

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

Permit Number:
578234

Date Expires: draft

Issued To:

Tennessee Valley Authority – Lagoon Creek Combustion Turbine Plant

Installation Address:

615 Elm Tree Road
Brownsville

Installation Description: Electric Power Generating Facility

01: Twelve Natural Gas- or Oil-fired Combustion Turbines
Operating in Simple Cycle Mode and Four Natural Gas-
fired Fuel Heaters

Facility ID: 38-0069

Renewal Application Due Date:
Between draft and draft

Primary SIC: 49

Information Relied Upon:

Renewal Application dated April 21, 2020

(continued on the next page)

TECHNICAL SECRETARY

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

POST AT INSTALLATION ADDRESS

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SECTION A

GENERAL PERMIT CONDITIONS

A permit issued under the provisions of 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 regulation.

TAPCR 1200-03

A2. Compliance requirement. All terms and conditions in a permit issued pursuant to 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 emission fee based upon 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 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 1200-03-26-.02 and 1200-03-09-.02(11) applicable to such fees.

(d) Where more than one (1) 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 paragraph 1200-03-26-.02(9) shall apportion their emissions as follows to ensure that their fees are not double counted.

1. Sources that are subject to federally promulgated hazardous air pollutant under 40 CFR 60, 61, or 63 will place such regulated emissions in the regulated hazardous air pollutant (HAP) category.

2. A category of miscellaneous HAPs shall be used for hazardous air pollutants listed at part 1200-03-26-.02(2)(i)12 that are not subject to federally promulgated hazardous air pollutant standards under 40 CFR 60, 61, or 63.

3. HAPs that are also in the family of volatile organic compounds, particulate matter, or PM₁₀ shall not be placed in either the regulated HAP category or miscellaneous HAP category.

4. Sources that are subject to a provision of chapter 1200-03-16 New Source Performance Standards (NSPS) or chapter 0400-30-39 Standards of Performance for New Stationary Sources for pollutants that are neither particulate matter, PM₁₀, sulfur dioxide (SO₂), volatile organic compounds (VOC), nitrogen oxides (NO_x), or hazardous air pollutants (HAPs) will place such regulated emissions in an NSPS pollutant category.

5. The regulated HAP category, the miscellaneous HAP category, and the NSPS pollutant category are each subject to the 4,000 ton cap provisions of subparagraph 1200-03-26-.02(2)(i).

6. 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 subparagraph 1200-03-26-.02(2)(i) shall also apply to PM₁₀ emissions.

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 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, 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.

TAPCR 1200-03-09-.02(11)(e)6

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 paragraph 1200-03-09-.02(11).
- (c) This permit, its shield provided in Condition A11, and its conditions will be extended and effective after its expiration date provided that the source has submitted a timely, complete renewal application to the Technical Secretary.

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

A13. Reopening for cause.

- (a) A permit shall be reopened and revised prior to the expiration of the permit under any of the circumstances listed below:
 - 1. Additional applicable requirements under the Federal Act become applicable to the sources contained in this permit provided the permit has a remaining term of 3 or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the permit expiration date of this permit, unless the original has been extended pursuant to 1200-03-09-.02(11)(a)2.
 - 2. Additional requirements become applicable to an affected source under the acid rain program.
 - 3. The Technical Secretary or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 - 4. The Technical Secretary or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
- (b) Proceedings to reopen and issue a permit shall follow the same proceedings as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists, and not the entire permit. Such reopening shall be made as expeditiously as practicable.
- (c) Reopenings for cause shall not be initiated before a notice of such intent is provided to the permittee by the Technical Secretary at least 30 days in advance of the date that the permit is to be reopened except that the Technical Secretary may provide a shorter time period in the case of an emergency. An emergency shall be established by the criteria of T.C.A. 68-201-109 or other compelling reasons that public welfare is being adversely affected by the operation of a source that is in compliance with its permit requirements.
- (d) If the Administrator finds that cause exists to terminate, modify, or revoke and reissue a permit as identified in A13, he is required under federal rules to notify the Technical Secretary and the permittee of such findings in writing. Upon receipt of such notification, the Technical Secretary shall investigate the matter in order to determine if he agrees or disagrees with the Administrator's findings. If he agrees with the Administrator's findings, the Technical Secretary shall conduct the reopening in the following manner:
 - 1. The Technical Secretary shall, within 90 days after receipt of such notification, forward to EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate. If the Administrator grants additional time to secure permit applications or additional information from the permittee, the Technical Secretary shall have the additional time period added to the standard 90 day time period.

