPS - 40 CFR Part 60 Subpart JJJJ**

(i) Insignificant emission units APU 1 (880-horsepower, natural-gas fired, Waukesha L36GL emergency generator) and APU 2 (755-horsepower, natural-gas fired, Caterpillar 3412C emergency generator) – Pursuant to 40 CFR §60.4245(e), if the engine operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR §60.4243(d)(2)(ii) and (iii) or that operates for the purposes specified in 40 CFR §60.4243(d)(3)(i), the permittee must submit an annual report according to the requirements in paragraphs (A) through (C) below:

(A) The report must contain the following information:

(I) Company name and address where the engine is located.

(II) Date of the report and beginning and ending dates of the reporting period.

(III) Engine site rating and model year.

(IV) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(V) Hours operated for the purposes specified in 40 CFR §60.4243(d)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR §60.4243(d)(2)(ii) and (iii).

(VI) Number of hours the engine is contractually obligated to be available for the purposes specified in 40 CFR §60.4243(d)(2)(ii) and (iii).

(VII) Hours spent for operation for the purposes specified in 40 CFR §60.4243(d)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR §60.4243(d)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(B) The first annual report for this permit renewal must cover the calendar year 2026 and must be submitted no later than March 31, 2027. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(C) The annual report must be submitted to the Technical Secretary at the following address:

Division of Air Pollution Control
Davy Crockett Tower, 7th Floor
500 James Robertson Parkway
Nashville, TN 37243
or, by email to Air.Pollution.Control@tn.gov

(2) **NSPS - 40 CFR Part 60 Subpart KKKK**

(i) Reports required by 40 CFR Part 60, Subpart KKKK, and **Condition E6-6(e)** of this permit.

(ii) Semiannual reports of any monitoring and recordkeeping required by **Condition E6-6** of this permit that is not submitted with the report required by **Condition E2(c)(2)(i)** above. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to

evaluate compliance. These reports shall cover the same periods and be submitted at the same dates as the reports required by **Condition E2(a)** of this permit.

- (3) **NESHAP - 40 CFR Part 63 Subpart DDDDD**
- (i) The 5-year compliance reports required by 40 CFR §§63.7550(a) through (c), 63.7540(b) and Table 9 to 40 CFR Part 63, Subpart DDDDD; and **Conditions E5-10 and E7-10** of this permit.
 - (ii) Semiannual reports of any monitoring and recordkeeping required by **Conditions E5-2, E5-3, E5-4, E5-6, E5-8, E7-2, E7-3, E7-4, E7-6 and E7-8** of this permit that is not submitted with the report required by **Condition E2(c)(3)(i)** above. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance. These reports shall cover the same periods and be submitted at the same dates as the reports required by **Condition E2(a)** of this permit.
- (4) **NESHAP - 40 CFR Part 63 Subpart YYYY**
- (i) Semiannual reports required by 40 CFR Part 63, Subpart YYYY and **Condition E6-15** of this permit. Any monitoring or recordkeeping required by **Conditions E6-7, E6-8, E6-9, E6-16, and E6-17** of this permit. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance. These reports shall cover the same periods and be submitted at the same dates as the reports required by **Condition E2(a)** of this permit.

These reports must be certified by a responsible official consistent with Condition B-4 of this permit and shall be submitted to the Technical Secretary at the following address:

The Technical Secretary
Division of Air Pollution Control
Permitting Program
Davy Crockett Tennessee Tower, 7th Floor
500 James Robertson Parkway
Nashville, Tennessee 37243

or

An electronic copy (PDF) can be submitted to: Air.Pollution.Control@tn.gov

- (d) **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

E3. GENERAL PERMIT REQUIREMENTS

Conditions E3-1 through E3-14 apply to all sources in this permit, unless otherwise indicated.

E3-1. Identification of Responsible Official, Technical Contact, and Billing Contact

- (a) The application that was utilized in the preparation of this permit is dated November 13, 2023, and signed by Responsible Official Matthew Kephart, Manager, US Gas Ops South, a Delegated Authority for the Responsible Official Desiree Cromwell, Director, USGO American Gulf Region of the permitted facility. Notification was received July 31, 2024, that Brandon Scarborough, Interim Manager, US Gas Operations South is now the Delegated Authority for the Responsible Official, Desiree Cromwell. If the designated Delegated Authority terminates employment or is assigned different duties and is no longer a Delegated Authority for the Responsible Official, and/or if the Responsible Official 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(s). Said notification must be in writing and must be submitted within thirty (30) days of the change(s). The notification shall include the name and title of the new Delegated Authority and/or the new Responsible Official and certification of truth and accuracy. All representations, agreement to terms and conditions, and covenants made by the former Delegated Authority and/or 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 application that was utilized in the preparation of this permit is dated November 13, 2023, and identifies Cynthia Hicks as the Principal Technical Contact for the permitted facility. If the identified Principal Technical Contact 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 thirty (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 application that was utilized in the preparation of this permit is dated November 13, 2023, and identifies Cynthia Hicks as the Billing Contact for the permitted facility. If the identified Billing Contact 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 thirty (30) days of the change. The notification shall include the name and title of the new Billing Contact and certification of truth and accuracy.

E3-2. Application and Agreement Letters

The sources in this permit shall operate in accordance with the terms of this permit, the information submitted in the approved permit application(s) referenced in **Condition E3-1** of this permit, and any documented agreements made with the Technical Secretary.

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

E3-3. Submittals

Unless otherwise specified within this permit, the permittee shall submit, preferably via email and in Adobe Portable Document format (PDF), all applicable plans, checklists, certifications, notifications, test protocols, reports, and applications to the attention of the following Division Programs at the email addresses indicated in the table below:

Permitting Program	Compliance Validation Program	Field Services Program
• Notifications • Startup certifications • Applications • NSPS reports • MACT/GACT/NESHAP reports • Emission statements	• Test protocols • Emission test reports • Visible emission evaluation reports	• Semiannual reports • Annual compliance certifications/status reports
Division of Air Pollution Control Davy Crockett Tower, 7 th Floor 500 James Robertson Parkway Nashville, TN 37243 Air.Pollution.Control@tn.gov		Jackson EFO Division of Air Pollution Control 1625 Hollywood Drive Jackson, TN 38305 APC.JackEFO@tn.gov

The permittee shall submit the information identified above as requested in this permit. In lieu of submitting this information to the email addresses above, the permittee may submit the information to the attention of the respective Division Programs at the mailing addresses listed above.

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

E3-4. General Recordkeeping Requirements

All recordkeeping requirements for all data required to be recorded shall follow the following schedules:

For Daily Recordkeeping	For Weekly Recordkeeping	For Monthly Recordkeeping
No later than seven days from the end of the day for which the data is required.	No later than seven days from the end of the week for which the data is required.	No later than 30 days from the end of the month for which the data is required.

- A. The information contained in logs, records, and submittals required by this permit shall be kept at the facility's address, unless otherwise noted, and provided to the Technical Secretary or a Division representative upon request. Computer-generated logs are acceptable. Compliance is assured by retaining the logs, records, and submittals specified in this permit for a period of not less than five years at the facility's address.

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

- E3-5.** Unless otherwise specified, visible emissions from any stack at this facility shall not exhibit greater than twenty percent (20%) opacity, except for one (1) six-minute period in any one (1) hour period, and for no more than four (4) six-minute periods in any twenty-four (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: The Permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996, and amended (amended on September 11, 2013) (Attachment #6).

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.

- E3-6.** One or more of the engines/turbines or engine/turbine components may be removed and replaced with new, repaired or refurbished equivalent capacity engines/turbines of in-kind components, in order to maintain gas delivery capacity.

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

Compliance method: The permittee shall demonstrate compliance by recordkeeping as required must include a record of the date of the change and a description of the removal/replacement equipment. If the replacement turbine(s) are retained on a permanent basis, the permittee shall notify the Division in writing and submit an application to the Division if the unit is subject to any applicable federal requirements including NESHAP, NSPS, etc.

- E3-7.** Portable compressor engines, such as Allison KV501, Solar Centaur or Solar Saturn, may be used on an interim basis (up to three months) to temporarily replace the existing unit (or units) under maintenance or repair.

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

Compliance method: The permittee shall demonstrate compliance by recordkeeping as required must include a record of the dates of the initiation and cessation of operation of the interim replacement equipment, hours of operation, and a description of the interim replacement equipment. If the replacement turbine(s) are retained on a permanent basis, the permittee shall notify the Division in writing and submit an application to the Division if the unit is subject to any applicable federal requirements including NESHAP, NSPS, etc.

E3-8. Facility-wide Limitations

Only natural gas that meets the definition of *natural gas* in 40 CFR §60.331(u) shall be used as fuel for the sources in this permit. The sources in this permit are only capable of burning this fuel. Should the permittee need to modify any of the sources in this permit to allow the use of any other fuel, a construction permit or Title V modification shall first be applied for and received in accordance with TAPCR 1200-03-09-.01 or TAPCR 1200-03-09-.02(11)(d)1(i)(V) prior to making the change.

TAPCR 1200-03-09-.03(8) and the application dated November 13, 2023

Compliance Method: The permittee shall maintain documentation to demonstrate that the natural gas used as fuel for the sources in this permit meets the definition of *natural gas* in 40 CFR §60.331(u) [see below]. The permittee shall use one of the following sources of information to make the required demonstration:

- (a) The gas quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20 grains/100 scf or less (Equivalents of this in other units are as follows: 0.068 weight percent total sulfur, 680 parts per million by weight (ppmw) total sulfur, and 338 parts per million by volume (ppmv) at 20 degrees Celsius total sulfur.); or
- (b) Representative fuel sampling data which show that the sulfur content of the gaseous fuel does not exceed 20 grains/100 scf. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to 40 CFR part 75 is required.

Definition of *natural gas* in 40 CFR §60.331(u):

Natural gas means a naturally occurring fluid mixture of hydrocarbons (e.g. methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions. Natural gas contains 20.0 grains or less of total sulfur per 100 standard cubic feet. Equivalents of this in other units are as follows: 0.068 weight percent total sulfur, 680 parts per million by weight (ppmw) total sulfur, and 338 parts per million by volume (ppmv) at 20 degrees Celsius total sulfur. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 950 and 1100 British thermal units (Btu) per standard cubic foot. Natural gas does not include the following gaseous fuels: landfill gas, digester gas, refinery gas, sour gas, blast furnace gas, coal-derived gas, producer gas, coke oven gas, or any gaseous fuel produced in a process which might result in highly variable sulfur content or heating value.

E3-9. NSPS/NESHAP/MACT/GACT Standards

The following source(s) are subject to and shall comply with all applicable requirements of each NSPS/NESHAP/MACT/GACT standard as indicated in the table below, including the General Provisions identified in Attachments #4, and #5. The applicable requirements of each standard are incorporated into this permit pursuant to TAPCR 1200-03-09-.03(8) and TAPCR 0400-30-38-.01.

Source Number	NESHAP/MACT/GACT	NSPS
38-0053-03	DDDDD	
38-0053-04	YYYY	KKKK
38-0053-05	DDDDD	

TAPCR 1200-03-09-.03(8) and 0400-30-38-.01

Compliance Method: Compliance methods are provided in the conditions in Conditions E2(c), E3-8, E5-2, through E5-10, E6-6 through E6-17, and E7-2 through E7-10 of this permit.

E3-10. CAM Plan. This facility is currently not subject to regulations under 40 CFR part 64 (Compliance Assurance Monitoring).

E3-11. VOC and NO_x Emission Statement

Not Applicable

TAPCR 1200-03-18-.02(8), 1200-03-27-.02(6), and 1200-03-09-.03(8)

E3-12. Insignificant activities: Insignificant activities identified in the Title V application per Rules 1200-03-09-.04(5) of the Tennessee Comprehensive Rules & Regulations are listed below. 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 V.2 application form with a Truth, Accuracy, and Completeness statement signed by a responsible official. The permit may be updated to include additional insignificant sources by means of an administrative amendment if necessary. The addition of insignificant activities which are identified as insignificant per rules 1200-03-09-.04(5)f or (g) of the TAPCR does not require notification to the Division of Air Pollution Control.

Activity or Emissions Unit	Designation	Rating/Capacity	Rule (TAPCR) for Insignificant or Exempt Status
Building Heaters (compressors, APU, boiler, drum)	BH001	0.18 MMBtu/hr	1200-3-9-.04(5)(f)14
Building Heaters (compressor basements, aux/warehouse)	BH006	0.08 MMBtu/hr	1200-3-9-.04(5)(f)14
Community Building Heater	BH012	0.08 MMBtu/hr	1200-3-9-.04(5)(f)14
Control Building HVAC	BH013	0.09315 MMB/hru	1200-3-9-.04(5)(f)14
Drum Building HVAC	BH014	0.16 MMBtu/hr	1200-3-9-.04(5)(f)14
Control Building D HVAC	HVAC1A	0.0498 MMBtu/hr	1200-3-9-.04(5)(f)14
New Buildings HVACs	HVAC2A	0.05 MMBtu/hr	1200-3-9-.04(5)(f)14
Old Building HVAC	HVAC3A	0.093 MMBtu/hr	1200-3-9-.04(5)(f)14
OWG HVAC 1	OWG HVAC 1	0.09315 MMB/hru	1200-3-9-.04(5)(f)14
OWG HVAC 2	OWG HVAC 2	0.0775 MMBtu/hr	1200-3-9-.04(5)(f)14
OWG Heater 3	OWG Heaters 3	0.08 MMBtu/hr	1200-3-9-.04(5)(f)14
OWG Heaters	OWG Heaters A	0.18 MMBtu/hr	1200-3-9-.04(5)(f)14
Lubricating Oil Tank	T-1	12,800 gal	1200-3-9-.04(5)(a)4.(i)

Activity or Emissions Unit	Designation	Rating/Capacity	Rule (TAPCR) for Insignificant or Exempt Status
Used Oil Tank	T-2	12,800 gal	1200-3-9-.04(5)(a)4.(i)
Distillate Oil Condensate Tank	T-3	12,800 gal	1200-3-9-.04(5)(a)4.(i)
Ambitrol (Glycol) Tank	T-5	2,100 gal	1200-3-9-.04(5)(a)4.(i)
Ambitrol (Glycol) Tank	T-6	4,200 gal	1200-3-9-.04(5)(a)4.(i)
Ambitrol (Glycol) Tank	T-7	2,250 gal	1200-3-9-.04(5)(a)4.(i)
Ambitrol (Glycol) Tank	T-8	6,500 gal	1200-3-9-.04(5)(a)4.(i)
Maintenance Lube Oil Tank	T-10	575 gal	1200-3-9-.04(5)(a)4.(i)
Used Oil Tank	T-11	180 gal	1200-3-9-.04(5)(a)4.(i)
Distillate Tank	T-13	290 gal	1200-3-9-.04(5)(a)4.(i)
Maintenance Welding		-	1200-3-9-.04(5)(f)21
Maintenance Painting		-	1200-3-9-.04(5)(g)13
Roadway Traffic		-	1200-3-9-.04(5)(f)2
Solvent Parts Washer		-	1200-3-9-.04(5)(f)76
Waukesha L36GL emergency generator	APU 1	880 HP	1200-3-9-.04(5)(a)4.(i)
Caterpillar 3412 emergency generator	APU 2	755 HP	1200-3-9-.04(5)(a)4.(i)
Paved/ unpaved roads and parking areas		-	1200-03-09-.04(5)(f)1. and 2.
Fugitive Leaks/Blowdowns	FUG	-	1200-3-9-.04(5)(a)4.(i)

TAPCR 1200-03-09-.04(5)

E3-13. The permittee shall comply with all applicable federal and state regulations concerning the operation of the sources in this permit. This includes but is not limited to federal regulations published under 40 CFR Part 63 for sources of hazardous air pollutants and 40 CFR Part 60, New Source Performance Standards.

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

E3-14. When paying annual emission fees on an actual emissions basis, the permittee shall:

- (a) maintain records of hours of operation, and natural gas usage for each compressor engine, compressor turbine, emergency generator, and boiler for which the permittee pays fees on an actuals emission basis,
- (b) maintain records of horsepower-hours (the amount of attained horsepower per hour summed over each hour of operation), for each compressor engine and compressor turbine, for which the permittee pays fees on an actuals emission basis,
- (c) calculate actual emissions of oxides of nitrogen (NO_x), particulate matter (PM), and volatile organic compound (VOC) from each compressor engine, compressor turbine, emergency generator, and boiler for which the permittee pays fees on an actuals emission basis, for each annual accounting period using operating hours, actual horsepower, natural gas usage, and EPA AP-42 emission factors for the engines and turbine or specific engine test data or a combination of both, consistent with data submitted in the permit application dated November 13, 2023, or more recent emission factors or test data, if the more recent data is has been submitted previously or is submitted with the fee payment.
- (d) calculate actual emissions of sulfur dioxide (SO₂) from each compressor engine, compressor turbine, emergency generator, and boiler for which the permittee pays fees on an actuals emission basis, for each annual accounting period using operating hours, actual horsepower, natural gas usage, and an emission factor of 57.10 lb/10⁶ scf / 0.0560 lb/MMBtu, consistent with the sulfur content limitation contained in **Condition E3-8** of this permit.
- (e) record, maintain, and enter the calculated emissions in Log 1 below, or an alternate format that readily provides the same information, specifying the specific emission factors and basis for calculations. If more recent emission factors or test data is used, the basis for such factors shall be provided, and records of the more recent information used shall kept and shall be submitted with the fee payment.

These records shall be kept for a period of no less than five years and shall be made available to the Technical Secretary or the Technical Secretary's representative upon request. These records shall be reported in accordance with **Condition E1** of this permit.

Log 1 Annual Accounting Period Log of total emissions from compressor reciprocating engines, compressor turbine engines and boilers for fee purposes (38-0053-01, 38-0053-03, 38-0053-04, 38-0053-05)

From through

Unit #	Natural Gas Usage (MM SCF)	Rated Power Output (HP) / Rated Heat Output (MMBtu/hr)	Hours Operated (hours)	Horsepower-Hours (hp-hr)	Fuel Heating Value (HHV) (Btu/scf)	Pollutant	Emission Factor and Basis	Emissions (tons/annual accounting period)
501						NO _x		
						SO ₂		
						PM		
						VOC		
						Non-VOC HAPs		
502						NO _x		
						SO ₂		
						PM		
						VOC		
						Non-VOC HAPs		
503						NO _x		
						SO ₂		
						PM		
						VOC		
						Non-VOC HAPs		
504						NO _x		
						SO ₂		
						PM		
						VOC		
						Non-VOC HAPs		
505						NO _x		
						SO ₂		
						PM		
						VOC		
						Non-VOC HAPs		
509						NO _x		
						SO ₂		
						PM		
						VOC		
						Non-VOC HAPs		
510						NO _x		
						SO ₂		
						PM		
						VOC		
						Non-VOC HAPs		
525						NO _x		
						SO ₂		
						PM		
						VOC		
						Non-VOC HAPs		
527						NO _x		
						SO ₂		
						PM		
						VOC		
						Non-VOC HAPs		

38-0053-01	Source Description	Five (5) Cooper-Bessemer GMWA8 2,000 HP compressor reciprocating engines, natural gas-fired, two-stroke lean burn (2SLB) reciprocating engines For the purposes of 40 CFR Part 63 Subpart ZZZZ - <i>National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines</i> , the five (5) 2SLB reciprocating engines are existing spark ignition 2SLB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and do not have any applicable requirements associated with this regulation per 40 CFR 63.6590(b)(3)(i).
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Conditions E4-1 through E4-6 apply to source 38-0053-01

- E4-1.** The unit #, model, stated design heat input, and power output capacities of the five (5) natural gas-fired 2SLB reciprocating engines are as follows:

Unit #	Model	Rated Heat Input (HHV) (MMBtu/hr)	Rated Power Output (horsepower)
501	Cooper Bessemer GMWA-8	14.7	2,000
502	Cooper Bessemer GMWA-8	14.7	2,000
503	Cooper Bessemer GMWA-8	14.7	2,000
504	Cooper Bessemer GMWA-8	14.7	2,000
505	Cooper Bessemer GMWA-8	14.7	2,000

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

Compliance method: This condition is a statement of the identification and design input capacity for this source. If the Permittee wishes to change, replace and or add new engines or turbine, increase the design input or maximum capacity of this source, the Permittee shall pursue the appropriate Title V procedure in accordance with 1200-03-09-.02(11) of the TAPCR. If a construction permit is applied for, this shall be done in accordance with 1200-03-09-.01(1) of the TAPCR.

- E4-2.** Visible emissions from this source shall not exhibit greater than twenty percent (20%) opacity, except for an aggregate of no more than five (5) minutes in any one (1) hour period, and no more than twenty (20) minutes in any twenty-four (24) hour period. Visible emissions from this source shall be determined by Tennessee Visible Emission Evaluation Method 2, as adopted by the Tennessee Air Pollution Control Board on August 24, 1984 (aggregate count).

TAPCR 1200-03-05-.01(1)

Compliance Method: Compliance with the opacity standard shall be assured by the procedures of the Division opacity matrix dated June 18, 1996 and amended September 11, 2013 (Attachment #6).

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.

- E4-3.** Particulate matter emitted from this source shall not exceed 4.62 pounds per hour (total from the five engines).