2. EPA will evaluate the Technical Secretary's proposed revisions and respond as to their evaluation.
3. If EPA agrees with the proposed revisions, the Technical Secretary shall proceed with the reopening in the same manner prescribed under Condition A13 (b) and Condition A13 (c).
4. If the Technical Secretary disagrees with either the findings or the Administrator that a permit should be reopened or an objection of the Administrator to a proposed revision to a permit submitted pursuant to Condition A13(d), he shall bring the matter to the Board at its next regularly scheduled meeting for instructions as to how he should proceed. The permittee shall be required to file a written brief expressing their position relative to the Administrator's objection and have a responsible official present at the meeting to answer questions for the Board. If the Board agrees that EPA is wrong in their demand for a permit revision, they shall instruct the Technical Secretary to conform to EPA's demand, but to issue the permit under protest preserving all rights available for litigation against EPA.

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

- A14. Permit transference.** An administrative permit amendment allows for a change of ownership or operational control of a source where the Technical Secretary determines that no other change in the permit is necessary, provided that the following requirements are met:
- (a) Transfer of ownership permit application is filed consistent with the provisions of 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 1200-03-09-.03(1) and TAPCR 1200-03-15-.03.

- A16. Construction permit required.** Except as exempted in TAPCR 1200-03-09-.04, or excluded in subparagraph TAPCR 1200-03-02-.01(1)(aa) or subparagraph TAPCR 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. 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 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.

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 rule 1200-03-20-.03. For the purposes of this condition, "emergency" shall be substituted for "malfunction(s)" in 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 Division 1200-03 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 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. 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 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 20 days after receipt of the notice of violation, the data required below. If this data has previously been 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 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 Chapter 1200-03-30.
 - (b) The change cannot be a modification under any provision of Title I of the federal Act or 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 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 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 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 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 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 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 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 1200-03-09-.02(11)(e), TAPCR 1200-03-09-.02(11)(f) and TAPCR 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 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 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 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 1200-03-09-.02(11)(f)4 or the significant modification route of TAPCR 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 1200-03-09-.02(11)(f)5(ii) or group processing of minor modifications under the provisions of TAPCR 1200-03-09-.02(11)(f)5(iii) as applicable to the magnitude of their construction.

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

SECTION D

GENERAL APPLICABLE REQUIREMENTS

- D1. Visible emissions.** With the exception of air emission sources exempt from the requirements of TAPCR Chapter 1200-03-05 and air emission sources for which a different opacity standard is specifically provided elsewhere in this permit, the permittee shall not cause, suffer, allow or permit discharge of a visible emission from any air contaminant source with an opacity in excess of 20% for an aggregate of more than five minutes in any one hour or more than 20 minutes in any 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% (6-minute average) except for one six minute period per one hour of not more than 40% opacity. Sources constructed or modified after July 7, 1992 shall utilize 6-minute averaging.

Consistent with the requirements of TAPCR Chapter 1200-03-20, due allowance may be made for visible emissions in excess of that permitted under TAPCR 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 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 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 1200-03-14. Regardless of the specific emission standard, new process sources shall utilize the best available control technology as deemed appropriate by the Technical Secretary of the Tennessee Air Pollution Control Board.