TAPCR 1200-03-06-.01(7) and the information contained in the agreement letter dated March 26, 2019, from the permittee (Attachment #3)

Compliance Method: Compliance with this emission standard is assured based on the stated design heat input in **Condition E4-1** of this permit, emission factors from EPA AP-42, Table 3.2-1 dated July 2000 (Attachment #7), and specific data included in the permit application dated November 13, 2023.

- E4-4.** Sulfur dioxide emitted from this source shall not exceed 4.12 pounds per hour (total from the five engines).

TAPCR 1200-03-14-.01(3)

Compliance Method: Compliance with this emission standard is assured based on the stated design heat input in **Condition E4-1** of this permit, and by only burning natural gas meeting the requirements of **Condition E3-8** of this permit.

- E4-5.** For annual emission fee payment purposes only, volatile organic compounds (VOC) emitted from this source will not exceed 50.22 tons during any period of 12 consecutive months (total from the five engines), based on the stated design heat input in **Condition E4-1** of this permit, emission factors from EPA AP-42, Table 3.2-1 dated July 2000 (Attachment #7), and specific data included in the permit application dated November 13, 2023.

TAPCR 1200-03-26-.02(9)

Compliance Method: None. This is a statement of the source potential to emit for annual emission fee payment purposes only.

- E4-6.** For annual emission fee payment purposes only, nitrogen oxides (NO_x) emitted from this source will not exceed 2128.24 tons during any period of 12 consecutive months (total from the five engines), based on the stated design heat input in **Condition E4-1** of this permit, emission factors from EPA AP-42, Table 3.2-1 dated July 2000 (Attachment #7), and specific data included in the permit application dated November 13, 2023.

TAPCR 1200-03-26-.02(9)

Compliance Method: None. This is a statement of the source potential to emit for annual emission fee payment purposes only.

38-0053-03	Source Description	Two (2) Cleaver Brooks 3.35 MMBtu/hr boilers, natural gas-fired (Units 525 and 527) These boilers are manufactured by Cleaver Brooks and have design input capacities of 3.35 MMBtu/hr. each, therefore, they are not subject to 40 CFR Part 60 Subpart Dc - <i>Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units</i> . For the purposes of 40 CFR Part 63 Subpart DDDDD - <i>National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters</i> , the boilers are classified as existing (Units 525 and 527) units with a heat input capacity of less than or equal to 5 million Btu per hour in the <i>unit designed to burn gas 1</i> subcategory.
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Conditions E5-1 through E5-15 apply to source 38-0053-03

E5-1. The unit #, manufacturer, and stated design heat input of the natural gas-fired boilers is as follows:

Unit #	Manufacturer	Rated Heat Input (HHV) (MMBtu/hr)
525	Cleaver-Brooks	3.35
527	Cleaver-Brooks	3.35

TAPCR 1200-03-09-.03(8) and the permit application dated November 13, 2023

Compliance Method: This condition is a statement of the identification and design input capacity for this source. If the permittee wishes to change, replace and or add new engines, increase the design input or maximum capacity of this source, the permittee shall pursue the appropriate procedure in accordance with paragraph(s) 1200-03-09-.01(1) and/or 1200-03-09-.02(11) of the TAPCR

E5-2. The permittee shall comply with the applicable provisions of the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, as promulgated by the United States Environmental Protection Agency under 40 CFR Part 63, Subpart DDDDD. The final rules found in 40 CFR Part 63, Subpart DDDDD establish national emission standards for hazardous air pollutants (NESHAP), operational limits, work practice standards, and compliance requirements for industrial, commercial, and institutional boilers located at a major source of hazardous air pollutants (HAP).

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.6(b)(2), 63.7485, 63.7490, and 63.7495

Compliance Method: Compliance with this condition shall be assured 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 source.

E5-3. For the purposes of 40 CFR Part 63, Subpart DDDDD, Units 525 and 527 are existing units with a heat input capacity of less than or equal to 5 million Btu per hour in the unit designed to burn gas 1 subcategory and therefore are not subject to the emission limits in Tables 1 and 2, or 11 through 13 of 40 CFR Part 63, Subpart DDDDD or the operating limits in Table 4 to 40 CFR Part 63, Subpart DDDDD. However, the boilers are subject to tune-ups requirements, conducted in accordance with 40 CFR 63.7540(a)(10)(i) through (vi) and Table 3 to 40 CFR Part 63, Subpart DDDDD; and the boilers must be included in the one-time energy assessment, performed in accordance with Item #4 in Table 3 of 40 CFR Part 63, Subpart DDDDD.

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.7500(e) and 63.7540(a)(11) through (13)

Compliance Method: None. This is a statement of rule applicability only.

E5-4. For the purposes of 40 CFR Part 63, Subpart DDDDD, Units 525 and 527 are existing units with a heat input capacity of less than or equal to 5 million Btu per hour in the unit designed to burn gas 1 subcategory, subject to the requirements of 40 CFR §63.7540(a)(12). The most recent tune-ups and inspections of Units 525 and 527 were conducted on September 4 and 5, 2025, respectively, as stated in the 40 CFR Part 63, Subpart DDDDD Compliance Report dated January 14, 2026. The permittee must have subsequent tune-ups and inspections conducted on Units 525 and 527 within the applicable 5-year schedule (no more than 61 months after the previous tune-up and inspection), or no later than October 4 and 5, 2030, respectively, unless a unit is not in operation at this time, where a tune-up must be completed within 30 days after its restart. The inspection includes measuring

the concentration of CO in the effluent gas stream in ppmv and oxygen in volume percent, at high fire or typical operating load and both before and after the tune-up; and maintaining a record/report of the results of the inspection.

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.7500(e), 63.7510(e) and (j), 63.7515(d) and (g), 63.7540(a)(11) through (13), and Item #1 of Table 3 to 40 CFR Part 63, Subpart DDDDD

Compliance Method: The most recent tune-ups and inspections of Units 525 and 527 were conducted on September 4 and 5, 2025, respectively, as stated in the 40 CFR Part 63, Subpart DDDDD Compliance Report dated January 14, 2026. Compliance with the requirement to complete a tune-up every 5 years is demonstrated by conducting the required subsequent tune-ups every 5 years (no more than 61 months after the previous tune-up and inspection), and by the reports required by **Conditions E2(c)(3)(ii) and E5-10** of this permit.

E5-5. Each tune-up conducted to demonstrate compliance with the requirements of 40 CFR Part 63 Subpart DDDDD shall include the following elements:

- (a) As applicable, inspection of the burner, and cleaning or replacing of any components of the burner as necessary (the permittee may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown). At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;
- (b) Inspection of the flame pattern, as applicable, and adjustment of the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
- (c) Inspection of the system controlling the air-to-fuel ratio, as applicable, and verification that it is correctly calibrated and functioning properly (the permittee may delay the inspection until the next scheduled unit shutdown);
- (d) Optimization of total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_x requirement to which the unit is subject;
- (e) Measurement of the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and;
- (f) Maintaining on-site and submitting, if requested by the Technical Secretary, a report containing the information in paragraphs (1) through (3) below,
 - (1) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;
 - (2) A description of any corrective actions taken as a part of the tune-up; and
 - (3) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit.

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.7500(e), 63.7510(e) and (j), 63.7515(d) 63.7540(a)(11) through (13), and Table 3 to 40 CFR Part 63, Subpart DDDDD

Compliance Method: Compliance with this condition shall be assured 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 source.

E5-6. The permittee shall meet the applicable requirements of the General Provision in 40 CFR Part 63, Subpart A as identified in Table 10 to 40 CFR Part 63, Subpart DDDDD.

TAPCR 1200-03-09-.03(8) and 40 CFR §63.7565

Compliance Method: Compliance with this condition shall be assured 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 source.

- E5-7.** The boilers must be operated and maintained in a manner consistent with safety and good air pollution control practices for minimizing emissions.

TAPCR 1200-03-09-.03(8) and 40 CFR §63.7500(a)(3)

Compliance Method: Compliance with this condition shall be assured 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 source.

- E5-8.** The permittee shall maintain records of the following information for the boilers. These records shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The records must be kept on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR §63.10(b)(1). The records may be kept off site for the remaining 3 years. Logs and records are not required to be submitted semiannually unless specified in **Condition E2(c)** of this permit.
- (a) a copy of each notification and report that is submitted to comply with 40 CFR Part 63 Subpart DDDDD, including all documentation supporting the Initial Notification and all subsequent Notifications of Compliance Status and/or 5-year compliance reports
 - (b) actions taken during periods of malfunction to minimize emissions, including corrective actions to restore the equipment to normal operations

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.7555, 63.7560, 63.10(b) and (c)

Compliance Method: Compliance with this condition shall be assured 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 source.

- E5-9.** The permittee must submit all of the applicable notifications in §63.9(b) through (h), including the Notification of Compliance Status containing the results of the initial compliance demonstration. The Initial Notification of Compliance Status report must contain the following information:
- (a) A description of the affected unit(s) including identification of which subcategories the unit is in, the design heat input capacity of the unit, a description of the add-on controls used on the unit to comply with this subpart, description of the fuel(s) burned, including whether the fuel(s) were a secondary material determined by you or the EPA through a petition process to be a non-waste under §241.3 of this chapter, whether the fuel(s) were a secondary material processed from discarded nonhazardous secondary materials within the meaning of §241.3 of this chapter, and justification for the selection of fuel(s) burned during the compliance demonstration.
 - (b) the following certification(s) of compliance, as applicable, and signed by a responsible official:
 - (1) “This facility completed the required initial tune-up for all of the boilers and process heaters covered by 40 CFR Part 63, Subpart DDDDD at this site according to the procedures in §63.7540(a)(10)(i) through (vi).”
 - (2) “This facility has had an energy assessment performed according to §63.7530(e).” 40 CFR §§63.7545, 63.7530(e) and (f), and 63.9(b) through (h)

TAPCR 1200-03-09-.03(8) and 40 CFR §63.7545

Compliance Method: Compliance with this condition shall be assured 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 source.

- E5-10.** The permittee shall submit 5-year compliance reports. The first compliance report must cover the period beginning on the compliance date, January 31, 2016, and ending on December 31, 2020. Subsequent compliance reports after the initial report will cover the 5-year periods following the first report. Reports must be postmarked or delivered no later than the first January 31 after the report period ends. The reports shall include:
- (a) the company and facility name and address
 - (b) process unit information, emissions limitations, and operating parameter limitations
 - (c) the date of report and beginning and ending dates of the reporting period
 - (d) Include the date of the most recent tune-up. Include the date of the most recent burner inspection if it was not done on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown.

- (e) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report
These reports must be submitted as specified in **Condition E2(c)** of this permit.

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.7550(a) through (c), 63.7540(b) and Table 9 to 40 CFR Part 63, Subpart DDDDD

Compliance Method: Compliance with this condition shall be assured 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 source.

- E5-11.** Particulate matter emitted from this source shall not exceed 0.06 pounds per hour (total from the two boilers).

TAPCR 1200-03-06-.01(7) and the information contained in the agreement letter dated March 26, 2019, from the permittee (Attachment #3)

Compliance Method: Compliance with this emission standard is assured based on the stated design heat input in **Condition E5-1** of this permit, emission factors from EPA AP-42, Table 1.4-2, dated July 1998 (Attachment #7), and specific data included in the permit application dated November 13, 2023.

- E5-12.** Sulfur dioxide emitted from this source shall not exceed 0.39 pounds per hour (total from the two boilers).

TAPCR 1200-03-14-.01(3)

Compliance Method: Compliance with this emission standard is assured based on the stated design heat input in **Condition E5-1** of this permit, and by only burning natural gas meeting the requirements of **Condition E3-8** of this permit.

- E5-13.** Carbon monoxide (CO) emitted from this source shall not exceed 2.42 tons during any period of 12 consecutive months (total from the two boilers).

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

Compliance Method: Compliance with this emission standard is assured based on the stated design heat input in **Condition E5-1** of this permit, emission factors from EPA AP-42, Tables 1.4-1 and 1.4-2, dated July 1998 (Attachment #7), and specific data included in the permit application dated November 13, 2023.

- E5-14.** Volatile organic compounds (VOC) emitted from this source shall not exceed 0.18 tons during any period of 12 consecutive months (total from the two boilers).

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

Compliance Method: Compliance with this emission standard is assured based on the stated design heat input in **Condition E5-1** of this permit, emission factors from EPA AP-42, Tables 1.4-1 and 1.4-2, dated July 1998 (Attachment #7), and specific data included in the permit application dated November 13, 2023.

- E5-15.** Nitrogen oxides (NO_x) emitted from this source shall not exceed 2.90 tons during any period of 12 consecutive months (total from the two boilers).

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

Compliance Method: Compliance with this emission standard is assured based on the stated design heat input in **Condition E5-1** of this permit, emission factors from EPA AP-42, Tables 1.4-1 and 1.4-2, dated July 1998 (Attachment #7), and specific data included in the permit application dated November 13, 2023.

38-0053-04	Source Description	One (1) Solar Mars 100 natural gas-fired turbine engine, (Unit 509) NSPS Subpart KKKK, NESHAP Subpart YYYY
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Conditions E6-1 through E6-17 apply to source 38-0053-04

E6-1. The unit #, model, stated design heat input, and power output capacities of the natural gas-fired turbine is as follows:

Unit #	Model	Rated Heat Input (HHV) (MMBtu/hr)	Rated Power Output (horsepower)
509	Solar Mars 100	123.5	15,437

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

Compliance method: This condition is a statement of the identification and design input capacity for this source. If the Permittee wishes to change, replace and or add new engines or turbine, increase the design input or maximum capacity of this source, the Permittee shall pursue the appropriate Title V procedure in accordance with 1200-03-09-.02(11) of the TAPCR. If a construction permit is applied for, this shall be done in accordance with 1200-03-09-.01(1) of the TAPCR.

E6-2. Visible emissions from unit (ID# 509) shall not exhibit greater than twenty percent (20%) opacity, except for one (1) six-minute period in any one (1) hour period and for no more than four (4) six-minute periods in any twenty-four (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-.01(1) and 1200-03-05-.03(6)

Compliance Method: Compliance with the opacity standard shall be assured by the procedures of the Division opacity matrix dated June 18, 1996 and amended September 11, 2013 (Attachment #6).

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.

E6-3. Particulate matter emitted from unit (ID# 509) shall not exceed 0.82 pounds per hour.

TAPCR 1200-03-06-.01(7) and the information contained in the agreement letter dated March 26, 2019, from the permittee (Attachment #3)

Compliance Method: Compliance with this emission standard is assured by compliance with **Conditions E3-8 and E6-1** of this permit, emission factors from EPA AP-42, Table 3.1-2a dated April 2000 (Attachment #7), and specific data included in the permit application dated November 13, 2023.

E6-4. Carbon monoxide (CO) emitted from this unit (ID# 509) shall not exceed 33.00 tons during any period of twelve (12) consecutive months.

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

Compliance Method: Compliance with this emission standard is assured by compliance with **Conditions E3-8 and E6-1** of this permit, emission factors from EPA AP-42, Table 3.1-2a dated April 2000 (Attachment #7), and specific data included in the permit application dated November 13, 2023.

- E6-5.** Volatile organic compounds (VOC) emitted from this unit (ID# 509) shall not exceed 18.93 tons during any period of twelve (12) consecutive months.

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

Compliance Method: Compliance with this emission standard is assured by compliance with **Conditions E3-8 and E6-1** of this permit, emission factors from EPA AP-42, Table 3.1-2a dated April 2000 (Attachment #7), and specific data included in the permit application dated November 13, 2023.

- E6-6.** Operation of the new (constructed after February 18, 2005) gas-fired stationary combustion turbine (ID# 509) is subject to all applicable requirements of 40 CFR Part 60, Subpart KKKK – **STANDARDS OF PERFORMANCE FOR STATIONARY COMBUSTION TURBINES**, including any and/or all applicable emission limitations, notifications, compliance options, records, reports, etc. as referenced below in this condition. The unit shall remain in compliance with the following requirements **(a) through (j)** below:

- (a)** Nitrogen oxides (NO_x) emitted from this unit shall not exceed 25 ppm at 15% oxygen in accordance with 40 CFR §60.4320.
- (b)** Sulfur dioxide (SO₂) emitted from this unit shall not exceed 0.90 pound per megawatt-hour (lb/MWh) gross output, in accordance with 40 CFR §60.4330(a)(1). For annual emission fee payment purposes only, sulfur dioxide emitted from this source shall not exceed 6.92 pounds per hour.
- (c)** The fuel for this unit shall contain total potential sulfur emissions of no more than 0.060 lb SO₂/MMBtu heat input, in accordance with 40 CFR §60.4330(a)(2) and 40 CFR §60.4365.
- (d)** For each affected unit required to continuously monitor parameters or emissions, or to periodically determine the fuel sulfur content under this subpart, the permittee shall submit reports of excess emissions and monitor downtime, in accordance with 40 CFR §60.7(c). Excess emissions must be reported for all periods of unit operation, including start-up, shutdown, and malfunction, in accordance with 40 CFR §60.4375(a).
- (e)** For each affected unit that performs performance tests in accordance with 40 CFR §60.4340(a), the permittee shall submit a written report of the results of each performance test to the address in (f) below, before the close of business on the 60th day following the completion of the performance test, in accordance with 40 CFR §60.4375(b).
- (f)** All reports required under 40 CFR §60.7(c) shall be postmarked by the 30th day following the end of each six-month reporting period, in accordance with 40 CFR §60.4395. Reports shall be submitted to the following address:
Division of Air Pollution Control
Davy Crockett Tower, 7th Floor
500 James Robertson Parkway
Nashville, TN 37243
or, by email to Air.Pollution.Control@tn.gov
- (g)** The permittee conducted an initial performance test for NO_x emissions, as required in 40 CFR §60.8, on October 13, 2016, with test results of 6 ppm at 15% oxygen, these results were accepted by the Division in a letter dated March 15, 2017. The permittee conducted subsequent continuous compliance demonstration performance tests on December 13, 2018, January 19, 2021, April 13, 2023, July 21, 2023, and June 24, 2025. These test results were accepted by the Division in letters dated February 12, 2019, March 30, 2021, July 13, 2023, September 19, 2023, and September 29, 2025. The test results of 14.047 ppm at 15% oxygen for the test conducted on June 24, 2025, demonstrated compliance with the permit NO_x emissions limitation of 15 ppm at 15% oxygen, and they represent 56 percent of the applicable 40 CFR Part 60, Subpart KKKK NO_x emission limit of 25 ppm at 15% oxygen. Pursuant to 40 CFR §60.4340(a), the permittee must conduct subsequent continuous compliance demonstration performance test no more than 26 calendar months following the previous performance test with the first test due after the June 24, 2025, test being due on or before August 24, 2027. If the NO_x emission result from the performance test is less than or equal to 75 percent of the 40 CFR Part 60, Subpart KKKK NO_x emission limit of 25 ppm at 15% oxygen, the permittee may maintain the frequency of subsequent performance tests to once every 2 years (no more than 26 calendar months following the previous performance test). If the results of any subsequent performance test exceed 75 percent of the applicable 40 CFR Part 60, Subpart KKKK NO_x emission limit of 25 ppm at 15% oxygen, the permittee must conduct the next performance test no more than 1 year (no more than 14 calendar months) following the previous performance test.
- (h)** [Reserved – does not apply]
- (i)** [Reserved – does not apply]
- (j)** [Reserved – does not apply]

TAPCR 1200-03-09-.03(8) and 40 CFR Part 60, Subpart KKKK

Compliance Method: The permittee conducted a performance test for NO_x emissions on June 24, 2025, with test results of 14.047 ppm at 15% oxygen, demonstrating compliance with the applicable 40 CFR Part 60, Subpart KKKK NO_x emissions limit of 25 ppm at 15% oxygen. The Division accepted these test results in a letter dated September 29, 2025. These test results represent 56% of the applicable 40 CFR Part 60, Subpart KKKK NO_x emission limit of 25 ppm at 15% oxygen. Pursuant to 40 CFR §60.4340(a), the permittee must conduct subsequent continuous compliance demonstration performance test no more than 26 calendar months following the previous performance test with the first test due after the June 24, 2025, test being due on or before August 24, 2027. If the NO_x emission result from the performance test is less than or equal to 75 percent of the 40 CFR Part 60, Subpart KKKK NO_x emission limit of 25 ppm at 15% oxygen, the permittee may conduct the next performance test no more than 2 years (no more than 26 calendar months) following the previous performance test. If the results of any subsequent performance test exceed 75 percent of the applicable 40 CFR Part 60, Subpart KKKK NO_x emission limit of 25 ppm at 15% oxygen, the permittee must conduct the next performance test no more than 1 year (no more than 14 calendar months) following the previous performance test.

The permittee shall continue to demonstrate continuous compliance with the NO_x emission limitation in accordance with 40 CFR §§60.4340 and 60.4400.

The permittee is exempt from monitoring the total sulfur content of the fuel and to determine compliance with the SO₂ emission limitation by and is considered in compliance by compliance with **Condition E3-8** of this permit, pursuant to 40 CFR §60.4365(a).

- E6-7.** Operation of the new (constructed after January 14, 2003) gas-fired stationary combustion turbine (ID# 509) is subject to all applicable requirements of 40 CFR Part 63, Subpart YYYY – **NATIONAL EMISION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR STATIONARY COMBUSTION TURBINES**, including any and/or all applicable emission limitations, notifications, compliance options, records, reports, etc. as referenced in **Conditions E6-8 through E6-17** of this permit.

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.6(b)(2), 63.6085, 63.6090, and 63.6095

Compliance Method: Compliance with this condition shall be assured based on information available to the Technical Secretary which may include, but is not limited to, performance testing results, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

- E6-8.** For Unit 509, which for purposes of 40 CFR Part 63, Subpart YYYY is permitted as a new simple cycle stationary combustion turbine equipped only to fire gas using lean premix technology, the permittee must limit the concentration of formaldehyde (CH₂O) to 91 parts per billion by volume, dry (ppbvd) or less at 15-percent O₂, except during turbine startup. The *terms lean premix gas-fired stationary combustion turbine, lean premix technology, simple cycle stationary combustion turbine, startup, and stationary combustion turbine* are defined in 40 CFR § 63.6175.

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.6100 (Table 1.1), and 63.6175

Compliance Method: Compliance with this condition shall be demonstrated by the records required by **Conditions E6-9(b), (d), and (f)** of this permit.

- E6-9.** For Unit 509, which for purposes of 40 CFR Part 63, Subpart YYYY is permitted as a stationary combustion turbine that is required to comply with the emission limitation for formaldehyde and is not using an oxidation catalyst, the permittee must maintain the operating limitations most recently approved by the Administrator. At the time of permit issuance, the operating limitations and the Continuous Monitoring System (CMS) plan most recently approved (contingent to conditions described below) are specified in EPA's approval letter dated March 9, 2023 (Attachment #9) issued in response to "*Turbine NESHAP 40 CFR, Part 63, Subpart YYYY Monitoring Petition for Combustion-based Emission Controls for Natural Gas-Fired Turbines*" document dated June 21, 2022 (Attachment #8), submitted to EPA by the permittee.

The operating limitation is indication of lean premix mode operation, and values of percent gas producer turbine speed (%NGP) and inlet ambient air temperature (T1), such that %NGP is at or above the minimum value where lean premix (SoLoNO_x) mode is enabled as a function of the value of T1, as described in Appendix 1 of the document in Attachment #8.

The CMS Plan determined acceptable by EPA is as follows:

- (a) ANR (the permittee) must conduct performance testing at the high load, defined as 100 percent plus or minus 10 percent. Testing must not include data from startup, shutdown, or malfunction events.
- (b) The lean premix mode indication, %NGP, and T1 shall be monitored and recorded at a minimum frequency of at least once every 15 minutes during testing conducted to successfully demonstrate compliance with the formaldehyde emission standard in **Condition E6-8** of this permit.
- (c) One-hour averages of %NGP and T1 shall be determined by computing hourly averages using all readings, with intervals at least once every 15 minutes taken during the formaldehyde emission standard compliance demonstration testing event. The three-hour rolling averages of %NGP and T1 shall be determined by computing the three-hour rolling averages using all hourly averaged readings taken during the formaldehyde emission standard compliance testing event.
- (d) Indication of lean premix mode operation must be continuously monitored and recorded at a minimum frequency of at least once every 15 minutes during formaldehyde emission standard compliance testing, and continuously thereafter.
- (e) Except for startup, the turbine must be operated in the lean premix mode of operation to ensure compliance with this approval.
- (f) Following formaldehyde emission compliance demonstration testing, the three-hour rolling averages of the related parameters must be continuously monitored and recorded to indicate compliance with the formaldehyde emission standard.
- (g) ANR must verify the monitoring devices' accuracy once annually according to the manufacturer's recommended procedures and maintain records of the annual verifications for inspection purposes.

EPA's approval of the CMS plan listed above is contingent on a successful demonstration of formaldehyde emission standard compliance resulting from a testing event. Should the permittee change the operating conditions of the turbine to an operation that is different than the operating conditions represented in EPA's approval, such that formaldehyde emissions increase because of the change, the permittee must submit a revised CMS plan petition to address the change(s).

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.6100, and .6120, and the information contained in EPA's approval letter dated March 9, 2023 (Attachment #9) issued in response to "*Turbine NESHAP 40 CFR, Part 63, Subpart YYY Monitoring Petition for Combustion-based Emission Controls for Natural Gas-Fired Turbines*", document dated June 21, 2022 (Attachment #8) and approved by the USEPA in a letter dated March 9, 2023 (Attachment #9), submitted to EPA by the permittee.

Compliance Method: Compliance with this condition shall be demonstrated by the semiannual compliance reports required by **Condition E6-15** of this permit.

- E6-10.** At all times, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the owner or operator to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator 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 source.

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.6105

Compliance Method: Compliance with this condition shall be assured 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 source.

- E6-11.** Performance tests must be performed on an annual basis as specified below:

- (a) Demonstrate formaldehyde emissions meet the 91 ppbvd at 15% oxygen limitation by a performance test on an annual basis, using Test Method 320 of 40 CFR part 63, appendix A; ASTM D6348-12e1¹ provided that the test plan preparation and implementation provisions of Annexes A1 through A8 are followed and the %R as determined in Annex A5 is equal or greater than 70% and less than or equal to 130%;² or other methods approved by the Administrator. Formaldehyde concentration must be corrected to 15-percent O₂, dry basis. Results of this test consist of the average of the three 1-hour runs. Test must be conducted within 10 percent of 100-percent load; and
- (b) Select the sampling port location and the number of traverse points using Method 1 or 1A of 40 CFR part 60, appendix A. If using an air pollution control device, the sampling site must be located at the outlet of the air pollution control device; and

- (c) Determine the O₂ concentration at the sampling port location using Method 3A or 3B of 40 CFR part 60, appendix A; ANSI/ASME PTC 19.10-1981¹ (Part 10) manual portion only; ASTM D6522-11¹ if the turbine is fueled by natural gas. Measurements to determine O₂ concentration must be performed at the same time as the performance test; and
- (d) Determine the moisture content at the sampling port location for the purposes of correcting the formaldehyde concentration to a dry basis using Method 4 of 40 CFR Part 60, Appendix A or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-12e1¹. Measurements to determine moisture content must be made at the same time as the performance test.
- (e) Performance tests must be conducted at high load, defined as 100 percent plus or minus 10 percent and under such conditions based on representative performance of the affected source for the period being tested. Representative conditions exclude periods of startup and shutdown. The owner or operator may not conduct performance tests during periods of malfunction. The owner or operator must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, the owner or operator shall make available to the Administrator (as defined in 40 CFR § 63.2) such records as may be necessary to determine the conditions of performance tests.
- (f) The permittee must conduct three separate test runs for each performance test, and each test run must last at least 1 hour.
- (g) During performance testing, the permittee must measure the operating parameters specified in **Condition E6-9(b)** of this permit during testing.

¹ Incorporated by reference, see 40 CFR §63.14.

² The %R value for each compound must be reported in the test report, and all field measurements must be corrected with the calculated %R value for that compound using the following equation: Reported Results = ((Measured Concentration in Stack)/(%R)) × 100.

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.6115 and .6120

Compliance Method: Compliance with this condition shall be assured based on the review of performance testing results and review of the Notifications of Compliance Status reports required by **Condition E6-14** of this permit.

- E6-12.** The permittee must continuously monitor the parameters specified in **Condition E6-9(b)** of this permit. Except for monitor malfunctions, associated repairs, and required quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments of the monitoring system), you must conduct all parametric monitoring at all times the stationary combustion turbine is operating. Do not use data recorded during monitor malfunctions, associated repairs, and required quality assurance or quality control activities for meeting the requirements of this subpart, including data averages and calculations. You must use all the data collected during all other periods in assessing the performance of the control device or in assessing emissions from the new or reconstructed stationary combustion turbine.

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.6125 and 63.6135, and the information contained in the “Turbine NESHAP 40 CFR, Part 63, Subpart YYYYY Monitoring Petition for Combustion-based Emission Controls for Natural Gas-Fired Turbines”, dated June 21, 2022 (Attachment #8) and approved by the USEPA in a letter dated March 9, 2023 (Attachment #9).

Compliance Method: Compliance with this condition shall be assured based on information available to the Technical Secretary which may include, but is not limited to, monitoring results, and review of the semiannual compliance reports required by **Condition E6-15** of this permit.

- E6-13.** The permittee must demonstrate continuous compliance with the emission limitation in **Condition E6-8** of this permit and the operating limitations delineated within **Condition E6-9(b)** of this permit by continuously monitoring the operating limits specified in the “Turbine NESHAP 40 CFR, Part 63, Subpart YYYYY Monitoring Petition for Combustion-based Emission Controls for Natural Gas-Fired Turbines”, dated June 21, 2022 (Attachment #8) and approved by the USEPA in a letter dated March 9, 2023 (Attachment #9).

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.6140(a), and the information contained in the “Turbine NESHAP 40 CFR, Part 63, Subpart YYYYY Monitoring Petition for Combustion-based Emission Controls for Natural Gas-Fired Turbines”, dated June 21, 2022 (Attachment #8) and approved by the USEPA in a letter dated March 9, 2023 (Attachment #9).

Compliance Method: Compliance with this condition shall be assured based on information available to the Technical Secretary which may include, but is not limited to, monitoring results, and review of the semiannual compliance reports required by **Condition E6-15** of this permit.

E6-14. The permittee must submit a Notification of Compliance Status according to 40 CFR §63.9(h)(2)(ii). For each performance test required to demonstrate compliance with the emission limitation for formaldehyde, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th calendar day following the completion of the performance test. The permittee must submit the results of the performance tests as follows:

- (a) Data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT website (<https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert>) at the time of the test. Submit the results of the performance test to the EPA via the CEDRI, which can be accessed through the EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>). The data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, you may submit an electronic file consistent with the extensible markup language (XML) schema listed on the EPA's ERT website.
- (b) Data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT website at the time of the test. The results of the performance test must be included as an attachment in the ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the ERT generated package or alternative file to the EPA via CEDRI.
- (c) Confidential business information (CBI). If you claim some of the information submitted under paragraph (f)(1) of this section is CBI, you must submit a complete file, including information claimed to be CBI, to the EPA. The file must be generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the file on a compact disc, flash drive, or other commonly used electronic storage medium and clearly mark the medium as CBI. Mail the electronic medium to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described in paragraph (f)(1) of this section.

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.6145(f), and .6150(f)

Compliance Method: Compliance with this condition shall be demonstrated based on review of the Notification of Compliance Status reports available through CEDRI.

E6-15. The permittee must submit a semiannual compliance report. After September 8, 2020, or once the reporting template has been available on the Compliance and Emissions Data Reporting Interface (CEDRI) website for 180 days, whichever date is later, you must submit all subsequent reports to the EPA following the procedure specified in paragraph (i) of this condition. The semiannual compliance report must contain the following:

- (a) Company name and address.
- (b) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.
- (c) Date of report and beginning and ending dates of the reporting period.
- (d) Excess emissions and monitoring system performance reports as per § 63.10(e)(3)
- (e) Report each *deviation** in the semiannual compliance report. Report the information specified below:
 - (1) Report the number of deviations. For each instance, report the start date, start time, duration, and cause of each deviation, and the corrective action taken.
 - (2) For each deviation, the report must include a list of the affected sources or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, a description of the method used to estimate the emissions.
 - (3) Information on the number, duration, and cause for monitor downtime incidents (including unknown cause, if applicable, other than downtime associated with zero and span and other daily calibration checks), as applicable, and the corrective action taken.
 - (4) Report the total operating time of the affected source during the reporting period.
- (f) You must report each instance in which you did not meet each emission limitation or operating limitation required by **Conditions E6-8 and E6-9** of this permit.
- (g) You must report each instance in which you did not meet the requirements of **Condition E6-17** of this permit.
- (h) Each semiannual compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Semiannual compliance reports may be submitted according to the dates established in **Condition E2(a)** of this permit.
- (i) The permittee must submit reports to the EPA via CEDRI, which can be accessed through the EPA's CDX (<https://cdx.epa.gov/>). The permittee must use the appropriate electronic report template on the CEDRI website (<https://www.epa.gov/electronic-reporting-air-emissions/compliance-and-emissions-data-reporting-interface-cedri>) for this subpart. The date report templates become available will be listed on the CEDRI website. The report must be submitted by the deadline specified in this subpart, regardless of the method in which the report is submitted. If the

permittee claims some of the information required to be submitted via CEDRI is CBI, submit a complete report, including information claimed to be CBI, to the EPA. The report must be generated using the appropriate form on the CEDRI website. Submit the file on a compact disc, flash drive, or other commonly used electronic storage medium and clearly mark the medium as CBI. Mail the electronic medium to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

**Deviation* means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

- (1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;
- (2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit;
- (3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless of whether or not such failure is permitted by this subpart;
- (5) Fails to satisfy the general duty to minimize emissions established by § 63.6105.

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.6140(b), .6150, and .6175

Compliance Method: Compliance with this condition shall be assured based on information available to the Technical Secretary which may include, but is not limited to, review of submitted reports, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

E6-16. The permittee must keep records as described in this condition:

- (a) A copy of each notification and report that you submitted to comply with this condition, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirements in § 63.10(b)(2)(xiv).
- (b) Records of performance tests and performance evaluations as required in § 63.10(b)(2)(viii).
- (c) Records of all maintenance on the air pollution control equipment as required in § 63.10(b)(2)(iii).
- (d) Records of the date, time, and duration of each startup period, recording the periods when the affected source was subject to the standard applicable to startup.
- (e) Record the number of deviations. For each deviation, record the date, time, cause, and duration of the deviation.
- (f) For each deviation, record and retain a list of the affected sources or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit and a description of the method used to estimate the emissions.
- (g) Record actions taken to minimize emissions in accordance with § 63.6105(c), and any corrective actions taken to return the affected unit to its normal or usual manner of operation.
- (h) Records of continuous monitoring of the parameters specified in **Condition E6-9(b)** of this permit.
- (i) Any records required to be maintained by this part that are submitted electronically via the EPA's CEDRI may be maintained in electronic format. This ability to maintain electronic copies does not affect the requirement for facilities to make records, data, and reports available upon request to a delegated air agency or the EPA as part of an on-site compliance evaluation.
- (j) The permittee must maintain all applicable records in such a manner that they can be readily accessed and are suitable for inspection.
- (k) The permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.
- (l) The permittee must retain your records of the most recent 2 years on site or your records must be accessible on site. Your records of the remaining 3 years may be retained off site.

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.6155 and .6160

Compliance Method: Compliance with this condition shall be assured based on information available to the Technical Secretary which may include, but is not limited to, review of submitted reports, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

E6-17. The permittee shall meet the applicable requirements of the General Provision in 40 CFR Part 63, Subpart A as identified in Table 7 to 40 CFR Part 63, Subpart YYYY.

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.6165

Compliance Method: Compliance with this condition shall be assured based on information available to the Technical Secretary which may include, but is not limited to, review of submitted reports, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

- E6-18.** Nitrogen oxides (NO_x) emitted from this unit shall not exceed 15 ppm at 15% oxygen. For annual emission fee payment purposes only, NO_x emitted from this source shall not exceed 32.46 tons during any period of 12 consecutive months.

TAPCR 1200-03-07-.01(5) and the information contained in the agreement letter dated August 6, 2026, from the permittee (Attachment #3)

Compliance Method: The permittee must perform performance tests once every 2 years (no more than 26 calendar months following the previous performance test) to demonstrate continuous compliance, except if the turbine has not operated for the 60 calendar days prior to the due date of a performance test, in which case the permittee is not required to perform the subsequent performance test until 45 calendar days after the next operating day. Based on the date of the most recent performance test for NO_x emissions performed prior to issuance of this permit (June 24, 2025) the next performance test (the first test after issuance of this permit) is due on or before August 24, 2027.

38-0053-05	Source Description	One (1) Cleaver Brooks 1.6 MMBtu/hr natural gas-fired boiler (Unit 510) This boiler is manufactured by Cleaver Brooks and has a design input capacity of 1.6 MMBtu/hr., therefore, it is not subject to 40 CFR Part 60 Subpart Dc - <i>Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units</i> . For the purposes of 40 CFR Part 63 Subpart DDDDD - <i>National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters</i> , the boiler (Unit 510) is classified as a new unit with a heat input capacity of less than or equal to 5 million Btu per hour in the <i>unit designed to burn gas 1</i> subcategory.
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Conditions E7-1 through E7-15 apply to source 38-0053-05

E7-1. The unit #, manufacturer, and stated design heat input of the natural gas-fired boiler is as follows:

Unit #	Manufacturer	Rated Heat Input (HHV) (MMBtu/hr)
510	Cleaver-Brooks	1.6

TAPCR 1200-03-09-.03(8) and the permit application dated November 13, 2023

Compliance method: None. This condition is a statement of the identification and design input capacity for this source. If the permittee wishes to change, replace and or add new engines, increase the design input or maximum capacity of this source, the permittee shall pursue the appropriate procedure in accordance with paragraph(s) 1200-03-09-.01(1) and/or 1200-03-09-.02(11) of the TAPCR

E7-2. The permittee shall comply with the applicable provisions of the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, as promulgated by the United States Environmental Protection Agency under 40 CFR Part 63, Subpart DDDDD. The final rules found in 40 CFR Part 63, Subpart DDDDD establish national emission standards for hazardous air pollutants (NESHAP), operational limits, work practice standards, and compliance requirements for industrial, commercial, and institutional boilers located at a major source of hazardous air pollutants (HAP). The permittee shall comply with the requirements and limits of this NESHAP for the facility's new (commenced construction after June 4, 2010) boilers and process heaters by January 31, 2013, or upon startup, whichever is later.

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.6(b)(2), 63.7485, 63.7490, and 63.7495

Compliance Method: Compliance with this condition shall be assured 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 source.

E7-3. For the purposes of 40 CFR Part 63, Subpart DDDDD, Unit 510 is a new unit with a heat input capacity of less than or equal to 5 million Btu per hour in the unit designed to burn gas 1 subcategory and therefore is not subject to the emission limits in Tables 1 and 2, or 11 through 13 of 40 CFR Part 63, Subpart DDDDD or the operating limits in Table 4 to 40 CFR Part 63, Subpart DDDDD. However, the boiler is subject to tune-ups requirements, conducted in accordance with 40 CFR 63.7540(a)(10)(i) through (vi) and Table 3 to 40 CFR Part 63, Subpart DDDDD.

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.7500(e) and 63.7540(a)(11) through (13)

Compliance Method: None. This is a statement of rule applicability only.

E7-4. For the purposes of 40 CFR Part 63, Subpart DDDDD, Unit 510 is a new unit with a heat input capacity of less than or equal to 5 million Btu per hour in the unit designed to burn gas 1 subcategory subject to the requirements of 40 CFR §63.7540(a)(12). The most recent tune-up and inspection of Unit 510 was conducted on September 5, 2025, as stated in the 40 CFR Part 63, Subpart DDDDD Compliance Report dated January 14, 2026. The permittee must have a subsequent tune-up and inspection conducted on Unit 510 within the applicable 5-year schedule (no more than 61 months after the previous tune-up and inspection), or no later than October 5, 2030, unless it is not in operation at this time, where a tune-up must be completed within 30 days after its restart. The inspection includes measuring the concentration of CO in the effluent gas stream in ppmv and

oxygen in volume percent, at high fire or typical operating load and both before and after the tune-up; and maintaining a record/report of the results of the inspection.

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.7500(e), 63.7515(d) and (g), 63.7540(a)(11) through (13), and Item #1 of Table 3 to 40 CFR Part 63, Subpart DDDDD

Compliance Method: The most recent tune-up and inspection of Unit 510 was conducted on September 5, 2025, as stated in the 40 CFR Part 63, Subpart DDDDD Compliance Report dated January 14, 2026. Compliance with the requirement to complete a tune-up every 5 years is demonstrated by conducting the required subsequent tune-ups every 5 years (no more than 61 months after the previous tune-up and inspection), and by the reports required by **Conditions E2(c)(3)(ii) and E7-10** of this permit.

- E7-5.** Each tune-up conducted to demonstrate compliance with the requirements of 40 CFR Part 63 Subpart DDDDD shall include the following elements:
- (a) As applicable, inspection of the burner, and cleaning or replacing of any components of the burner as necessary (the permittee may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown). At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;
 - (b) Inspection of the flame pattern, as applicable, and adjustment of the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
 - (c) Inspection of the system controlling the air-to-fuel ratio, as applicable, and verification that it is correctly calibrated and functioning properly (the permittee may delay the inspection until the next scheduled unit shutdown);
 - (d) Optimization of total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_x requirement to which the unit is subject;
 - (e) Measurement of the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and;
 - (f) Maintaining on-site and submitting, if requested by the Technical Secretary, a report containing the information in paragraphs (1) through (3) below,
 - (1) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;
 - (2) A description of any corrective actions taken as a part of the tune-up; and
 - (3) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit.

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.7500(e), 63.7510(e) and (j), 63.7515(d) 63.7540(a)(11) through (13), and Table 3 to 40 CFR Part 63, Subpart DDDDD

Compliance Method: Compliance with this condition shall be assured 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 source.

- E7-6.** The permittee shall meet the applicable requirements of the General Provision in 40 CFR Part 63, Subpart A as identified in Table 10 to 40 CFR Part 63, Subpart DDDDD.