- D7. Fugitive Dust.**

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

1. Use, where possible, of water or chemicals for control of dust in demolition of existing buildings or structures, construction operations, grading of roads, or the clearing of land;
2. Application of asphalt, water, or suitable chemicals on dirt roads, material stock piles, and other surfaces which can create airborne dusts;
3. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials.

Adequate containment methods shall be employed during sandblasting or other similar operations.

(b) The permittee shall not cause, suffer, allow, or permit fugitive dust to be emitted in such manner to exceed five (5) minutes per hour or twenty (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 Chapter 1200-03-20.

TAPCR 1200-03-08

D8. Open burning. The permittee shall comply with the TAPCR 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 TAPCR 1200-03-11-.02(2)(d) when conducting any renovation or demolition activities at the facility.

TAPCR 1200-03-11-.02(2)(d) 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 not subject to source-specific applicable requirements contained in State of Tennessee and U.S. EPA regulations. By annual certification of compliance, the permittee shall be considered to meet the monitoring and related record keeping and reporting requirements of TAPCR 1200-03-09-.02(11)(e)1.(iii) and 1200-03-10-.04(2)(b)1 and compliance requirements of TAPCR 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. When applicable, the permittee shall comply with the TAPCR 0400-30-38 for all emission sources subject to a requirement contained therein.

TAPCR 0400-30-38

D12. Standards of Performance for New Stationary Sources. When applicable, the permittee shall comply with the TAPCR 0400-30-39 for all emission sources subject to a requirement contained therein.

TAPCR 0400-30-39

D13. Gasoline Dispensing Facilities. When applicable, the permittee shall comply with the TAPCR 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 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 0400-30-39-.01.

(c) All stationary spark ignition internal combustion engines, including engines deemed insignificant activities and insignificant emission units, shall comply with the applicable provisions of TAPCR 0400-30-39-.02.

TAPCR 0400-30-38 and 39

SECTION E

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

38-0069	Facility Description:	Power generation facility (1,360 MW, site total) consisting of 12 simple cycle natural gas- or oil-fired combustion turbines (CTs) and four natural gas-fired fuel heaters
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Conditions E1 through E3-11 apply to all sources in Section E of this permit unless otherwise noted.

E1. Fee payment

FEE EMISSIONS SUMMARY TABLE FOR MAJOR SOURCE 38-0069-01

REGULATED POLLUTANTS	ALLOWABLE EMISSIONS (tons per AAP)	ACTUAL EMISSIONS (tons per AAP)	COMMENTS
PARTICULATE MATTER (PM)	161	AEAR	Includes all fee emissions.
PM₁₀	N/A	N/A	
SO₂	321	AEAR	Includes all fee emissions.
VOC	70.6	AEAR	Includes all fee emissions.
NO_x	1,524	AEAR	Includes all fee emissions.
CATEGORY OF MISCELLANEOUS HAZARDOUS AIR POLLUTANTS (HAP WITHOUT A STANDARD)*			
VOC FAMILY GROUP	N/A	N/A	
NON-VOC GASEOUS GROUP	N/A	N/A	
PM FAMILY GROUP	N/A	N/A	
CATEGORY OF SPECIFIC HAZARDOUS AIR POLLUTANTS (HAP WITH A STANDARD)**			
VOC FAMILY GROUP	N/A	N/A	
NON-VOC GASEOUS GROUP	N/A	N/A	
PM FAMILY GROUP	N/A	N/A	
CATEGORY OF NSPS POLLUTANTS NOT LISTED ABOVE***			
EACH NSPS POLLUTANT NOT LISTED ABOVE	N/A	N/A	

NOTES

AAP The **Annual Accounting Period (AAP)** is a 12 consecutive month period that **either (a) begins each July 1st and ends June 30th of the following year when fees are paid on a fiscal year basis, or (b) begins January 1st and ends December 31st of the same year when paying on a calendar year basis.** The **Annual Accounting Period** at the time of permit renewal **began July 1, 2021 and ends June 30, 2022.** The next Annual Accounting Period begins **July 1, 2022** and ends **June 30, 2023** 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 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, SO₂, VOC, NO_x and so forth. See TAPCR 1200-03-26-.02(2)(i) for the definition of a regulated pollutant.),
- (2) **each pollutant group** (VOC Family, Non-VOC Gaseous, and Particulate Family),
- (3) **the Miscellaneous HAP Category,**
- (4) **the Specific HAP Category, and**

(5) the NSPS Category

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

- * **Category of Miscellaneous HAP (HAP without a Standard):** This category is made-up of hazardous air pollutants that do not have a federal or state standard. Each HAP is classified into one of three groups, the **VOC Family** group, the **Non-VOC Gaseous** group, or the **Particulate (PM) Family** group. **For fee computation**, the **Miscellaneous HAP Category** is subject to the 4,000-ton cap provisions of subparagraph 1200-03-26-.02(2)(i) of the TAPCR.
- ** **Category of Specific HAP (HAP with a Standard):** This category is made-up of hazardous air pollutants (HAP) that are subject to Federally promulgated Hazardous Air Pollutant Standards that can be imposed under Chapter 1200-03-11 or Chapter 1200-03-31. Each individual hazardous air pollutant is classified into one of three groups, the **VOC Family** group, the **Non-VOC Gaseous** group, or the **Particulate (PM) Family** group. **For fee computation**, each individual hazardous air pollutant of the **Specific HAP Category** is subject to the 4,000-ton cap provisions of subparagraph 1200-03-26-.02(2)(i) of the TAPCR.
- *** **Category of NSPS Pollutants Not Listed Above:** This category is made-up of each New Source Performance Standard (NSPS) pollutant whose emissions are not included in the **PM, SO₂, VOC** or **NO_x** emissions from each source in this permit. **For fee computation**, each **NSPS pollutant not listed above** is subject to the 4,000-ton cap provisions of subparagraph 1200-03-26-.02(2)(i) of the TAPCR.

END NOTES

- The permittee shall:**
- (1) Pay Title V **annual emission fees**, 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)(g). Fees may be paid on an **actual, allowable, or mixed** emissions basis; and on either a **state fiscal year** or a **calendar year**, provided the requirements of TAPCR 1200-03-26-.02(9)(b) are met. If any part of any fee imposed under TAPCR 1200-03-26-.02 is not paid within 15 days of the due date, penalties shall at once accrue as specified in TAPCR 1200-03-26-.02(8).
 - (2) Sources paying annual emissions fees on an allowable emissions basis: pay annual allowable based emission fees for each annual accounting period no later than April 1 of each year pursuant to TAPCR 1200-03-26-.02(9)(d).
 - (3) Sources paying annual emissions fees on an actual emissions basis: prepare an **actual emissions analysis** for each AAP and pay **actual based emission fees** pursuant to TAPCR 1200-03-26-.02(9)(d). The **actual emissions analysis** shall include:
 - (a) the completed **Fee Emissions Summary Table**,
 - (b) each **actual emissions analysis** required, and
 - (c) the actual emission records for each pollutant and each source as required for actual emission fee determination, or a summary of the actual emission records required for fee determination, as specified by the Technical Secretary or the Technical Secretary's representative. The summary must include sufficient information for the Technical Secretary to determine the accuracy of the calculations. These calculations must be based on the annual fee basis approved by the Technical Secretary (a state fiscal year [July 1 through June 30] or a calendar year [January 1 through December 31]). These records shall be used to complete the **actual emissions analyses** required by the above **Fee Emissions Summary Table**.
 - (4) Sources paying annual emissions fees on a mixed emissions basis: for all pollutants and all sources for which the permittee has chosen an actual emissions basis, prepare an **actual emissions analysis** for each AAP and pay **actual based emission fees** pursuant to TAPCR 1200-03-26-.02(9)(d). The **actual emissions analysis** shall include:
 - (a) the completed **Fee Emissions Summary Table**,
 - (b) each **actual emissions analysis** required, and
 - (c) the actual emission records for each pollutant and each source as required for actual emission fee determination, or a summary of the actual emission records required for fee determination, as specified by the Technical Secretary or the Technical Secretary's representative. The summary must include sufficient information for the Technical Secretary to determine the accuracy of the calculations. These calculations must be based on the fee bases approved by the Technical Secretary (payment on an actual or mixed emissions basis) and payment on a state fiscal year (July 1 through June 30) or

a calendar year (January 1 through December 31). These records shall be used to complete the **actual emissions analysis**.