TAPCR 1200-03-09-.03(8) and 40 CFR §63.7565

Compliance Method: Compliance with this condition shall be assured 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 source.

- E7-7.** The boiler must be operated and maintained in a manner consistent with safety and good air pollution control practices for minimizing emissions.

TAPCR 1200-03-09-.03(8) and 40 CFR §63.7500(a)(3)

Compliance Method: Compliance with this condition shall be assured 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 source.

- E7-8.** The permittee shall maintain records of the following information for the boiler. These records shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The records must be kept on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR §63.10(b)(1). The records may be kept off site for the remaining 3 years. Logs and records are not required to be submitted semiannually unless specified in **Condition E2(c)** of this permit.
- (a) a copy of each notification and report that is submitted to comply with 40 CFR Part 63 Subpart DDDDD, including all documentation supporting the Initial Notification and all subsequent Notifications of Compliance Status and/or 5-year compliance reports
 - (b) actions taken during periods of malfunction to minimize emissions, including corrective actions to restore the equipment to normal operations

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.7555, 63.7560, 63.10(b) and (c)

Compliance Method: Compliance with this condition shall be assured 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 source.

- E7-9.** The permittee must submit all of the applicable notifications in §63.9(b) through (h), including the Notification of Compliance Status containing the results of the initial compliance demonstration. The Initial Notification of Compliance Status report must contain the following information:
- (a) A description of the affected unit(s) including identification of which subcategories the unit is in, the design heat input capacity of the unit, a description of the add-on controls used on the unit to comply with this subpart, description of the fuel(s) burned, including whether the fuel(s) were a secondary material determined by you or the EPA through a petition process to be a non-waste under §241.3 of this chapter, whether the fuel(s) were a secondary material processed from discarded nonhazardous secondary materials within the meaning of §241.3 of this chapter, and justification for the selection of fuel(s) burned during the compliance demonstration.
 - (b) the following certification(s) of compliance, as applicable, and signed by a responsible official:
 - (1) “This facility completed the required initial tune-up for all of the boilers and process heaters covered by 40 CFR Part 63, Subpart DDDDD at this site according to the procedures in §63.7540(a)(10)(i) through (vi).”
 - (2) “This facility has had an energy assessment performed according to §63.7530(e).” 40 CFR §§63.7545, 63.7530(e) and (f), and 63.9(b) through (h).”

TAPCR 1200-03-09-.03(8) and 40 CFR §63.7545

Compliance Method: Compliance with this condition shall be assured 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 source.

- E7-10.** The permittee shall submit 5-year compliance reports. The first compliance report must cover the period beginning on the compliance date, May 18, 2016, and ending on December 31, 2020. Subsequent compliance reports after the initial report will cover the 5-year periods following the first report. Reports must be postmarked or delivered no later than the first January 31 after the report period ends. The reports shall include:
- (a) the company and facility name and address
 - (b) process unit information, emissions limitations, and operating parameter limitations
 - (c) the date of report and beginning and ending dates of the reporting period
 - (d) Include the date of the most recent tune-up. Include the date of the most recent burner inspection if it was not done on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown.

- (e) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report

These reports must be submitted as specified in **Condition E2(c)** of this permit.

TAPCR 1200-03-09-.03(8) and 40 CFR §§63.7550(a) through (c), 63.7540(b) and Table 9 to 40 CFR Part 63, Subpart DDDDD

Compliance Method: Compliance with this condition shall be assured 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 source.

- E7-11.** Particulate matter emitted from this source shall not exceed 0.01 pounds per hour.

TAPCR 1200-03-06-.01(7) and the information contained in the agreement letter dated March 26, 2019, from the permittee (Attachment #3)

Compliance Method: Compliance with this emission standard is assured based on the stated design heat input in **Condition E7-1** of this permit, emission factors from EPA AP-42, Table 1.4-2, dated July 1998, and specific data included in the permit application dated November 13, 2023.

- E7-12.** Sulfur dioxide emitted from this source shall not exceed 0.09 pounds per hour.

TAPCR 1200-03-14-.01(3)

Compliance Method: Compliance with this emission standard is assured based on the stated design heat input in **Condition E7-1** of this permit, and by only burning natural gas meeting the requirements of **Condition E3-8** of this permit.

- E7-13.** Carbon monoxide (CO) emitted from this source shall not exceed 0.59 tons during any period of 12 consecutive months.

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

Compliance Method: Compliance with this emission standard is assured based on the stated design heat input in **Condition E7-1** of this permit, emission factors from EPA AP-42, Table 1.4-1, dated July 1998, and specific data included in the permit application dated November 13, 2023.

- E7-14.** Volatile organic compounds (VOC) emitted from this source shall not exceed 0.04 tons during any period of 12 consecutive months.

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

Compliance Method: Compliance with this emission standard is assured based on the stated design heat input in **Condition E7-1** of this permit, emission factors from EPA AP-42, Table 1.4-2, dated July 1998, and specific data included in the permit application dated November 13, 2023.

- E7-15.** Nitrogen oxides (NO_x) emitted from this source shall not exceed 0.70 tons during any period of 12 consecutive months.

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

Compliance Method: Compliance with this emission standard is assured based on the stated design heat input in **Condition E7-1** of this permit, emission factors from EPA AP-42, Tables 1.4-1, dated July 1998, and specific data included in the permit application dated November 13, 2023.

END OF PERMIT NUMBER 581930

ATTACHMENT #1

**TITLE V FEE SELECTION FORM APC 36
(CN-1583) (Rev. 4-19)**

PROPOSED



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)

[illegible]

CONTACT INFORMATION (BILLING)	
NAME	
ADDRESS	
CITY	
STATE	
ZIP	
PHONE	
FAX	
EMAIL	

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

ATTACHMENT #2

NOTIFICATION OF CHANGES

PROPOSED

Notification of Changes**Facility (Permittee)** ANR Pipeline Company – Brownsville Compressor Station**Facility ID** 38-0053**Source No.** _____

	Control Equipment	Stack Height (Feet)	Stack Diameter (Feet)	Exit Velocity (Feet/Second)	Exit Temperature (°F)
Current					
Proposed					
Current					
Proposed					
Current					
Proposed					

Comments:

As the Responsible Person of the above mentioned facility (permittee), I certify that the information contained in this Notification is accurate and true to the best of my knowledge. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Signature		Date
Signer's name (print)	Title	Phone (with area code)

ATTACHMENT #3

FERC NGA GAS TARIFF EXCERPT AND AGREEMENT LETTERS

PROPOSED

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6.13 QUALITY

Gas delivered to, and received by, Transporter, shall meet the following specifications:

1. Heat Content. Heat content shall mean the gross heating value per cubic foot of Gas delivered at each Receipt Point and Delivery Point. The Gas at each Receipt Point shall have a heat content not greater than 1200 BTUs per cubic foot nor less than 967 BTUs per cubic foot when determined on a dry basis. Transporter shall have the right to waive such BTU content limits if, in Transporter's sole opinion, Transporter is able to accept Gas with a BTU content outside such limits without affecting Transporter's operations. The total heating value per cubic foot of Gas shall be determined at each Receipt Point and each Delivery Point by one of the following methods:
 - (a) by means of an instrument of standard manufacture installed to measure the heating value of the Gas being delivered at the Receipt Point or the Delivery Point;
 - (b) at intervals of not more than six (6) Months by means of an instrument of standard manufacture and a sample of Gas from the Gas stream from which Gas is being delivered at the Receipt Point or the Delivery Point; or
 - (c) other methods mutually agreed upon by both parties.

For the purpose of calculating receipts and deliveries, the heat content of the Gas so determined at each such point shall be deemed to remain constant at such point until the next determination. The unit of quantity for the purpose of determining total heating value shall be one (1) cubic foot of anhydrous Gas at a temperature of sixty (60) degrees Fahrenheit and an absolute pressure of 14.73 psia.

2. Freedom from Objectionable Matter. The Gas received and delivered hereunder:
 - (a) shall be commercially free from objectionable odors, dust, water and any other solid or liquid matter which might interfere with its merchantability or cause injury to or interference with proper operation of the equipment through which it flows and any substance that might become separated from the gas in Transporter's facilities.
 - (b) shall not contain more than sixteen (16) parts per million (one (1) grain per one hundred (100) cubic feet of Gas) of hydrogen sulfide in the Southeast Area Facilities and Southwest Area Facilities and shall not contain more than four (4) parts per million (one quarter grain per one hundred (100) cubic feet of Gas) of hydrogen sulfide in the Mainline Area Facilities, as determined by the method prescribed in the Gas Processors Association Standard 2377, entitled "Test for

Hydrogen Sulfide and Carbon Dioxide in Natural Gas Using Length of Stain Tubes";

- (c) shall not contain more than twenty (20) grains of total sulfur (including the sulfur in any hydrogen sulfide and mercaptans) per one hundred (100) cubic feet of Gas;
 - (d) shall not at any time have an oxygen content in excess of one percent (1%) by volume and the parties hereto shall make every reasonable effort to keep the Gas free of oxygen;
 - (e) shall be free of water and hydrocarbons in liquid form and shall in no event contain water vapor in excess of seven (7) pounds per million cubic feet of Gas;
 - (f) shall not contain more than two percent (2%) by volume of carbon dioxide;
 - (g) shall be delivered at a temperature not in excess of one hundred twenty (120) degrees Fahrenheit or less than forty (40) degrees Fahrenheit; and
 - (h) shall not contain more than three percent (3%) by volume of nitrogen.
 - (i) shall not contain any toxic, hazardous materials or substances, or any deleterious material potentially harmful to persons or to the environment, including but not limited to, polychlorinated biphenyls and substances requiring investigation, remediation or removal under any law, regulation, rule or order in effect from time to time.
3. Hydrocarbon Dewpoint. Transporter may not refuse to accept delivery of Gas with a Hydrocarbon Dewpoint equal to or less than 15 degrees Fahrenheit ("F"), provided that such Gas satisfies all other applicable provisions of Transporter's FERC Gas Tariff. This Standard shall be referred to as Transporter's Hydrocarbon Dewpoint Safe Harbor. Transporter may, from time to time, as operationally necessary, establish and post on its Internet website a limit on Hydrocarbon Dewpoint (no lower than the Hydrocarbon Dewpoint Safe Harbor) for receipts on specified HDP Segments to cure or prevent hydrocarbon liquid fallout. Transporter may post on its Internet website such limits when operational and engineering considerations on Transporter's System upstream of designated Monitoring Points demonstrate the need for such limits in order to prevent anticipated hydrocarbon liquid fallout, to correct problems from actual hydrocarbon liquid fallout, or to assure that gas would be accepted for delivery into interconnects, including with interstate or intrastate pipelines, end users, and local distribution companies.
- (a) Procedures for Postings. Transporter shall establish Monitoring Points on its system for the purpose of posting Hydrocarbon Dewpoint limits pursuant to



700 Louisiana Street, Suite 700
Houston, TX 77002

tel 832-320-5835
fax 832-320-6835
email tiffany_grady@transcanada.com
web www.transcanada.com

March 26, 2019

The Technical Secretary
Tennessee Air Pollution Control Board
William R. Snodgrass Tennessee Tower, 15th Floor
312 Rosa L. Parks Avenue
Nashville, TN 37243
ATTN: Hernan R. Flores

Re: 38-0053/572769
Brownsville Compressor Station
70 Pumping Station Road
Brownsville, TN 38069

Dear Technical Secretary:

ANR Pipeline Company agrees to be bound by a permit with the following more restrictive particulate matter (**PM**) and sulfur dioxide (**SO₂**) emission limits at its Brownsville Compressor Station.

1. **PM** emitted from source 38-0053-01 (Natural gas fired natural gas compressor units listed below) shall not exceed 4.62 pounds per hour. **SO₂** emitted from this source shall not exceed 0.06 pounds per hour.

Source 38-0053-01 Natural Gas Compressor Units			
Unit #	Model	Rated Heat Input (HHV) (MMBtu/hr)	Rated Power Output (horsepower)
501	Cooper Bessemer GMWA-8	14.7	2,000
502	Cooper Bessemer GMWA-8	14.7	2,000
503	Cooper Bessemer GMWA-8	14.7	2,000
504	Cooper Bessemer GMWA-8	14.7	2,000
505	Cooper Bessemer GMWA-8	14.7	2,000

2. **PM** emitted from source 38-0053-03 (Natural gas fired boiler units listed below) shall not exceed 0.06 pounds per hour. **SO₂** emitted from this source shall not exceed 0.004 pounds per hour.

Source 38-0053-03 Natural Gas Fired Boiler Units		
Unit #	Manufacturer	Rated Heat Input (HHV) (MMBtu/hr)
525	Cleaver-Brooks	3.35
527	Cleaver-Brooks	3.35

3. **PM** emitted from source 38-0053-04 (Natural gas fired turbine engine unit listed below) shall not exceed 0.82 pounds per hour.

The Technical Secretary
Page 2 of 2
March 26, 2019

Source 38-0053-04 Natural Gas Fired Turbine Engine Unit			
Unit #	Model	Rated Heat Input (HHV) (MMBtu/hr)	Rated Power Output (horsepower)
509	Solar Mars 100	123.5	15,437

4. **PM** emitted from source 38-0053-05 (Natural gas fired boiler unit listed below) shall not exceed 0.01 pounds per hour. SO₂ emitted from this source shall not exceed 0.001 pounds per hour.

Source 38-0053-05 Natural Gas Fired Boiler Units		
Unit #	Manufacturer	Rated Heat Input (HHV) (MMBtu/hr)
510	Cleaver-Brooks	1.6

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete.

Sincerely,



Jeffrey S. Pollock
Director, Mid America Region



August 6, 2026

Tennessee Department of Environment and Conservation
Division of Air Pollution Control
Davy Crockett Tower, 7th Floor
500 James Robertson Parkway
Nashville, TN 37243
Submitted via email to: Mark.Landry@tn.gov

RE: Permit Agreement Letter
ANR Pipeline Company – Brownsville Compressor Station
70 Pumping Station Road, Brownsville, TN; Haywood County
Emission Source Reference Nos: APC Facility ID 38-0053; Permit No. 572769

Dear Technical Secretary:

On behalf of ANR Pipeline Company – Brownsville Compressor Station, the following limitation is agreed upon for emission source 38-0053-04. Emission source 38-053-04 is a 15,437 horsepower Solar Mars 100 natural gas-fired turbine engine (Unit 509).

- Nitrogen Oxides (NOx) emitted by 38-0053-04 shall not exceed 15 ppm at 15% oxygen.

ANR Pipeline Company – Brownsville Compressor Station shall demonstrate compliance with this limitation by conducting performance tests once every two years (no more than 26 calendar months following the previous performance test).

Should you have any questions or require additional information, please contact Cynthia Hicks, Environmental Analyst, via phone at (269) 264-0116 or via e-mail at cynthia_hicks@tcenergy.com.

I, the undersigned, am the responsible official as defined in TAPCR 1200-03-09-.02 (11)(b)21 for ANR Pipeline Company – Brownsville Compressor Station, which this document is being submitted. I hereby certify, based on the information and belief formed after reasonable inquiry, that the statements and information contained in this document are true, accurate, and complete.

Signature	<u>Brandon Scarborough</u>
Name (Printed)	<u>Brandon Scarborough</u>
Title	<u>Manager, US Gas Operations South</u>
Date	<u>Aug 6, 2026</u>

cc: Hernan Flores, TN Department of Environment & Conservation (Hernan.Flores@tn.gov)
Will Collins, TN Department of Environment & Conservation (Will.Collins@tn.gov)
Chase Lyles, Environmental Analyst, TC Energy (electronic)
Cynthia Hicks, Environmental Analyst, TC Energy (electronic)

ATTACHMENT #4

**GENERAL PROVISIONS FOR SOURCES SUBJECT TO
40 CFR PART 63 SUBPART YYYY**

PROPOSED

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.1	General applicability of the General Provisions	Yes	Additional terms defined in § 63.6175.
§63.2	Definitions	Yes	Additional terms defined in § 63.6175.
§63.3	Units and Abbreviations	Yes	
§63.4	Prohibited Activities	Yes	
§63.5	Construction and Reconstruction	Yes	
§63.6(a)	Applicability	Yes	
§63.6(b)(1)-(4)	Compliance dates for new and reconstructed sources	Yes	
§63.6(b)(5)	Notification	Yes	
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major	Yes	
§63.6(c)(1)-(2)	Compliance dates for existing sources	Yes.	
§63.6(c)(3)-(4)	[Reserved]		
§63.6(c)(5)	Compliance dates for existing area sources that become major	Yes	
§63.6(d)	[Reserved]		
§63.6(e)(1)(i)	General duty to minimize emissions	Yes before September 8, 2020. No after September 8, 2020. See § 63.6105 for general duty requirement.	
§63.6(e)(1)(ii)	Requirement to correct malfunctions ASAP	Yes before September 8, 2020. No after September 8, 2020.	
§63.6(e)(1)(iii)	Operation and Maintenance Requirements	Yes	
§63.6(e)(3)	SSMP	Yes before September 8, 2020. No after September 8, 2020.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.6(f)(1)	Applicability of standards except during startup, shutdown, or malfunction (SSM)	Yes before September 8, 2020. No after September 8, 2020.	
§63.6(f)(2)	Methods for determining compliance	Yes	
§63.6(f)(3)	Finding of compliance	Yes	
§63.6(g)(1)-(3)	Use of alternate standard	Yes	
§63.6(h)	Opacity and visible emission standards	Yes.	Subpart YYYY does not contain opacity or visible emission standards.
§63.6(i)	Compliance extension procedures and criteria	Yes	
§ 63.6(j)	Presidential compliance exemption	Yes	
§63.7(a)(1)-(2)	Performance test dates	Yes	Subpart YYYY contains performance test dates at § 63.6110.
§63.7(a)(3)	Section 114 authority	Yes	
§63.7(b)(1)	Notification of performance test	Yes	
§63.7(b)(2)	Notification of rescheduling	Yes	
§63.7(c)	Quality assurance/test plan	Yes	
§63.7(d)	Testing facilities	Yes	
§63.7(e)(1)	Conditions for conducting performance tests	Yes before September 8, 2020. No after September 8, 2020.	
§63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart YYYY specifies test methods at § 63.6120.
§63.7(e)(3)	Test run duration	Yes	
§63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes	
§63.7(f)	Alternative test method provisions	Yes	
§63.7(g)	Performance test data analysis, recordkeeping, and reporting	Yes	
§63.7(h)	Waiver of tests	Yes	
§63.8(a)(2)	Performance Specifications	Yes	
§63.8(a)(3)	[Reserved]		

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.8(a)(4)	Monitoring for control devices	No	
§63.8(b)(1)	Monitoring	Yes	
§63.8(b)(2)-(3)	Multiple effluents and multiple monitoring systems	Yes	
§63.8(c)(1)	Monitoring system operation and maintenance	Yes	
§63.8(c)(1)(i)	General duty to minimize emissions and CMS operation	Yes before September 8, 2020. No after September 8, 2020.	
§63.8(c)(1)(ii)	Parts for repair of CMS readily available	Yes	
§63.8(c)(1)(iii)	Requirement to develop SSM Plan for CMS	Yes before September 8, 2020. No after September 8, 2020.	
§63.8(c)(2)-(3)	Monitoring system installation	Yes	
§63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that subpart YYYYY does not require continuous opacity monitoring systems (COMS).
§63.8(c)(5)	COMS minimum procedures	No	
§63.8(c)(6)-(8)	CMS requirements	Yes	Except that subpart YYYYY does not require COMS.
§63.8(d)(1)-(2)	CMS quality control	Yes	
§63.8(d)(3)	Written procedures for CMS	Yes before September 8, 2020. No after September 8, 2020.	
§63.8(e)	CMS performance evaluation	Yes	Except for § 63.8(e)(5)(ii), which applies to COMS.
§63.8(f)(1)-(5)	Alternative monitoring method	Yes	
§63.8(f)(6)	Alternative to relative accuracy test	Yes	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.8(f)(6)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§ 63.6135 and 63.6140
§63.9(a)	Applicability and State delegation of notification requirements	Yes	
§63.9(b)(1)-(5)	Initial notifications	Yes	Except that § 63.9(b)(3) is reserved.
§63.9(c)	Request for compliance extension	Yes	
§63.9(d)	Notification of special compliance requirements for new sources	Yes	
§63.9(e)	Notification of performance test	Yes	
§63.9(f)	Notification of visible emissions/opacity test	No	Subpart YYYYY does not contain opacity or VE standards.
§63.9(g)(1)	Notification of performance evaluation	Yes	
§63.9(g)(2)	Notification of use of COMS data	No	Subpart YYYYY does not contain opacity or VE standards.
§63.9(g)(3)	Notification that criterion for alternative to relative accuracy test audit (RATA) is exceeded	Yes	
§63.9(h)	Notification of compliance status	Yes	Except that notifications for sources not conducting performance tests are due 30 days after completion of performance evaluations. § 63.9(h)(4) is reserved.
§63.9(i)	Adjustment of submittal deadlines	Yes	
§63.9(j)	Change in previous information	Yes	
§63.9(k)	Electronic reporting procedures	Yes	Only as specified in § 63.9(j).
§63.10(a)	Administrative provisions for recordkeeping and reporting	Yes	
§63.10(b)(1)	Record retention	Yes	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.10(b)(2)(i)	Recordkeeping of occurrence and duration of startups and shutdowns	Yes before September 8, 2020. No after September 8, 2020.	
§63.10(b)(2)(ii)	Recordkeeping of failures to meet a standard	Yes before September 8, 2020. No after September 8, 2020. See § 63.6155 for recordkeeping of (1) date, time and duration; (2) listing of affected source or equipment, and an estimate of the quantity of each regulated pollutant emitted over the standard; and (3) actions to minimize emissions and correct the failure.	
§63.10(b)(2)(iii)	Maintenance records	Yes	
§63.10(b)(2)(iv)-(v)	Records related to actions during SSM	Yes before September 8, 2020. No after September 8, 2020.	
§63.10(b)(2)(vi)-(xi)	CMS records	Yes	
§63.10(b)(2)(xii)	Record when under waiver	Yes	
§63.10(b)(2)(xii)	Records when using alternative to RATA	Yes	
§63.10(b)(2)(xii)	Records of supporting documentation	Yes	
§63.10(b)(3)	Records of applicability determination	Yes	
§63.10(c)(1)-(14)	Additional records for sources using CMS	Yes	Except that § 63.10(c)(2)-(4) and (9) are reserved.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.10(c)(15)	Use of SSM Plan	Yes before September 8, 2020. No after September 8, 2020.	
§63.10(d)(1)	General reporting requirements	Yes	
§63.10(d)(2)	Report of performance test results	Yes	
§63.10(c)(1)-(14)	Reporting opacity or VE observations	No	Subpart YYYYY does not contain opacity or VE standards.
§63.10(d)(4)	Progress reports	Yes	
§63.10(d)(4)	Startup, shutdown, and malfunction reports	No. After September 8, 2020, see 63.6150(a) for malfunction reporting requirements.	
§63.10(e)(1) and (2)(i)	Additional CMS reports	Yes	
§63.10(e)(2)(ii)	COMS-related report	No	Subpart YYYYY does not require COMS.
§63.10(e)(3)	Excess emissions and parameter exceedances reports	Yes	After September 8, 2020 submitted with the compliance report through CEDRI according to § 63.6150(a).
§63.10(e)(4)	Reporting COMS data	No	Subpart YYYYY does not require COMS.
§63.10(f)	Waiver for recordkeeping and reporting	Yes	
§63.11	Flares	No	
§63.12	State authority and delegations	Yes	
§63.13	Addresses	Yes	After September 8, 2020 not applicable to reports required to be submitted through CEDRI by 63.6150(c), (e), (f), or (g).
§ 63.14	Incorporation by reference	Yes	
§ 63.15	Availability of information	Yes	