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

- (5) When paying on an actual or mixed emissions basis, submit the **actual emissions analyses** at the time the fees are paid in full.

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

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

Payment of Fee to:

The Tennessee Department of Environment
and Conservation
Division of Fiscal Services
Consolidated Fee Section – APC
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 10th Floor
Nashville, Tennessee 37243

and

Actual Emissions Analyses to:

The Tennessee Department of Environment
and Conservation
Division of Air Pollution Control
Emission Inventory Program
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, Tennessee 37243

or

An electronic copy (PDF) of actual emissions analysis can also be submitted to: apc.inventory@tn.gov

E2. Reporting requirements.

- (a) **Semiannual reports.** Semiannual reports shall cover the six-month periods from **January 1** to **June 30** and **July 1** to **December 31** 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
576018	July 1, 2021	day before new permit issuance (with year)
578234	Issuance Date of new permit (with year)	December 31, 2021

These semiannual reports shall include:

- (1) Any monitoring and recordkeeping required by **Conditions E4-3, E4-5, E4-10, E4-12, E4-14, and E4-17** 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.
- (2) The visible emission evaluation readings from **Condition E3-1** 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.
- (3) Identification of all instances of deviations from **ALL PERMIT REQUIREMENTS**.

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

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

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

- (1) The identification of each term or condition of the permit that is the basis of the certification;
- (2) The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period; Such methods and other means

shall include, at a minimum, the methods and means required by this permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Act, which prohibits knowingly making a false certification or omitting material information;

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

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

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

Annual compliance certifications shall cover the 12-month period from **January 1** to **December 31** 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
567018	January 1, 2021	day before new permit issuance (with year)
578234	Issuance Date of new permit (with year)	December 31, 2021

These certifications shall be submitted to:

TN APCD and **EPA**

Jackson Environmental Field Office
Division of Air Pollution Control
1625 Hollywood Drive
Jackson, TN 38305

and Air Enforcement Branch
US EPA Region IV
61 Forsyth Street, SW
Atlanta, Georgia 30303

or
APC.JackEFO@tn.gov

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

- (c) **NESHAP Reporting Requirements.** The permittee must submit NESHAP reports as follows:
40 CFR Part 63, Subpart DDDDD Annual/Biennial Reports: The permittee must submit Annual or Biennial Compliance Reports as required in **Condition E4-21**. Each report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Technical Secretary the address below.

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

or 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.

- E3-1.** Visible emissions from this facility shall not exhibit greater than 10% opacity. Opacity data reduction shall be accomplished using procedures outlined in the current 40 CFR 60, Appendix A, Method 9 (six-minute average). In accordance with TAPCR 1200-03-05-.02, due allowance may be made for visible emissions in excess of this standard which are unavoidable due to routine startup and shutdown conditions.

TAPCR 1200-03-05-.01(3) and PSD construction permit 956987F

Compliance Method: The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996 (amended on September 11, 2013) that is enclosed as Attachment 1. Reports and certifications shall be submitted in accordance with **Condition E2** of this permit.

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.

- E3-2.** Routine maintenance, as required to maintain specified emission limits, shall be performed on the air pollution control device(s). Maintenance records shall be recorded in a suitable permanent form and kept available for inspection by the Division. These records must be retained for a period of not less than five years.

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

E3-3. Acid Rain Program

- (a) The permittee shall not produce emissions in excess of allowances held under Title IV of the Federal Clean Air Act and the regulations promulgated thereunder and TAPCR 1200-03-30.
- (b) The permittee shall not be subject to the permit revision requirements of TAPCR 1200-03-09-.02(11)(f) for increases in emissions that are authorized by allowances acquired pursuant to the acid rain program, provided that such increases do not require a permit revision under any other applicable requirement.
- (c) Where an applicable requirement of the Federal Act is more stringent than the Federal regulations promulgated under Title IV of the Federal Act, both provisions shall be incorporated into the permit and shall be enforceable by the administrator.
- (d) No limit shall be placed on the number of allowances held by this source under the acid rain program. The permittee may not use allowances as a defense for noncompliance with any other applicable requirement.
- (e) Any allowance shall be accounted for according to the regulations promulgated under Title IV of the Federal Clean Air Act and the provisions of TAPCR 1200-03-30.
- (f) Acid Rain Permit 863254 is included with this permit as Attachment 2.

TAPCR 1200-03-09-.02(11)(e)1(iv) and 1200-03-30

E3-4. Cross-State Air Pollution Rule (CSAPR) Requirements

The permittee shall comply with the applicable provisions of 40 CFR 97 Subparts AAAAA (CSAPR NO_x Annual Trading Program), EEEEE (CSAPR NO_x Ozone Season Group 2 Trading Program), and CCCCC (CSAPR SO₂ Group 1 Trading Program). Specific trading program requirements are included in **Attachment 5**.

TAPCR 1200-03-09-.03(8) and 40 CFR §52.2240 and §52.2241, 40 CFR §97.401 – 97.435, §97.501 – 97.535, §97.601 – 97.635

- E3-5.** Upon the malfunction/failure of any emission control device(s) serving this source, the operation of the process(s) served by the device(s) shall be regulated by Chapter 1200-03-20 of the Tennessee Air Pollution Control Regulations.

- E3-6.** The following recordkeeping requirements shall apply to this facility:

- (a) For monthly recordkeeping, all data, including the results of all calculations, must be entered into the log no later than 30 days from the end of the month for which the data is required.
- (b) For weekly recordkeeping, all data, including the results of all calculations, must be entered into the log no later than seven days from the end of the week for which the data is required.
- (c) For daily recordkeeping, all data, including the results of all calculations, must be entered into the log no later than seven days from the end of the day for which the data is required.
- (d) All maintenance activities required by **Condition E3-2** (including any ongoing maintenance that has not been completed) shall be entered in the maintenance log no later than 30 days following the start of the maintenance.

Logs and records specified in this permit shall be kept readily accessible and made available upon request by the Technical Secretary or a Division representative and shall be retained for a period of not less than five years. Logs and records contained in this permit are based on a recommended format. Any logs that have an alternative format may be utilized provided such logs contain the same or equivalent information that is required. Computer-generated logs are also acceptable. Logs and records are not required to be submitted semiannually unless specified in **Condition E2**.

TAPCR 1200-03-09-.02(11)(e)1(iii) and 1200-03-10-.04(2)(b)

E3-7. Identification of Responsible Official and Technical Contact

- (a) The application that was utilized in the preparation of this permit is dated April 21, 2020, and signed by Jerry M. Watson, Site Manager of the permitted facility. Notification was received by the Division on March 24, 2021, that Jason Garrison, Plant Manager, is the new Responsible Official for the facility. If this person terminates employment or is assigned different duties and is no longer a Responsible Official for this facility as defined in part 1200-03-09-.02(11)(b)21 of the Tennessee Air Pollution Control Regulations, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within 30 days of the change. The notification shall include the name and title of the new Responsible Official and certification of truth and accuracy. All representations, agreement to terms and conditions, and covenants made by the former Responsible Official that were used in the establishment of the permit terms and conditions will continue to be binding on the facility until such time that a revision to this permit is obtained that would change said representations, agreements, and/or covenants.
- (b) The application that was utilized in the preparation of this permit is dated April 21, 2020, and identifies Bruce D. Trout as the Principal Technical Contact for the permitted facility. If this person terminates employment or is assigned different duties and is no longer the Principal Technical Contact for this facility, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within 30 days of the change. The notification shall include the name and title of the new Principal Technical Contact and certification of truth and accuracy.
- (c) The application that was utilized in the preparation of this permit is dated April 21, 2020, and identifies Michael G. Tritapoe as the Billing Contact for the permitted facility. If this person terminates employment or is assigned different duties and is no longer the Billing Contact for this facility, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within 30 days of the change. The notification shall include the name and title of the new Billing Contact and certification of truth and accuracy.