ATTACHMENT #5

**GENERAL PROVISIONS FOR SOURCES SUBJECT TO
40 CFR PART 63 SUBPART DDDDD**

PROPOSED

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.1	Applicability	Yes.	
§63.2	Definitions	Yes	Additional terms defined in §63.6675.
§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)	Compliance with Standards and Maintenance Requirements	Yes.	
§63.6(e)(1)(i)	General duty to minimize emissions.	No.	See § 63.7500(a)(3) for the general duty requirement.
§63.6(e)(1)(ii)	Requirement to correct malfunctions as soon as practicable.	No.	
§63.6(e)(3)	Startup, shutdown, and malfunction plan requirements.	No.	
§63.6(f)(1)	Startup, shutdown, and malfunction exemptions for compliance with non-opacity emission standards.	No.	
§63.6(f)(2) and (3)	Compliance with non-opacity emission standards.	Yes.	
§63.6(g)	Use of alternative standards	Yes.	Except § 63.7555(d)(13) specifies the procedure for application and approval of an alternative timeframe with the PM controls requirement in the startup work practice (2).
§63.6(h)(1)	Startup, shutdown, and malfunction exemptions to opacity standards.	No.	See § 63.7500(a).
§63.6(h)(2) to (h)(9)	Determining compliance with opacity emission standards	No.	Subpart DDDDD specifies opacity as an operating limit not an emission standard.
§63.6(i)	Extension of compliance	Yes.	Facilities may also request extensions of compliance for the installation of combined heat and power, waste heat recovery, or gas pipeline or fuel feeding infrastructure as a means of complying with this subpart.
§63.6(j)	Presidential exemption	Yes.	
§63.7(a), (b), (c), and (d)	Performance Testing requirements	Yes.	
§63.7(e)(1)	Conditions for conducting performance tests	No.	Subpart DDDDD specifies conditions for conducting performance tests at § 63.7520(a) to (c).
§ 63.7(e)(2)-(e)(9), (f), (g), and (h)	Performance Testing Requirements	Yes.	
§ 63.8(a) and (b) Applicability and Conduct of Monitoring	§ 63.8(a) and (b) Applicability and Conduct of Monitoring	No	
§ 63.8(c)(1)	Operation and maintenance of CMS	Yes.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 63.8(c)(1)(i)	General duty to minimize emissions and CMS operation	No.	See § 63.7500(a)(3).
§ 63.8(c)(1)(ii)	Operation and maintenance of CMS	Yes.	
§ 63.8(c)(1)(iii)	Startup, shutdown, and malfunction plans for CMS	No.	
§ 63.8(c)(2) to (c)(9)	Operation and maintenance of CMS	Yes.	
§ 63.8(d)(1) and (2)	Monitoring Requirements, Quality Control Program	Yes.	
§ 63.8(d)(3)	Written procedures for CMS	Yes.	Except for the last sentence, which refers to a startup, shutdown, and malfunction plan. Startup, shutdown, and malfunction plans are not required.
§63.8(e)	Performance evaluation of a CMS	Yes.	
§63.8(f)	Use of an alternative monitoring method	Yes.	
§63.8(g)	Reduction of monitoring data	Yes.	
§63.9	Notification requirements	Yes.	
§ 63.10(a), (b)(1)	Recordkeeping and reporting requirements	Yes.	
§63.10(b)(2)(i)	Recordkeeping of occurrence and duration of startups or shutdowns	Yes.	
§63.10(b)(2)(ii)	Recordkeeping of malfunctions	No.	See § 63.7555(d)(7) for recordkeeping of occurrence and duration and § 63.7555(d)(8) for actions taken during malfunctions.
§63.10(b)(2)(iii)	Maintenance records	Yes.	
§ 63.10(b)(2)(iv) and (v)	Actions taken to minimize emissions during startup, shutdown, or malfunction	No.	
§63.10(b)(2)(vi)	Recordkeeping for CMS malfunctions	Yes.	
§ 63.10(b)(2)(vii) to (xiv)	Other CMS requirements	Yes.	
§63.10(b)(3)	Recordkeeping requirements for applicability determinations	No.	
§63.10(c)(1) to (9)	Recordkeeping for sources with CMS	Yes.	
§63.10(c)(10) and (11)	Recording nature and cause of malfunctions, and corrective actions	No.	See § 63.7555(d)(7) for recordkeeping of occurrence and duration and § 63.7555(d)(8) for actions taken during malfunctions.
§ 63.10(c)(12) and (13)	Recordkeeping for sources with CMS	Yes.	
§63.10(c)(15)	Use of startup, shutdown, and malfunction plan	No.	
§63.10(d)(1) and (2)	General reporting requirements	Yes.	
§63.10(d)(3)	Reporting opacity or visible emission observation results	No.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.10(d)(4)	Progress reports under an extension of compliance	Yes.	
§63.10(d)(5)	Startup, shutdown, and malfunction reports	No.	See § 63.7550(c)(11) for malfunction reporting requirements.
§ 63.10(e)	Additional reporting requirements for sources with CMS	Yes.	
§63.10(f)	Waiver of recordkeeping or reporting requirements	Yes.	
§63.11	Control Device Requirement	No.	
§63.12	State Authority and Delegation	Yes.	
§63.13-63.16	Addresses, Incorporation by Reference, Availability of Information, Performance Track Provisions	Yes.	
§ 63.1(a)(5),(a)(7)-(a)(9), (b)(2), (c)(3)-(4), (d), 63.6(b)(6), (c)(3), (c)(4), (d), (e)(2), (e)(3)(ii), (h)(3), (h)(5)(iv), 63.8(a)(3), 63.9(b)(3), (h)(4), 63.10(c)(2)-(4), (c)(9).	Reserved	No.	

ATTACHMENT #6

**OPACITY MATRIX DECISION TREES for
VISIBLE EMISSION EVALUATIONS
USING TVEE METHOD 2, and EPA METHOD 9
dated June 18, 1996 and amended September 11, 2013**

PROPOSED

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**Decision Tree PM for Opacity for
Sources Subject to Rule 1200-03-05-.01
Utilizing TVEE Method 2**

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 standard in Rule 1200-03-05-.01. 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 PMT 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 Tennessee Visible Emission Evaluation Method 2. The observer must be properly certified according to the criteria specified in EPA Method 9 to conduct TVEE Method 2 evaluations.

Typical Pollutants
Particulates, VOC, CO, SO₂, 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.

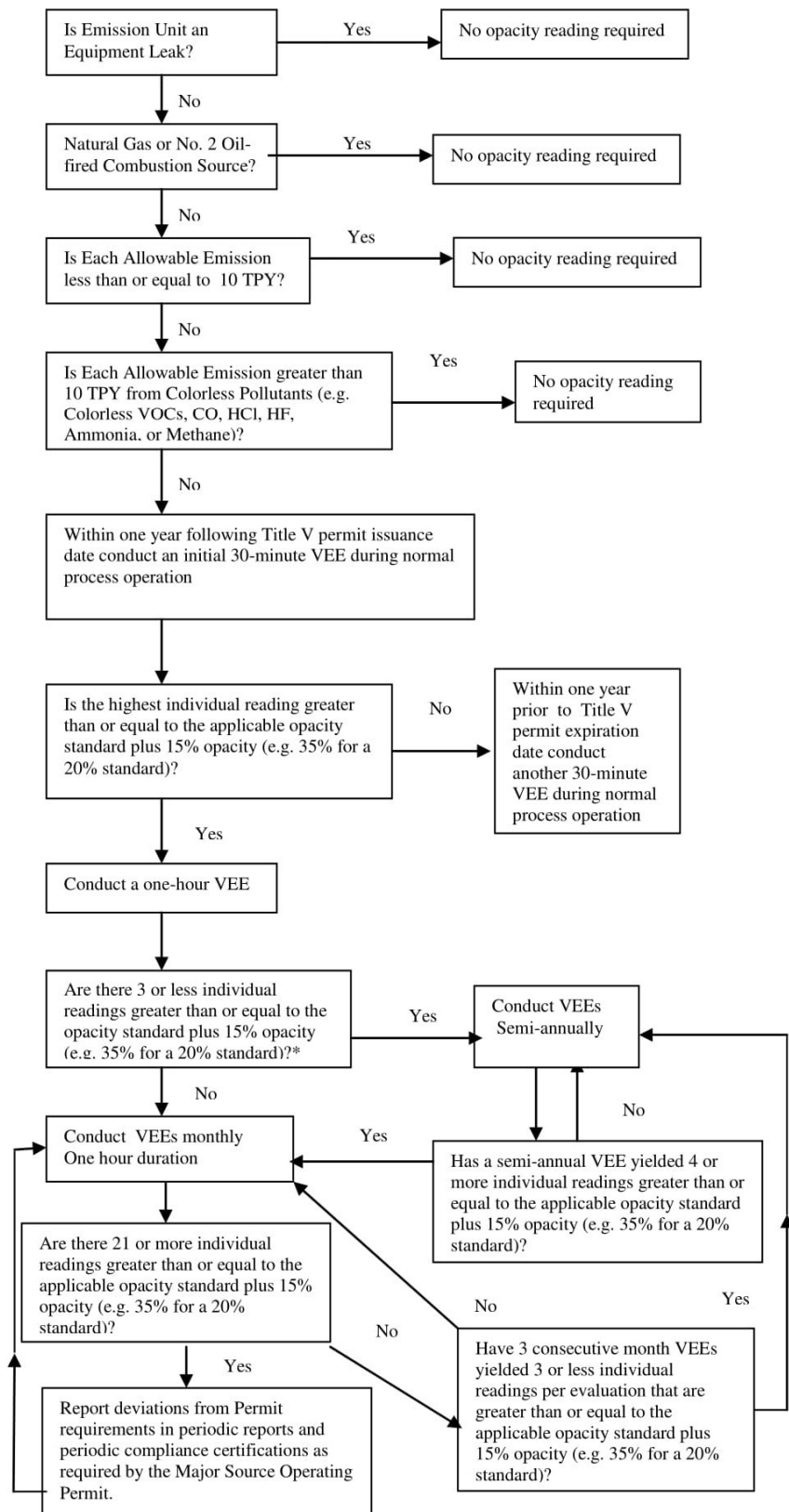
A VEE conducted by TAPCD personnel after the Title V permit is issued will also constitute an initial reading.

Reader Error
TVEE Method 2: The TAPCD declares non-compliance when 21 observations are read at the standard plus 15% opacity (e.g. 35% for a 20% standard).

*The rationale for this is the fact that Rule 1200-03-05-.01 allows for an exemption of 5 minutes (20 readings) per hour and up to 20 minutes (80 readings) per day. With 4 or more excessive individual readings per hour the possibility of a daily exceedance exists.

Note: A company could mutually agree to have all of its sources regulated by EPA Method 9. Caution: Agreement to use Method 9 could potentially place some sources in non-compliance with visible emission standards. Please be sure before you agree.

Dated June 18, 1996
Amended 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, SO₂, 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

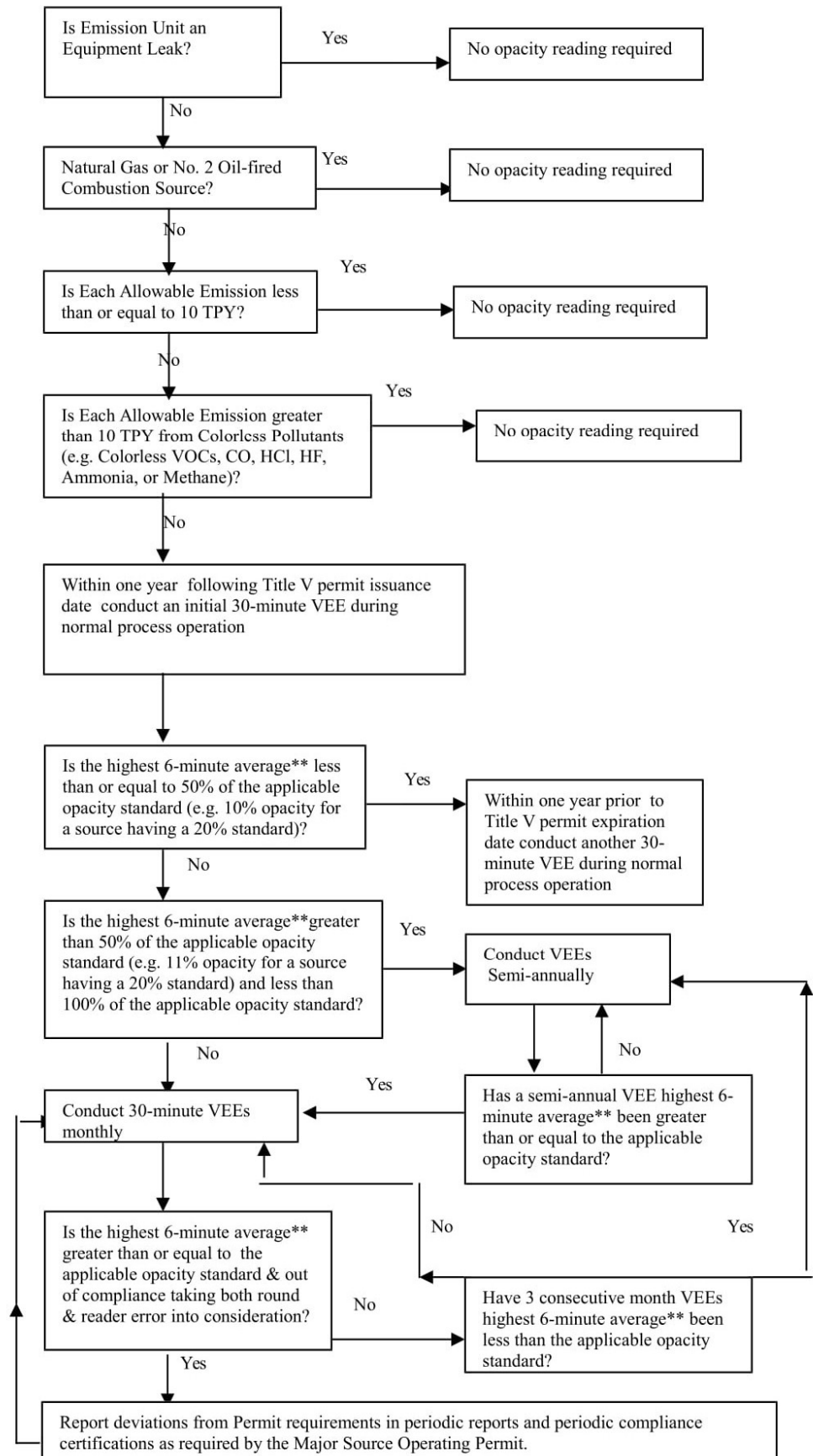
EPA Method 9, Non-NSPS or NESHAPS stipulated opacity standards:
The TAPCD guidance is to declare non-compliance when the highest six-minute average** exceeds the standard plus 6.8% opacity (e.g. 26.8% for a 20% standard).

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 #7

EPA AP-42 Fifth Edition, Volume I

Chapter 1, Section 1.4, dated 7/98 - Tables 1.4-1 and 1.4-2

Chapter 3, Section 3.1, dated 4/00 - Table 3.1-2a

Chapter 3, Section 3.2, dated 7/00 - Table 3.2-1

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Table 1.4-1. EMISSION FACTORS FOR NITROGEN OXIDES (NO_x) AND CARBON MONOXIDE (CO)
FROM NATURAL GAS COMBUSTION^a

Combustor Type (MMBtu/hr Heat Input) [SCC]	NO _x ^b		CO	
	Emission Factor (lb/10 ⁶ scf)	Emission Factor Rating	Emission Factor (lb/10 ⁶ scf)	Emission Factor Rating
Large Wall-Fired Boilers (>100) [1-01-006-01, 1-02-006-01, 1-03-006-01]				
Uncontrolled (Pre-NSPS) ^c	280	A	84	B
Uncontrolled (Post-NSPS) ^c	190	A	84	B
Controlled - Low NO _x burners	140	A	84	B
Controlled - Flue gas recirculation	100	D	84	B
Small Boilers (<100) [1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03]				
Uncontrolled	100	B	84	B
Controlled - Low NO _x burners	50	D	84	B
Controlled - Low NO _x burners/Flue gas recirculation	32	C	84	B
Tangential-Fired Boilers (All Sizes) [1-01-006-04]				
Uncontrolled	170	A	24	C
Controlled - Flue gas recirculation	76	D	98	D
Residential Furnaces (<0.3) [No SCC]				
Uncontrolled	94	B	40	B

^a Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. To convert from lb/10⁶ scf to kg/10⁶ m³, multiply by 16. Emission factors are based on an average natural gas higher heating value of 1,020 Btu/scf. To convert from lb/10⁶ scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. SCC = Source Classification Code. ND = no data. NA = not applicable.

^b Expressed as NO_x. For large and small wall fired boilers with SNCR control, apply a 24 percent reduction to the appropriate NO_x emission factor. For tangential-fired boilers with SNCR control, apply a 13 percent reduction to the appropriate NO_x emission factor.

^c NSPS=New Source Performance Standard as defined in 40 CFR 60 Subparts D and Db. Post-NSPS units are boilers with greater than 250 MMBtu/hr of heat input that commenced construction modification, or reconstruction after August 17, 1971, and units with heat input capacities between 100 and 250 MMBtu/hr that commenced construction modification, or reconstruction after June 19, 1984.

TABLE 1.4-2. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM NATURAL GAS COMBUSTION^a

Pollutant	Emission Factor (lb/10 ⁶ scf)	Emission Factor Rating
CO ₂ ^b	120,000	A
Lead	0.0005	D
N ₂ O (Uncontrolled)	2.2	E
N ₂ O (Controlled-low-NO _x burner)	0.64	E
PM (Total) ^c	7.6	D
PM (Condensable) ^c	5.7	D
PM (Filterable) ^c	1.9	B
SO ₂ ^d	0.6	A
TOC	11	B
Methane	2.3	B
VOC	5.5	C

^a Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. To convert from lb/10⁶ scf to kg/10⁶ m³, multiply by 16. To convert from lb/10⁶ scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. TOC = Total Organic Compounds. VOC = Volatile Organic Compounds.

^b Based on approximately 100% conversion of fuel carbon to CO₂. CO₂[lb/10⁶ scf] = (3.67) (CON) (C)(D), where CON = fractional conversion of fuel carbon to CO₂, C = carbon content of fuel by weight (0.76), and D = density of fuel, 4.2x10⁻⁴ lb/10⁶ scf.

^c All PM (total, condensable, and filterable) is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors presented here may be used to estimate PM₁₀, PM_{2.5} or PM₁ emissions. Total PM is the sum of the filterable PM and condensable PM. Condensable PM is the particulate matter collected using EPA Method 202 (or equivalent). Filterable PM is the particulate matter collected on, or prior to, the filter of an EPA Method 5 (or equivalent) sampling train.

^d Based on 100% conversion of fuel sulfur to SO₂. Assumes sulfur content is natural gas of 2,000 grains/10⁶ scf. The SO₂ emission factor in this table can be converted to other natural gas sulfur contents by multiplying the SO₂ emission factor by the ratio of the site-specific sulfur content (grains/10⁶ scf) to 2,000 grains/10⁶ scf.

Table 3.1-2a. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM STATIONARY GAS TURBINES

Emission Factors ^a - Uncontrolled				
Pollutant	Natural Gas-Fired Turbines ^b		Distillate Oil-Fired Turbines ^d	
	(lb/MMBtu) ^c (Fuel Input)	Emission Factor Rating	(lb/MMBtu) ^e (Fuel Input)	Emission Factor Rating
CO ₂ ^f	110	A	157	A
N ₂ O	0.003 ^g	E	ND	NA
Lead	ND	NA	1.4 E-05	C
SO ₂	0.94S ^h	B	1.01S ^h	B
Methane	8.6 E-03	C	ND	NA
VOC	2.1 E-03	D	4.1 E-04 ⁱ	E
TOC ^k	1.1 E-02	B	4.0 E-03 ^l	C
PM (condensable)	4.7 E-03 ^l	C	7.2 E-03 ^l	C
PM (filterable)	1.9 E-03 ^l	C	4.3 E-03 ^l	C
PM (total)	6.6 E-03 ^l	C	1.2 E-02 ^l	C

^a Factors are derived from units operating at high loads (≥ 80 percent load) only. For information on units operating at other loads, consult the background report for this chapter (Reference 16), available at "www.epa.gov/ttn/chief". ND = No Data, NA = Not Applicable.

^b SCCs for natural gas-fired turbines include 2-01-002-01, 2-02-002-01 & 03, and 2-03-002-02 & 03.

^c Emission factors based on an average natural gas heating value (HHV) of 1020 Btu/scf at 60°F. To convert from (lb/MMBtu) to (lb/10⁶ scf), multiply by 1020. Similarly, these emission factors can be converted to other natural gas heating values.

^d SCCs for distillate oil-fired turbines are 2-01-001-01, 2-02-001-01, 2-02-001-03, and 2-03-001-02.

^e Emission factors based on an average distillate oil heating value of 139 MMBtu/10³ gallons. To convert from (lb/MMBtu) to (lb/10³ gallons), multiply by 139.

^f Based on 99.5% conversion of fuel carbon to CO₂ for natural gas and 99% conversion of fuel carbon to CO₂ for distillate oil. CO₂ (Natural Gas) [lb/MMBtu] = (0.0036 scf/Btu)(%CON)(C)(D), where %CON = weight percent conversion of fuel carbon to CO₂, C = carbon content of fuel by weight, and D = density of fuel. For natural gas, C is assumed at 75%, and D is assumed at 4.1 E+04 lb/10⁶scf. For distillate oil, CO₂ (Distillate Oil) [lb/MMBtu] = (26.4 gal/MMBtu) (%CON)(C)(D), where C is assumed at 87%, and the D is assumed at 6.9 lb/gallon.

^g Emission factor is carried over from the previous revision to AP-42 (Supplement B, October 1996) and is based on limited source tests on a single turbine with water-steam injection (Reference 5).

^h All sulfur in the fuel is assumed to be converted to SO₂. S = percent sulfur in fuel. Example, if sulfur content in the fuel is 3.4 percent, then S = 3.4. If S is not available, use 3.4 E-03 lb/MMBtu for natural gas turbines, and 3.3 E-02 lb/MMBtu for distillate oil turbines (the equations are more accurate).

ⁱ VOC emissions are assumed equal to the sum of organic emissions.

^k Pollutant referenced as THC in the gathered emission tests. It is assumed as TOC, because it is based on EPA Test Method 25A.

^l Emission factors are based on combustion turbines using water-steam injection.

TABLE 3.2-1 UNCONTROLLED EMISSION FACTORS FOR 2-STROKE LEAN-BURN ENGINES^a
(SCC 2-02-002-52)

Pollutant	Emission Factor (lb/MMBtu) ^b (fuel input)	Emission Factor Rating
Criteria Pollutants and Greenhouse Gases		
NO _x ^c 90 - 105% Load	3.17 E+00	A
NO _x ^c <90% Load	1.94 E+00	A
CO ^c 90 - 105% Load	3.86 E-01	A
CO ^c <90% Load	3.53 E-01	A
CO ₂ ^d	1.10 E+02	A
SO ₂ ^e	5.88 E-04	A
TOC ^f	1.64 E+00	A
Methane ^g	1.45 E+00	C
VOC ^h	1.20 E-01	C
PM10 (filterable) ⁱ	3.84 E-02	C
PM2.5 (filterable) ⁱ	3.84 E-02	C
PM Condensable ^j	9.91 E-03	E
Trace Organic Compounds		
1,1,2,2-Tetrachloroethane ^k	6.63 E-05	C
1,1,2-Trichloroethane ^k	5.27 E-05	C
1,1-Dichloroethane	3.91 E-05	C
1,2,3-Trimethylbenzene	3.54 E-05	D
1,2,4-Trimethylbenzene	1.11 E-04	C
1,2-Dichloroethane	4.22 E-05	D
1,2-Dichloropropane	4.46 E-05	C
1,3,5-Trimethylbenzene	1.80 E-05	D
1,3-Butadiene ^k	8.20 E-04	D
1,3-Dichloropropene ^k	4.38 E-05	C
2,2,4-Trimethylpentane ^k	8.46 E-04	B
2-Methylnaphthalene ^k	2.14 E-05	C
Acenaphthene ^k	1.33 E-06	C

Table 3.2-1. UNCONTROLLED EMISSION FACTORS FOR 2-STROKE LEAN-BURN ENGINES

(Continued)

Pollutant	Emission Factor (lb/MMBtu) ^b (fuel input)	Emission Factor Rating
Acenaphthylene ^k	3.17 E-06	C
Acetaldehyde ^{k,l}	7.76 E-03	A
Acrolein ^{k,l}	7.78 E-03	A
Anthracene ^k	7.18 E-07	C
Benz(a)anthracene ^k	3.36 E-07	C
Benzene ^k	1.94 E-03	A
Benzo(a)pyrene ^k	5.68 E-09	D
Benzo(b)fluoranthene ^k	8.51 E-09	D
Benzo(c)pyrene ^k	2.34 E-08	D
Benzo(g,h,i)perylene ^k	2.48 E-08	D
Benzo(k)fluoranthene ^k	4.26 E-09	D
Biphenyl ^k	3.95 E-06	C
Butane	4.75 E-03	C
Butyr/Isobutyraldehyde	4.37 E-04	C
Carbon Tetrachloride ^k	6.07 E-05	C
Chlorobenzene ^k	4.44 E-05	C
Chloroform ^k	4.71 E-05	C
Chrysene ^k	6.72 E-07	C
Cyclohexane	3.08 E-04	C
Cyclopentane	9.47 E-05	C
Ethane	7.09 E-02	A
Ethylbenzene ^k	1.08 E-04	B
Ethylene Dibromide ^k	7.34 E-05	C
Fluoranthene ^k	3.61 E-07	C
Fluorene ^k	1.69 E-06	C
Formaldehyde ^{k,l}	5.52 E-02	A

Table 3.2-1. UNCONTROLLED EMISSION FACTORS FOR 2-STROKE LEAN-BURN ENGINES
(Concluded)

Pollutant	Emission Factor (lb/MMBtu) ^b (fuel input)	Emission Factor Rating
Indeno(1,2,3-c,d)pyrene ^k	9.93 E-09	D
Isobutane	3.75 E-03	C
Methanol ^k	2.48 E-03	A
Methylcyclohexane	3.38 E-04	C
Methylene Chloride ^k	1.47 E-04	C
n-Hexane ^k	4.45 E-04	C
n-Nonane	3.08 E-05	C
n-Octane	7.44 E-05	C
n-Pentane	1.53 E-03	C
Naphthalene ^k	9.63 E-05	C
PAH ^k	1.34 E-04	D
Perylene ^k	4.97 E-09	D
Phenanthrene ^k	3.53 E-06	C
Phenol ^k	4.21 E-05	C
Propane	2.87 E-02	C
Pyrene ^k	5.84 E-07	C
Styrene ^k	5.48 E-05	A
Toluene ^k	9.63 E-04	A
Vinyl Chloride ^k	2.47 E-05	C
Xylene ^k	2.68 E-04	A

^a Reference 7. Factors represent uncontrolled levels. For NO_x, CO, and PM₁₀, "uncontrolled" means no combustion or add-on controls; however, the factor may include turbocharged units. For all other pollutants, "uncontrolled" means no oxidation control; the data set may include units with control techniques used for NO_x control, such as PCC and SCR for lean burn engines, and PSC for rich burn engines. Factors are based on large population of engines. Factors are for engines at all loads, except as indicated. SCC = Source Classification Code. TOC = Total Organic Compounds. PM₁₀ = Particulate Matter ≤ 10 microns (μm) aerodynamic diameter. A "<" sign in front of a factor means that the corresponding emission factor is based on one-half of the method detection limit.

^b Emission factors were calculated in units of (lb/MMBtu) based on procedures in EPA

ATTACHMENT #8

Turbine NESHAP 40 CFR, Part 63, Subpart YYYYY Monitoring Petition for Combustion-based Emission Controls for Natural Gas-Fired Turbines dated June 21, 2022

PROPOSED

Turbine NESHAP
40 CFR, Part 63, Subpart YYYY

Monitoring Petition for
Combustion-based Emission Controls for
Natural Gas-Fired Turbines

June 21, 2022

Turbine NESHAP Monitoring Petition for
Lean Premixed Combustion Emissions Control

Table of Contents

1. Background:

Turbine NESHAP Monitoring Petition Requirements

Lean Premixed (LPM) Combustion Technology – Subpart YYYYY Emissions Context

Emissions from LPM Combustion Turbine and Monitoring of LPM Combustion Mode

2. Monitoring Petition LPM Mode Parameter Selection and Description

3. Parameter Measurements and Quality Assurance

Gas Producer Turbine Speed (%NGP)

Inlet Air Temperature (T_1)

Data Measurement, Collection and Frequency

4. Site-specific Information

Appendices:

Solar Turbine Table of SoLoNOx Operational Load (based on %NGP) as a Function of Ambient Temperature (T_1)

Solar Product Information Letter (PIL) 168: Volatile Organic Compound (VOC), Sulfur Dioxide, and Formaldehyde Emission Estimates

Turbine NESHAP Monitoring Petition for
Lean Premixed Combustion Emissions Control

1. Background

Turbine NESHAP Monitoring Petition Requirements

The Turbine NESHAP, Subpart YYYYY of 40 CFR, part 63, includes a formaldehyde emission standard, with compliance to be demonstrated via an annual formaldehyde emissions test and continuous parameter monitoring. Natural gas-fired combustion turbines that use LPM combustion technology provide low emissions of oxides of nitrogen (NO_x) and products of incomplete combustion (i.e., VOCs, carbon monoxide (CO), and hazardous air pollutants (HAPs) such as formaldehyde) across a broad operating range. LPM combustion achieves very low emissions of products of incomplete combustion without a catalyst (e.g., single digit or lower parts per million by volume (ppmv) of CO and VOCs), including formaldehyde emissions that meet the Subpart YYYYY standard of 91 parts per billion by volume (ppbv) corrected to 15% excess oxygen (O₂).

For units not using an oxidation catalyst, §63.6125(b) requires the operator to monitor pertinent parameters and §63.6120(e) requires submittal of a petition to the Administrator identifying acceptable parameter monitoring:

“§63.6125...

(b) If you are operating a stationary combustion turbine that is required to comply with the formaldehyde emission limitation and you are not using an oxidation catalyst, you must continuously monitor any parameters specified in your approved petition to the Administrator, in order to comply with the operating limitations in Table 2 and as specified in Table 5 of this subpart.”

“§63.6120...

(e) If your stationary combustion turbine is not equipped with an oxidation catalyst, you must petition the Administrator for operating limitations that you will monitor to demonstrate compliance with the formaldehyde emission limitation in [Table 1](#).”

This document serves as the “Monitoring Petition” for the facility and natural gas-fired combustion turbine(s) with LPM combustion detailed in Section 4 that is meeting the standard based on LPM combustion emissions control.

This document provides information to meet the Monitoring Petition requirements in §63.6120(f)(1)–(5), as required in §63.6120(e). Based on EPA definitions and related conditions for a “major change to monitoring” in part 63, Subpart E and §63.6170(c), EPA retains the authority for approving monitoring even if authority has been otherwise delegated to a state, local or tribal agency.

LPM Combustion Technology – Subpart YYYYY Emissions Context

In support of Subpart YYYYY rule development in 2001 through 2003, docket number EPA-HQ-OAR-2002-0060 includes a 2001 EPA memorandum¹ that describes HAP emissions control for new turbines and discusses oxidation catalyst systems and LPM combustion. At that time, it was estimated that approximately 800 existing turbines utilized LPM combustion technology since its introduction approximately a decade prior. Description of the technology from EPA’s memo follows:

¹ EPA Docket Document No. EPA-HQ-OAR-2002-0060-0041, “Memorandum. Hazardous Air Pollutant (HAP) Emission Control Technology for New Stationary Combustion Turbines,” <https://www.regulations.gov/document/EPA-HQ-OAR-2002-0060-0041>

Turbine NESHAP Monitoring Petition for
Lean Premixed Combustion Emissions Control

“In a staged lean premix combustion, the air and fuel are thoroughly mixed to form a lean mixture before delivery to the combustor. The premixing of fuel and air and staged entry limits the flame temperature and the residence time at the peak flame temperature. Lean premix combustors emit lower levels of NO_x, CO, formaldehyde, and other HAP than diffusion flame combustion turbines...”

Further comment on formaldehyde emissions tests reviewed during Subpart YYYYY rule development considered test data for 8 tests on stationary combustion turbines ranging in size from 10 to 170 MW. A comparison of the related emission factors for tests at high (> 80%) load concluded that HAP emissions from turbines with LPM combustion are equivalent or lower than HAP emissions from diffusion flame stationary combustion turbines equipped with oxidation catalyst systems. With respect to HAP performance, the following was recommended:

“For purposes of monitoring HAP performance of lean premix combustor turbines, NO_x emission levels characteristic of lean premix combustor technology could be used as an indicator of proper lean premix combustor performance, which in turn would assure proper operation and low HAP emissions.”

Since EPA issued a stay of Subpart YYYYY for natural gas fired turbines in August 2004, and Subpart YYYYY did not define monitoring for LPM combustion turbine, monitoring approaches consistent with the EPA recommendations were not pursued – i.e., Monitoring Petitions based on the information above have not been submitted to EPA for natural gas-fired turbines with LPM combustion.

Building on the EPA explanations above, operator and Original Equipment Manufacturer (OEM), Solar Turbines’ experience with LPM combustion monitoring for other purposes, and data indicating stable and low emissions performance when “lean premixed” mode is functional, this Monitoring Petition requests acceptance of monitoring of LPM mode operation to meet Subpart YYYYY monitoring requirements for LPM combustion-equipped natural gas-fired turbines.

Emissions from LPM Combustion Turbine and Monitoring of LPM Combustion Mode

This Monitoring Petition requests that EPA approve monitoring of LPM mode operation to meet Subpart YYYYY monitoring requirements for LPM-equipped natural gas-fired turbines. The associated parameters are discussed further below, and this section presents representative data. OEM, Solar Turbines is a primary provider of industrial scale turbines used at natural gas transmission compressor stations to drive compressors, and LPM combustion is referred to as “SoLoNO_x mode” for Solar units. Other than very low loads (e.g., occurring during startup and shutdown) and temperature below 0 °F, SoLoNO_x mode is enabled for Solar units with commensurate low emissions. Figure 1 shows data from Solar tests of a Centaur model. Analogous data for Solar Titan units, the largest Solar model, show similarly low and stable emission levels, with formaldehyde data shown at the 10 ppbv detection limit. Emissions and formaldehyde measurement recommendations for Solar Turbines are explained in a Solar PIL included as Appendix 2.

Turbine NESHAP Monitoring Petition for Lean Premixed Combustion Emissions Control

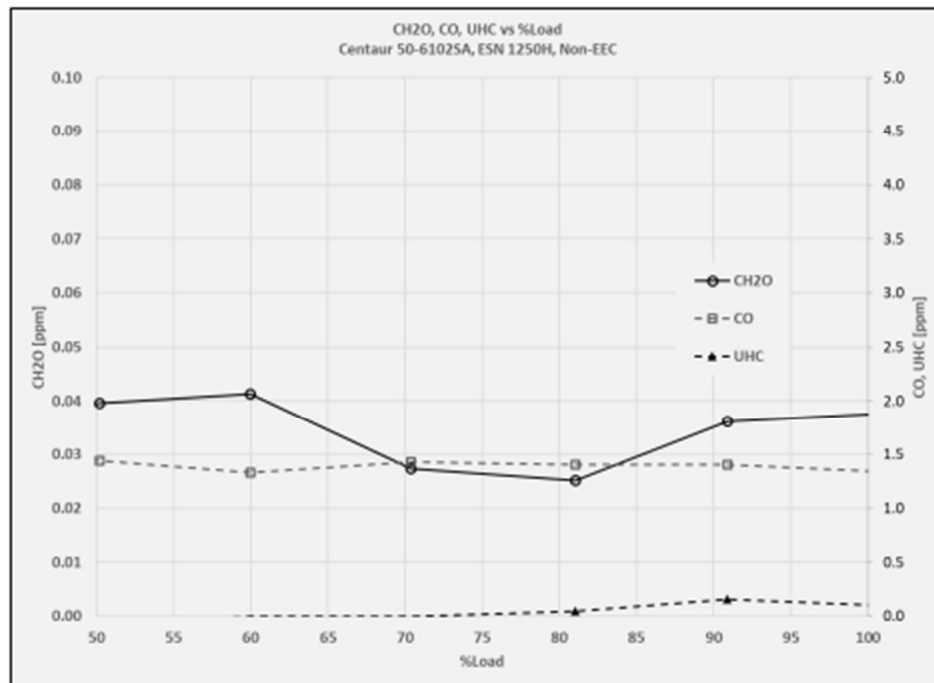


Figure 1. Formaldehyde, CO and Unburned Hydrocarbon (UHC) Emissions versus Load for Solar Centaur Turbine

The load range shown is within the “LPM combustion mode” when “SoLoNOx” is enabled. This mode is monitored by the manufacturer, Solar Turbines operational control system, as discussed below, which includes sensors inherent to turbine design and operation.

Lean-premixed combustion was primarily developed as a method to reduce NO_x emissions while ensuring stable combustion. LPM combustion reduces the conversion of atmospheric nitrogen to NO_x by reducing the combustor flame temperature. Since NO_x formation is strongly dependent on flame temperature, lowering flame temperature is an extremely effective strategy for reducing NO_x emissions. Lean combustion is enhanced by premixing the fuel and combustor airflow upstream of the combustor primary zone. This premixing prevents stoichiometric burning locally within the flame to ensure low NO_x emissions, while also providing the mixing necessary to ensure complete combustion of the fuel and minimize emissions of CO and UHCs including formaldehyde.

2. Monitoring Petition LPM Mode Parameter Selection and Description

Continuous monitoring will be performed by utilizing turbine instrumentation that continuously monitor operation and confirms LPM mode and low emissions. For Solar Turbines, this is indicated by “SoLoNOx Mode Enabled”, i.e., the unit is operating in LPM mode. The related parameters are:

- Gas producer turbine speed (% NGP); and
- Inlet ambient air temperature (T₁).

Turbine NESHAP Monitoring Petition for Lean Premixed Combustion Emissions Control

Process condition monitoring associated with lean premixed combustion is complex and has integrated process shut down and/or alarm triggers that ensure that the system functions as designed. Set point parameters vary depending on the values of the two variables. For example, the minimum % NGP for LPM mode operation is a function of ambient temperature and site conditions such as elevation. These parameters, instrumentation, and quality assurance methods are described in more detail in Section 3. The primary compliance indicator for the system is the gas producer turbine speed (tracked as %NGP), which indicates turbine load. The load threshold (i.e., %NGP value) indicative of the transition to LPM mode is a function of inlet / ambient temperature (T_1). Appendix 1 shows the relationship between T_1 and minimum %NGP for Solar Turbine models. As noted above, site-specific conditions may minimally alter the set point where LPM mode is enabled.

Indication of LPM combustion mode is dependent upon these parameters. These parameters are monitored and controlled through the manufacturer's programmable logic controller (PLC) system inherent with the unit design to provide continuous verification that the combustion turbine is operating in LPM combustion (e.g., SoLoNOx) mode. The PLC system continuously assesses the LPM mode "enable" set points for the combustion turbine based on gas producer turbine speed (%NGP) as a function of T_1 to ensure efficient combustion in LPM combustion mode. For Solar units, the PLC incorporates a 0.5% buffer above the PLC calculated minimum speed set point to ensure the hard floor is above the minimum gas producer turbine speed requirements for LPM combustion. This set point provides operations personnel with an alarm in the event that the gas producer turbine speed decreases to the minimum set point speed calculated by the PLC system, and allows for corrective action measures to be taken if appropriate (e.g., the turbine speed will fall below this set point during shutdown, where no action is required).

Solar turbines inherently run in SoLoNox mode which is indicated by the specific parameters as identified in Section 4. The set point data is represented in Appendix A. As noted above, the related set point for "SoLoNox Mode Enabled" is the defined %NGP as a function of T_1 . In order for the "SoLoNox Mode Enabled" to be TRUE, the %NGP must be greater than the set point. This discrete step change provides a clear threshold for defining LPM combustion mode operation.

3. Parameter Measurements and Quality Assurance

Sections 1 and 2 address the monitoring petition criteria in §63.6120(f)(1) – (3), such as the manufacturer-defined setpoint and criteria that ensures LPM combustion mode is enabled. This section provides additional discussion and also reviews the parameters, measurement systems, and quality assurance measures inherent to turbine and PLC design. This addresses the instrumentation and quality assurance measures required by §63.6120(f)(4) and (5).

The turbine PLC maintains manufacturer defined parametric set points established to ensure operation in LPM combustion mode. These are defined and set by the manufacturer, may be adjusted during commissioning to account for site-specific characteristics such as elevation, and are not dependent upon performance testing. Per §63.6120(c), performance testing will be conducted within 10% of full load while the combustion turbine is operating within acceptable ranges for LPM combustion.

The monitoring devices are installed, maintained, calibrated, and operated in accordance with approved procedures that include, at a minimum, the manufacturer's written requirements and recommendations.

Turbine NESHAP Monitoring Petition for Lean Premixed Combustion Emissions Control

The instrumentation is simple, proven technology not subject to drift or bias over time, and PLC algorithms include safety measures (e.g., unit shutdown) if a faulty sensor signal occurs (e.g., due to sensor failure). Each monitoring device is provided with adequate access for inspection and will be operational when the combustion turbine is operating. The turbine control system includes fail-safes and redundancies to ensure integrity of instrumentation and operational control. Any control system or input/output (I/O) faults will result in automatic shutdown of the combustion turbine. Associated measurement or instrument-specific failure mode monitoring is described below.

Gas Producer Turbine Speed (% NGP)

Speed is measured using a magnetic pickup located at the front of the combustion turbine shaft. This is monitored by a frequency input module integral to the combustion turbine PLC. %NGP speed is the speed at which the engine is currently running and is the set point to enable SoLoNox. As discussed above, it is used to enable LPM combustion mode as a function of T₁. Immediate automatic shutdown will occur on speed sensing system faults resulting in speed signals outside a manufacturer defined allowable range.

Inlet Air Temperature (T₁)

Inlet ambient air temperature is measured with a resistance temperature device (RTD) located in the turbine air inlet ducting. This is monitored by a temperature input module integral to the PLC. Ambient temperature is used to compensate the speed set point described above, and to disable LPM mode at ambient temperatures less than 0 °F. Automatic shutdown will occur with a sensor fault occurring over a duration of two (2) hours. During this period a sensor fail alarm will be annunciated.

Data Measurement, Collection, and Frequency

The status indicators discussed above are displayed on the Human Machine Interface (HMI) and are automatically inventoried in the HMI log files. The combustion turbine LPM combustion mode performance parameters are inherently monitored by the turbine PLC and the data are sent to the control room HMI at approximately one second intervals. PI Historian is our data gathering tool.

4. Site-specific Information

This monitoring petitions addresses the following facility

Company name: ANR Pipeline Company

Facility name: Brownsville Compressor Station (CS)

Turbine description: Brownsville CS is located in Haywood County at 70 Pumping Station Road Brownsville, TN. Affected unit is unit #509 which is a natural gas fired Solar Mars 100 stationary gas turbine, with a rating of 15,437 hp and rated heat input of 123.5 MMBtu/hr.

Appendix A shows the relationship between %NGP set point, ambient temperature of [°F], %load. %NGP set point is a function of load for the unit. The unit(s) at the facility are primarily designed to run only in SoloNox mode.

**Turbine NESHAP Monitoring Petition for
Lean Premixed Combustion Emissions Control**

In addition to the information in Section 3, Brownsville CS' data management includes the PI Historian and the unit PLC.

Turbine NESHAP Monitoring Petition for
Lean Premixed Combustion Emissions Control

Appendix 1:

**Solar Turbine Table of SoLoNOx Operational Load (based on %NGP)
as a Function of Ambient Temperature (T₁)**

Percent natural gas producer speed (%NGP) is analogous to turbine load. Information supplied by Solar Turbines indicates that the SoLoNOx control system operates when the load is 87% or higher, depending on the model type and ambient temperature (T₁). This is equivalent to 30 to 50% load, depending on model type. The table below presents the minimum load (i.e., % NGP) where SoLoNOx is enabled as a function of T₁ for the seven turbine LPM equipped models used in natural gas transmission applications. SoLoNOx mode is enabled when the monitoring system indicates T₁ and %NGP are above this threshold. There is no upper boundary since the units will operate in SoLoNOx mode at any value of 93% or greater. The table highlights the applicable %NGP (93%) at 90 °F for a Mars 100 unit. Nominal adjustments to the %NGP setpoint may occur to address site-specific characteristics such as elevation.

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T1 Variable %NGP Control Values for Turbines with SoLoNOx Combustion

T ₁ , °F	<i>Centaur 40</i>	<i>Centaur 50*</i>	<i>Taurus 60</i>	<i>Taurus 70</i>	<i>Mars 90</i>	<i>Mars 100</i>	<i>Titan 130</i>
-30	87.0	87.5	86.5	88.0	90.0	90.0	89.0
-15	87.0	87.5	86.5	88.0	90.0	90.0	89.0
0	87.0	87.5	86.5	88.0	90.0	90.0	89.0
15	87.5	88.0	86.5	88.5	90.5	90.5	89.5
30	88.0	88.5	87.0	89.0	91.0	91.0	90.0
45	88.5	89.0	87.5	89.5	91.5	91.5	90.5
60	89.0	89.5	88.0	90.0	92.0	92.0	91.0
75	89.5	90.0	88.5	90.5	92.5	92.5	91.5
90	90.0	90.5	89.0	91.0	93.0	93.0	92.0
105	90.5	91.0	89.5	91.5	93.5	93.5	92.5
120	91.0	91.5	90.0	92.0	94.0	94.0	93.0

Turbine NESHAP Monitoring Petition for
Lean Premixed Combustion Emissions Control

Appendix 2:

**Solar PIL 168:
Volatile Organic Compound, Sulfur Dioxide, and Formaldehyde Emission Estimates**

Solar Turbines*A Caterpillar Company***PIL 168**

Product Information Letter

Volatile Organic Compound, Sulfur Dioxide, and Formaldehyde Emission Estimates

Leslie Witherspoon

PURPOSE

This Product Information Letter (PIL) summarizes emission factors commonly utilized to estimate emissions of volatile organic compounds (VOC), sulfur dioxide (SO₂), and formaldehyde from gas turbines.

Volatile Organic Compounds

Many permitting agencies require gas turbine users to include emissions of VOC, a subpart of the unburned hydrocarbon (UHC) emissions, during the air permitting process. Volatile organic compounds, non-methane hydrocarbons (NMHC), and reactive organic gases (ROG) are different ways of referring to the non-methane (and non-ethane) portion of an "unburned hydrocarbon" emission estimate.

For natural gas fuel, Solar's customers often use 10-20% of the UHC emission rate to conservatively estimate VOC emissions. Solar can offer a 5 ppm VOC warranty level upon request. For liquid fuel, it is appropriate to estimate that 100% of the UHC estimate is VOC. The emissions estimates are assumed valid at ambient temperatures >0 °F (-17.8 °C) and for natural gas from 50-100% load (40-100% for the Titan™ 250 and 80-100% load for the Saturn® 20) or for liquid fuel from 65-100% load (80-100% for the Saturn 20 and Centaur® 40).

Environmental Protection Agency (EPA's) AP-42¹ document and WebFIRE² database also contain VOC emission estimates for gas turbines. These sources are not commonly used by Solar's customers.

Sulfur Dioxide

Sulfur dioxide emissions are produced by conversion of any sulfur in the fuel to SO₂. Solar customers usually either use a mass balance calculation or reference AP-42 to estimate SO₂ emissions. Because Solar does not control the amount of sulfur in the fuel, no SO₂ emissions warranty is available.

The mass balance method assumes that any sulfur in the fuel converts to SO₂. For reference, the typical mass balance equation is shown below.

$$\frac{\text{lb SO}_2}{\text{hr}} = \left(\frac{\text{wt\% Sulfur}}{100} \right) \left(\frac{\text{lb fuel}}{\text{Btu}} \right) \left(\frac{10^6 \text{ Btu}}{\text{MMBtu}} \right) \left(\frac{\text{MMBtu fuel}}{\text{hr}} \right) \left(\frac{\text{MW SO}_2}{\text{MW Sulfur}} \right)$$

Variables: wt% of sulfur in fuel
Btu/lb fuel (LHV)
MMBtu/hr fuel flow (LHV)

As an alternative to the mass balance calculation, EPA's AP-42 document can be used. AP-42 (Table 3.1-2a, April 2000) suggests emission factors of 0.94S lb/MMBtu (HHV) (where S=Sulfur % in fuel) or 0.0034 lb/MMBtu (HHV) for gas fuel and 1.01S lb/MMBtu (HHV) (where S=Sulfur% in fuel) or 0.33 lb/MMBtu (HHV) for liquid fuel.

¹ AP-42 is an EPA document containing a compilation of air pollutant emission factors by source category.

² WebFIRE is an EPA electronic based repository and retrieval tool for emission factors.

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Formaldehyde

For gas turbines, formaldehyde emissions are a result of incomplete combustion and are unstable in the exhaust stream. In this section, regulatory background, recommended emission factors, and testing considerations are discussed.

Regulatory Background and Emissions Factors – U.S. and EU

In 2004 the U.S. EPA published a Maximum Achievable Control Technology (MACT) standard (40 CFR 63 Subpart YYYY) for natural gas fired combustion turbines with a formaldehyde limit of 91 ppb (15% O₂). The standard was stayed a few months later for the natural gas subcategories essentially rendering the regulation "on hold". The stay was lifted on March 9, 2022. After ~18 years of not having to comply with the MACT standard, natural gas fired combustion turbines located **at major sources of hazardous air pollutants** need to comply with the standard. The initial compliance date is September 4, 2022. With the lifting of the stay, four of the eight subcategories outlined in the Subpart YYYY must comply with the MACT standard. They are:

- stationary lean premix combustion turbines when firing gas and when firing oil at sites where all turbines fire oil no more than an aggregate total of 1,000 hours annually
- stationary lean premix combustion turbines when firing oil at sites where all turbines fire oil more than an aggregate total of 1,000 hours annually
- stationary diffusion flame combustion turbines when firing gas and when firing oil at sites where all turbines fire oil no more than an aggregate total of 1,000 hours annually
- stationary diffusion flame combustion turbines when firing oil at sites where all turbines fire oil more than an aggregate total of 1,000 hours annually

For U.S. customers with a combustion turbine that must comply with Subpart YYYY, an emission factor of 91 ppb @ 15% O₂ (~0.00021 lb/MMBtu HHV) is recommended.

The formaldehyde emissions estimate of 91 ppb @15%O₂ (~0.00021 lb/MMBtu HHV) can be used for all new, current production, SoLoNOx models and ratings when firing pipeline quality natural gas or ultra-low sulfur (ULSD) diesel fuel. The emissions estimate is valid for natural gas from 50-100% load (40-100% load for Titan 250) or for liquid fuel from 65-100% load (80-100% load for the Centaur 40) and at ambient temperatures >0 °F (> -20 °F for Titan 250).

Alternative emission factors for combustion turbines **not** affected by Subpart YYYY (or non-U.S. based combustion turbines) are from U.S. EPA's AP-42 document and are 0.00071 lb/MMBtu (HHV) for natural gas and 0.00028 lb/MMBtu (HHV) for distillate oil³. Note that both of the aforementioned formaldehyde emission factors are higher than the MACT standard. Since ~2003 many gas turbine users have used the emission factors found in an EPA memo Revised HAP Emission Factors for Stationary Combustion Turbines⁴ for estimating hazardous air pollutant emissions. The memo presents hazardous air pollutant emission factor data in several categories. While the memo presents several formaldehyde emissions factors, the most common formaldehyde emission factor used to estimate emissions from gas turbines from this document is 0.00288 lb/MMBtu HHV (Table 16). Note that this emission factor is an order of magnitude higher than the MACT standard.

In the EU, Germany has established a formaldehyde limit of 5 mg/Nm³ for combustion turbines (13.BImSchV Section 33). This limit applies for operation at 70-100% load and it is anticipated that something similar will be adopted in other EU member states. The 5 mg/Nm³ limit is equivalent to ~0.0038 kg/GJ or ~3.7 ppm.

Formaldehyde Emissions Testing Considerations

Actual emissions of formaldehyde from Solar's gas turbines, in the SoLoNOx operating range, are predicted to be less than 91 ppb @15%O₂. However, **the 91 ppb level can only be verified if the proper testing equipment is utilized.** To properly measure formaldehyde emissions, Fourier Transform Infrared (FTIR) instrumentation with limits of detection well below the standard must be utilized. Most "traditional" FTIR systems have formaldehyde

³ AP-42, Table 3.1-3 for Natural Gas and Table 3.1-4 for Distillate Oil, 4/00.

⁴ Revised HAP Emission Factors for Stationary Combustion Turbines, OAR-2002-0060, IV-B-09,8/22/03.

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limits of detection in the 120-150 ppb range and are not suitable to measure formaldehyde from combustion turbines.

Solar recommends the MKS Multi Gas 2030 FTIR with StarBoost™ System, the Spectrum WaveRunIR-EXT or an equivalent system with similar path lengths and detection levels.

EPA Method 320 (or equivalent method for non-U.S. testing) should be used to measure formaldehyde. Testing should include three – 120-minute test runs. To ensure accurate formaldehyde measurements, the testing company, in addition to following the requirements of Method 320 (or equivalent method), should take necessary steps to optimize signal-to-noise, verify the FTIR is fully temperature stabilized and purged, ensure the FTIR signal is optimized before testing by maximizing alignment and cleanliness of optics, minimize sampling line bias by using clean sample lines at 250°F to prevent off-gassing and minimize contamination with other compounds, verify absence of sampling system bias via system zero measurements, measure a source specific moisture spectrum while at the test site using a water/N2 delivery systems at +/-10% of turbine moisture content, and use the source specific water spectrum as an interferent in the analysis.

ATTACHMENT #9

USEPA Subpart YYYY Monitoring Petition Approval Letter dated March 9, 2023

PROPOSED



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

3/9/2023

Ms. Shrishti Chhabra
Environmental Advisor
TC Energy
700 Louisiana Street, Suite 700
Houston, Texas 77002

Dear Ms. Chhabra:

This is in response to your letter dated June 21, 2022, requesting approval of a continuous monitoring system (CMS) plan petition for Title 40, Code of Federal Regulation (C.F.R.), Part 63, Subpart YYYYY - National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Combustion Turbines, as it applies to the combustion turbine operated by ANR Pipeline Company (ANR).

Based on our review of all available information, your CMS plan is acceptable, subject to specific conditions. Details regarding the CMS plan and the basis for our determination are provided in the remainder of this letter.

Description of Combustion Turbine Unit #509 at the Brownsville Compressor Station

The facility location is the Brownsville Compressor Station, in Haywood County, at 70 Pumping Station Road, Brownsville, Tennessee. The affected unit is #509, a lean premix Solar Mars 100 natural gas-fired stationary combustion turbine rated at 15,437 horsepower and rated heat input of 123.5 million British thermal units per hour.

For Solar turbines, the lean premix mode is indicated by "SoLoNOx mode". The set point for "SoLoNOx mode" primarily depends on two parameters: percent gas producer turbine speed (% NGP) and inlet ambient air temperature (T_1), which are monitored continuously through the manufacturer's programmable logic controller (PLC). Site-specific conditions, such as elevation, may minimally alter the set point. The NGP is a primary performance indicator for the system, which indicates turbine load. Information supplied by Solar Turbines suggests that the "SoLoNOx mode" is enabled when the NGP is 87 percent (%) or higher, depending on the model type and T_1 . There is no upper boundary since the units will operate in SoLoNOx mode at any value of 93% or greater. Set points for "SoLoNOx mode" are established with a 0.5% safety factor above the minimum NGPs calculated by the PLC. If an event occurs that would cause "SoLoNOx mode" to be disabled, alarms will sound and notify operations of corrective actions. Since the turbine was constructed after January 14, 2003, it is a new affected source under Subpart YYYYY. The unit is not equipped with an oxidation catalyst to control emissions of formaldehyde.

Description of ANR's CMS Petition

ANR proposes to continuously monitor the lean premix mode indicator ("SoLoNOx mode" for Solar turbines) and related parameters (NGP and T₁) to ensure compliance with the formaldehyde emission standard during normal operations. The lean premix mode of operation ensures good combustion practices are being achieved during operation of the turbine and is only indicated during normal operations.

ANR proposes to continuously monitor and record NGP and T₁ to confirm that "SoLoNOx mode" is enabled. NGP is measured using a magnetic pickup located at the front of the combustion turbine shaft. T₁ is measured with a resistance temperature device (RTD) located in the turbine air inlet ducting. The parameters are displayed on the Human Machine Interface (HMI) and are automatically inventoried in the HMI log files. The combustion turbine "SoLoNOx mode" performance parameters are monitored by the PLC and the data are sent to the control room HMI at approximately one second intervals. ANR utilizes PI Historian as the data gathering tool. The monitoring devices are installed, maintained, calibrated, and operated in accordance with approved procedures that include, at a minimum, the manufacturer's written requirements and recommendations. ANR proposes to conduct the initial formaldehyde emission standard compliance testing within 10% of high load while the combustion turbine is operating within the lean premix mode.

EPA's Review of Subpart YYYYY Standards and CMS Petition Requirements

Under 40 C.F.R. § 63.6085, owners and operators are subject to Subpart YYYYY if they own or operate a stationary combustion turbine located at a major source of hazardous air pollutant (HAP) emissions. Under 40 C.F.R. § 63.6090(a)(2), a stationary combustion turbine is a new source if construction commenced after January 14, 2003. Under 40 C.F.R. § 63.6095(a)(3), new lean premix gas-fired stationary combustion turbines which started operation on or before March 9, 2022, must comply with the emissions limitations and operating limitations in this subpart no later than March 9, 2022. Under 40 C.F.R. § 63.6100, each new lean premix gas-fired stationary combustion turbine must comply with the emission limitations and operating limitations in Table 1 and Table 2 of Subpart YYYYY, respectively. Table 1 of Subpart YYYYY limits the concentration of formaldehyde to 91 parts-per-billion by volume, dry basis (ppbvd), or less, at 15% O₂ for new lean premix gas-fired stationary combustion turbines, except during turbine startup. Table 2 of Subpart YYYYY requires owners/operators to maintain operating limitations approved by the EPA Administrator to continuously demonstrate compliance with the emission limit during non-testing periods.

Under 40 C.F.R. § 63.6105(a) and (c), after September 8, 2020, owners/operators must comply with the applicable emission limitations, operating limitations, and other requirements of Subpart YYYYY, and must always operate and maintain any affected source in a manner consistent with safety and good air pollution control practices for minimizing emissions.

Under 40 C.F.R. § 63.6110(a), owners/operators must conduct the initial performance tests or other initial compliance demonstrations in Table 4 to Subpart YYYYY that apply within 180 calendar days after the compliance date specified (*e.g.*, by September 9, 2022) for affected source stationary combustion turbines according to the provisions in 40 C.F.R. § 63.7(a)(2) unless a historical test may be accepted according to the provisions of 40 C.F.R. § 63.6110(b). Under 40 C.F.R. § 63.6115, subsequent performance tests must be performed on an annual basis as specified in Table 3 to Subpart YYYYY.

Under 40 C.F.R. § 63.6125(b), for a stationary combustion turbine not using an oxidation catalyst to comply with the formaldehyde emission limit, owners/operators must continuously monitor any parameters specified in your approved petition to the Administrator, to comply with the operating limitations in Table 2 to Subpart YYYY, and as specified in Table 5 to Subpart YYYY.

Under 40 C.F.R. § 63.6120(f), for a stationary combustion turbine not equipped with an oxidation catalyst, owners/operators may petition the Administrator for approval of operating limitations to demonstrate compliance with the formaldehyde emission limitation during non-testing periods. In these cases, the petition must include:

- (1) Identification of the specific parameters you propose to use as additional operating limitations;
- (2) A discussion of the relationship between these parameters and HAP emissions identifying how HAP emissions change with changes in these parameters and how limitations on these parameters will serve to limit HAP emissions;
- (3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;
- (4) A discussion identifying the methods you will use to measure, and the instruments you will use to monitor, these parameters, as well as the relative accuracy and precision of these methods and instruments; and
- (5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

Under 40 C.F.R. § 63.6125(e), after September 8, 2020, for owners/operators using a CMS to indicate compliance with the formaldehyde emissions standard during non-testing periods, a CMS quality control program must be developed and implemented which includes written procedures for the CMS according to 40 C.F.R. § 63.8(d)(1-2). Additionally, a program of corrective action should be included in the plan required under 40 C.F.R. § 63.8(d)(2).

Under 40 C.F.R. § 63.6135(a), except for monitor malfunctions, associated repairs, and required applicable quality assurance or quality control activities, owners/operators must always conduct all parametric monitoring when the stationary combustion turbine is operating.

Under 40 C.F.R. § 63.6120(e), when a CMS petition is required to be submitted to the Administrator, owners/operators must not conduct the initial performance test until after the petition has been approved or disapproved by the Administrator.

The EPA's Determination for ANR's CMS Plan Petition

Based on supporting and available information, the following CMS plan is acceptable to the EPA:

- (1) Under 40 C.F.R. § 63.6120, ANR must conduct performance testing at the high load, defined as 100 percent plus or minus 10 percent. Testing must not include data from startup, shutdown, or malfunction events.
- (2) The lean premix mode indication, NGP, and T₁ shall be monitored and recorded at a minimum frequency of at least once every 15 minutes during testing conducted to successfully demonstrate compliance with the formaldehyde emission standard promulgated in 40 C.F.R. § 63.6100 and Table 1 to Subpart YYYY.

- (3) One-hour averages of NGP and T₁ shall be determined by computing hourly averages using all readings, with intervals at least once every 15 minutes taken during the formaldehyde emission standard compliance demonstration testing event. The three-hour rolling averages of NGP and T₁ shall be determined by computing the three-hour rolling averages using all hourly averaged readings taken during the formaldehyde emission standard compliance testing event.
- (4) Indication of lean premix mode operation must be continuously monitored and recorded at a minimum frequency of at least once every 15 minutes during formaldehyde emission standard compliance testing, and continuously thereafter.
- (5) Except for startup, the turbine must be operated in the lean premix mode of operation to ensure compliance with this approval.
- (6) Following formaldehyde emission compliance demonstration testing, the three-hour rolling averages of the related parameters must be continuously monitored and recorded to indicate compliance with the formaldehyde emission standard.
- (7) ANR must verify the monitoring devices' accuracy once annually according to the manufacturer's recommended procedures and maintain records of the annual verifications for inspection purposes.

The EPA's approval of ANR's CMS plan is based on information provided in ANR's submission and research conducted by the EPA. The EPA's approval is contingent on a successful demonstration of formaldehyde emission standard compliance resulting from a testing event. Should ANR change the operating conditions of the turbine to an operation which is different than the operating conditions represented in this approval such that formaldehyde emissions increase because of the change, ANR must submit a revised CMS plan petition to address the change(s).

Nothing in this CMS plan approval excludes the EPA from reopening this CMS plan approval to adjust its conditions, if needed, for enhancement of emission standard compliance assurance. If ANR discovers an additional parameter, or additional parameters, which indicate additional parametric monitoring operating limits are necessary to assure compliance with the formaldehyde emission standard, ANR must submit a revised CMS plan petition to the EPA to revise the CMS plan and incorporate the additional operating limit(s) based on the discovery. Finally, if ANR recognizes an opportunity to revise the CMS plan based on other CMS plan approvals issued by the EPA, or new information is obtained by ANR which may reduce the burden of tasks necessary for compliance assurance but still effectively assure compliance with the formaldehyde emission standard, ANR may file a petition to the EPA referencing that information to revise this CMS plan.

Please note that our approval does not alter ANR's obligations to meet all other applicable NESHAPs, including, but not limited to, the following NESHAP general provisions:

- The requirement to maintain and operate affected facilities and associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions, per 40 C.F.R. § 63.6 and
- The prohibition against concealing emissions which would otherwise constitute a violation of an applicable standard, including the use of gaseous diluents to achieve compliance with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere, per 40 C.F.R. § 63.4.

This CMS petition approval was coordinated with the EPA's Office of Enforcement and Compliance Assurance and Office of Air Quality Planning and Standards. If you have any questions about this CMS petition conditional approval, please contact Mark Bloeth at (404) 562-9013, or by email at bloeth.mark@epa.gov.

Sincerely,

**ANTHONY
TONEY**

Digitally signed by
ANTHONY TONEY
Date: 2023.03.09
14:04:31 -05'00'

Caroline Y. Freeman
Director
Air and Radiation Division

cc: Melanie King, OAQPS
Sara Ayres, OECA
James Johnston, TDEC



STATEMENT OF BASIS
Page 1 of 9
TDEC Division of Air Pollution Control

**Facility Name: ANR Pipeline Company-Brownsville
Compressor Station**
Permit Number: 581930
Permit Writer: MAL – (615) 571-2817

Facility ID Number: 38-0053
Date Application Received: November 13, 2023
Date Application Completed: November 13, 2023

FACILITY CATEGORY

This facility is a major source of emissions. The facility-wide PTE of one or more regulated air pollutants (Nitrogen Oxide (NO_x), a single Hazardous Air Pollutant (HAP), and a combination of HAPs) is at or above the Prevention of Significant Deterioration (PSD) and Title V major source thresholds.

FACILITY DESCRIPTION

Natural gas compressor station

PROJECT DESCRIPTION

ANR Pipeline Company–Brownsville Compressor Station is requesting a Title V Operating Permit renewal. As a part of this renewal, Sulfur Dioxide (SO₂) emission limits are being adjusted to account for the actual sulfur content of the natural gas received at the facility. Previously, AP-42 emission factors were used to set these emission limits.

COMPLIANCE STATUS

This facility is located in an attainment area for all criteria pollutants according to the NAAQS.

COLLOCATION DETERMINATION

Collocation is not applicable to this facility.

PERMIT REGISTRY

Pursuant to Tennessee Code Annotated (TCA) § 4-29-120, a permit registry notification is required for this permit.

PUBLIC NOTICE

This Title V Permit Renewal/Modification will undergo a 30-day public notice period and a 45-day EPA comment period in accordance with TAPCR 1200-03-09-.02(11). The notice was published on the TDEC website on August 17, 2026. The affected states were notified on August 17, 2026.

ADDITIONAL PUBLIC PARTICIPATION

DRAFT-PROPOSED August 17, 2026



STATEMENT OF BASIS
Page 2 of 9
TDEC Division of Air Pollution Control

Facility Name: ANR Pipeline Company-Brownsville
Compressor Station
Permit Number: 581930
Permit Writer: MAL – (615) 571-2817

Facility ID Number: 38-0053
Date Application Received: November 13, 2023
Date Application Completed: November 13, 2023

Table 1A: FACILITY EMISSION SOURCES

Source Number	Source Description	Permitted	Exempt/ Insignificant	PBR
<i>Significant Sources</i>				
38-0053-01				
501	2,000 hp (14.7 MMBtu/hr) 2SLB Natural Gas-Fired Engine Cooper-Bessemer GMWA8	X		
502	2,000 hp (14.7 MMBtu/hr) 2SLB Natural Gas-Fired Engine Cooper-Bessemer GMWA8	X		
503	2,000 hp (14.7 MMBtu/hr) 2SLB Natural Gas-Fired Engine Cooper-Bessemer GMWA8	X		
504	2,000 hp (14.7 MMBtu/hr) 2SLB Natural Gas-Fired Engine Cooper-Bessemer GMWA8	X		
505	2,000 hp (14.7 MMBtu/hr) 2SLB Natural Gas-Fired Engine Cooper-Bessemer GMWA8	X		
38-0053-03				
525	3.35 MMBtu/hr Natural Gas-Fired Boiler Cleaver-Brooks	X		
527	3.35 MMBtu/hr Natural Gas-Fired Boiler Cleaver-Brooks	X		
38-0053-04				
509	15,437 hp (123.5 MMBtu/hr) Natural Gas-Fired Turbine Solar Mars 100	X		
38-0053-05				
510	1.6 MMBtu/hr Natural Gas-Fired Boiler Cleaver-Brooks	X		



STATEMENT OF BASIS
Page 3 of 9
TDEC Division of Air Pollution Control

Facility Name: ANR Pipeline Company-Brownsville
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Facility ID Number: 38-0053
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<i>Source Number</i>	<i>Source Description</i>	<i>Permitted</i>	<i>Exempt/Insignificant</i>	<i>PBR</i>
<i>Insignificant Activities</i>				
NA	0.1 MMBtu/hr Space Heaters (2 each)		X	
NA	0.2 MMBtu/hr Space Heaters (4 each)		X	
T-1	12,800 gal Lubricating Oil Tank		X	
T-2	12,800 gal Used Oil Tank		X	
T-3	12,800 gal Distillate Oil Condensate Tank		X	
T-5	2,100 gal Ambitrol (Glycol) Tank		X	
T-6	4,200 gal Ambitrol (Glycol) Tank		X	
T-7	2,250 gal Ambitrol (Glycol) Tank		X	
T-8	6,500 gal Ambitrol (Glycol) Tank		X	
T-11	575 gal Maintenance Lube Oil Tank		X	
T-13	180 gal Used Oil Tank		X	
NA	290 gal Distillate Tank		X	
NA	Maintenance Welding		X	
NA	Maintenance Painting		X	
NA	Roadway Traffic		X	
NA	Solvent Parts Washer		X	
APU 1	Waukesha L36GL emergency generator		X	
APU 2	Caterpillar 3412 emergency generator		X	
NA	Paved/ unpaved roads and parking areas		X	
FUG	Fugitive Leaks/Blowdowns		X	

Table 1B: CHANGES SINCE LAST PERMIT ISSUANCE

Not Applicable



STATEMENT OF BASIS
Page 4 of 9
TDEC Division of Air Pollution Control

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REGULATORY APPLICABILITY REVIEW

Regulations	Comments/ Requirements (Monitoring/Recordkeeping/Reporting/Testing)
<u>Chapter 6</u> <i>TAPCR 1200-03-06-.01(7)</i>	Applicable This facility has fuel burning sources. Compliance is assured by the following: Emission Unit 38-0053-01, -03, -04, and -05 Heat input rate; The burning of natural gas as the only fuel; AP-42 Emission Factors; Specific data included in the permit application dated November 13, 2023; Calculations; and Recordkeeping.
<u>Chapter 7</u> <i>TAPCR 1200-03-07-.07(2)</i>	Applicable This facility has process emission sources. Compliance is assured by the following: Emission Unit 38-0053-03, -04, and -05 Heat input rate; The burning of natural gas as the only fuel; AP-42 Emission Factors; Specific data included in the permit application dated November 13, 2023; Calculations, and Recordkeeping.
<u>Chapter 10</u>	<i>Not Applicable</i> This <i>project/facility</i> is not subject to any source testing requirements outlined in this chapter. Note: Annual testing is required by 40 CFR Part 63, Subpart YYYY for source 38-0053-04.
<u>Chapter 14</u> <i>TAPCR 1200-03-14-.01(3)</i>	Applicable This Facility has sources that emit SO ₂ . Compliance is assured by the following: Emission Unit 38-0053-01, -03, -04, and -05 Heat input rate; The burning of natural gas as the only fuel; Natural Gas sulfur limit of 20 gr/100 dscf; Calculations, and Recordkeeping.
<u>Other state regulations:</u> <i>Chapter(s)</i> <i>16, 18, 22, 25, 27, etc.</i>	<i>Not Applicable</i> This facility does not contain sources subject to these chapters.
<u>40 CFR 60</u>	<u>Subpart KKKK</u> Applicable: Source 38-0053-04 is subject to 40 CFR 60 Subpart KKKK: Standards of Performance for Stationary Combustion Turbines. Construction of the turbine commenced after February 18, 2005, and the turbine's heat input capacity is greater than 10 MMBtu/hr. Compliance is assured by the following: Emission Unit 38-0053-04 Option to conduct Continuous Emissions Monitoring, Continuous parameter monitoring, or Performance testing; Reporting



STATEMENT OF BASIS
Page 5 of 9
TDEC Division of Air Pollution Control

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REGULATORY APPLICABILITY REVIEW

Regulations	Comments/ Requirements (Monitoring/Recordkeeping/Reporting/Testing)
40 CFR 61	<i>Not Applicable:</i> This facility emits minimal HAP emissions from fuel combustion.
40 CFR 62	<i>Not Applicable:</i> This facility is not subject to any Federal Plans specified in 40 CFR 62.13
40 CFR 63	Subpart YYYY Applicable: Source 38-0053-04 is subject to 40 CFR 63 Subpart YYYY: National Emissions Standards for Hazardous Air Pollutants for Stationary Combustion Turbines. The facility operates a stationary combustion turbine located at a major source of HAP emissions. Compliance is assured by the following: Emission Unit 38-0053-04 Continuous parameter monitoring; Performance testing; Recordkeeping/Reporting; Proper operation and maintenance Subpart DDDDD Applicable: Sources 38-0053-03 and -05 are subject to 40 CFR 63 Subpart DDDDD: National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters. The facility operates an industrial, commercial, or institutional boiler located at a major source of HAP emissions. Compliance is assured by the following: Emission Unit 38-0053-03 and -05 Boiler tune-ups/inspections; Recordkeeping/Reporting; Proper operation and maintenance
40 CFR 68	<i>Not Applicable:</i> The facility does not use or store the subject chemicals above threshold quantities.
40 CFR 64	<i>Not Applicable:</i> This is a Title V facility, but the Pollutant Specific Emissions Unit (PSEU) does not meet the applicability criteria outlined in 40 CFR 64.
Special Conditions, Monitoring, Limits	<i>Not Applicable:</i> This facility does not have any special conditions, monitoring, or testing requirements.
Modeling Review	<i>Not Applicable:</i> This facility does not emit Pb, HCl or HF.
Previous Permit Number(s)	572769



STATEMENT OF BASIS
Page 6 of 9
TDEC Division of Air Pollution Control

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EMISSION SUMMARY

Table 2: FACILITY WIDE EMISSION LIMIT

Not Applicable

Table 3A: FACILITY WIDE EMISSIONS –Prior to renewal

FACILITY WIDE EMISSIONS			
Pollutant	Actual/Controlled Emissions	Uncontrolled Emissions	Potential to Emit (PTE)
	TPY	TPY	TPY
PM/PM ₁₀ /PM _{2.5}	24.05	24.05	24.05
SO ₂	0.63*	0.63*	0.63*
NO _x	2164.30	2164.30	2164.30
CO	91.42	91.42	91.42
VOC	69.37	69.37	69.37
Total HAPs	26.24	26.24	26.24

**Previously, sulfur dioxide emissions were calculated using AP-42 emission factors. As a part of this renewal, the sulfur dioxide emissions are being re-calculated using a natural gas content of 20 gr S/100 scf. Revised emissions for sulfur dioxide will be significantly higher than the figures depicted here.*

Table 3B: FACILITY WIDE EMISSIONS –After renewal

FACILITY WIDE EMISSIONS			
Pollutant	Actual/Controlled Emissions	Uncontrolled Emissions	Potential to Emit (PTE)
	TPY	TPY	TPY
PM/PM ₁₀ /PM _{2.5}	24.05	24.05	24.05
SO ₂	50.32*	50.32*	50.32*
NO _x	2164.30	2164.30	2164.30
CO	91.42	91.42	91.42
VOC	69.37	69.37	69.37
Total HAPs	26.24	26.24	26.24

**Calculated using natural gas content of 20 gr S/100 scf. Previously, these numbers were calculated using AP-42 emission factors, resulting in values are significantly higher.*



STATEMENT OF BASIS
Page 7 of 9
TDEC Division of Air Pollution Control

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Table 4: SOURCE SPECIFIC EMISSIONS

PERMIT EMISSIONS						
Source	Pollutant	Actual /Controlled Emissions	Regulatory Allowable Emissions	Uncontrolled Emissions	Potential to Emit (PTE)	Permitted Allowable
		lb/hr	gr/dscf/lb/hr/lb/MMBTU	lb/hr	lb/hr	gr/dscf/lb/hr/lb/MMBTU
38-0053-01	PM/PM ₁₀ /PM _{2.5}	4.62	4.62 lb/hr	4.62	4.62	4.62 lb/hr
38-0053-03	PM/PM ₁₀ /PM _{2.5}	0.04	0.04 lb/hr	0.04	0.04	0.04 lb/hr
38-0053-04	PM/PM ₁₀ /PM _{2.5}	0.82	0.82 lb/hr	0.82	0.82	0.82 lb/hr
38-0053-05	PM/PM ₁₀ /PM _{2.5}	0.01	0.01 lb/hr	0.01	0.01	0.01 lb/hr
38-0053-01	SO ₂	4.10	4.10 lb/hr	4.10	4.10	4.10 lb/hr
38-0053-03	SO ₂	0.38	0.38 lb/hr	0.38	0.38	0.38 lb/hr
38-0053-04	SO ₂	6.92	-0.90 lb/MWh gross output -Fuel content limited to 0.060 lb SO ₂ /MMBtu heat input (6.92 lb/hr)	6.92	6.92	6.92 lb/hr
38-0053-05	SO ₂	0.09	0.09 lb/hr	0.09	0.09	0.09 lb/hr
38-0053-01	NO _x	485.90	--	485.90	485.90	2128.24 ton/yr (485.90 lb/hr)
38-0053-03	NO _x	0.66	--	0.66	0.66	0.66 ton/yr (2.90 lb/hr)
38-0053-04	NO _x	7.41	15 ppm @ 15% O ₂ 4-hr avg (7.41 lb/hr)	7.41	7.41	32.46 ton/yr (7.41 lb/hr)
38-0053-05	NO _x	0.16	--	0.16	0.16	0.16 lb/hr
38-0053-01	CO	219.96	--	219.96	219.96	55.41 ton/yr (12.65 lb/hr)
38-0053-03	CO	0.55	--	0.55	0.55	2.42 ton/yr (0.55 lb/hr)
38-0053-04	CO	7.53	--	7.53	7.53	33.00 ton/yr (7.53 lb/hr)
38-0053-05	CO	0.13	--	0.13	0.13	0.13 lb/hr
38-0053-01	VOC	11.47	--	11.47	11.47	50.22 ton/yr (11.47 lb/hr)
38-0053-03	VOC	0.04	--	0.04	0.04	0.18 ton/yr (0.04 lb/hr)
38-0053-04	VOC	4.32	--	4.32	4.32	18.93 ton/yr (4.32 lb/hr)
38-0053-05	VOC	0.01	--	0.01	0.01	0.01 lb/hr
38-0053-04	Formaldehyde	<0.01	91 ppbv @ 15% O ₂ , except during startup	<0.01	<0.01	91 ppbv @ 15% O ₂ , except during startup
38-0053-01	Total HAPs	5.85	--	5.85	5.85	--
38-0053-03	Total HAPs	0.02	--	0.02	0.02	--
38-0053-04	Total HAPs	0.12	--	0.12	0.12	--
38-0053-05	Total HAPs	0.00	--	0.00	0.00	--



STATEMENT OF BASIS
Page 8 of 9
TDEC Division of Air Pollution Control

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PERMIT EMISSIONS

SOURCE 38-0053-01

Pollutant	Actual/Controlled Emissions	Uncontrolled Emissions	Potential to Emit (PTE)	Permitted Allowable
	TPY	TPY	TPY	TPY
PM/PM ₁₀ /PM _{2.5}	20.24	20.24	20.24	20.24
SO ₂	17.96	17.96	17.96	17.96
NO _x	2128.24	2128.24	2128.24	2128.24
CO	55.41	55.41	55.41	55.41
VOC	50.22	50.22	50.22	50.22

PERMIT EMISSIONS

SOURCE 38-0053-03

Pollutant	Actual/Controlled Emissions	Uncontrolled Emissions	Potential to Emit (PTE)	Permitted Allowable
	TPY	TPY	TPY	TPY
PM/PM ₁₀ /PM _{2.5}	0.18	0.18	0.18	0.18
SO ₂	1.66	1.66	1.66	1.66
NO _x	2.90	2.90	2.90	2.90
CO	2.42	2.42	2.42	2.42
VOC	0.18	0.18	0.18	0.18

PERMIT EMISSIONS

SOURCE 38-0053-04

Pollutant	Actual/Controlled Emissions	Uncontrolled Emissions	Potential to Emit (PTE)	Permitted Allowable
	TPY	TPY	TPY	TPY
PM/PM ₁₀ /PM _{2.5}	3.59	3.59	3.59	3.59
SO ₂	30.31	30.31	30.31	30.31
NO _x	32.46	32.46	32.46	32.46
CO	33.00	33.00	33.00	33.00
VOC	18.93	18.93	18.93	18.93

PERMIT EMISSIONS

SOURCE 38-0053-05

Pollutant	Actual/Controlled Emissions	Uncontrolled Emissions	Potential to Emit (PTE)	Permitted Allowable
	TPY	TPY	TPY	TPY
PM/PM ₁₀ /PM _{2.5}	0.04	0.04	0.04	0.04
SO ₂	0.39	0.39	0.39	0.39
NO _x	0.70	0.70	0.70	0.70
CO	0.59	0.59	0.59	0.59
VOC	0.04	0.04	0.04	0.04



STATEMENT OF BASIS
Page 9 of 9
TDEC Division of Air Pollution Control

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SUMMARY AND CONCLUSIONS

It has been determined that this facility, if operated in accordance with the submitted application, will meet all applicable requirements and emission standards.