38-0069-01	<p>Electric Power Generating Facility comprised of: 12 identical General Electric model PG7121EA combustion turbine units (maximum heat input of 1,292 MMBtu/hr, each) with dry, low-NO_x combustors for gas-fired operation and wet injection control for oil-fired operation (units CT-1 through CT-12) PSD/BACT; 40 CFR 60, Subpart GG; 40 CFR 63, Subpart YYYYY Four natural gas-fired fuel heaters (units GH-1 and GH-2 (15.56 MMBtu/hr, each) units GH-3 and GH-4 (7.78 MMBtu/hr, each)) 40 CFR 63, Subpart DDDDD</p>
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Conditions E4-1 through E4-23 apply to source 38-0069-01
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- E4-1.** Only natural gas shall be used as fuel for the natural gas heaters. Natural gas usage by the heaters shall not exceed a total of 183.8 million standard cubic feet during any period of 12 consecutive months. This operational restriction represents BACT for the natural gas heaters for emissions of particulate matter (PM), sulfur dioxide (SO₂), carbon monoxide (CO), volatile organic compounds (VOC), and nitrogen oxides (NO_x).

TAPCR 1200-03-09-.01(1)(d) and PSD construction permit 956987F

Compliance Method: Compliance with this condition shall be demonstrated through the recordkeeping prescribed in **Condition E4-7** of this permit.

- E4-2.** Only natural gas and No. 2 fuel oil shall be used as fuels for the combustion turbines. This operational restriction represents BACT for the combustion turbines for emissions of PM, CO, and VOC.

TAPCR 1200-03-09-.01(1)(d) and PSD construction permit 956987F

Compliance Method: Compliance with this condition shall be demonstrated through the recordkeeping prescribed in **Condition E4-7** of this permit.

- E4-3.** The sulfur content of the No. 2 fuel oil used for this source shall not exceed 0.05 percent by weight. This operational restriction represents BACT for the oil-fired portions of this source for emissions of SO₂.

TAPCR 1200-03-09-.01(1)(d) and PSD construction permit 956987F

Compliance Method: The permittee shall obtain certification from the fuel supplier of the fuel sulfur content by weight for each shipment of fuel oil or, alternately, the vendor may supply a statement to the effect that all No. 2 fuel oil will contain no more than 0.05% sulfur by weight.

- E4-4.** The total production for this fuel-burning installation shall not exceed 3,474.2 giga watt-hours of electricity per consecutive 12-month period. No more than 1,151.1 giga watt-hours in any consecutive 12-month period shall occur during oil-fired operation, with the remainder of production to occur during gas-fired operation.

TAPCR 1200-03-06-.01(7), 1200-03-14-.01(3), and the information contained in the application dated November 24, 1999.

Compliance Method: Compliance with the production limits specified in this condition shall be demonstrated through the recordkeeping prescribed in **Condition E4-5** of this permit.

- E4-5.** A monthly log of the natural gas usage, No. 2 fuel oil usage, hours of operation for each fuel/mode combination, and electric generation output for each combustion turbine (CT) unit, as well as natural gas usage for the gas heaters (GH), at this facility, shall be kept to show compliance with the operational restrictions established in **Conditions E4-1 and E4-4** of this permit (see example logs below). These logs, or similar logs providing the same required information, must be maintained at the facility and kept available for inspection by the Technical Secretary or a Division representative. This record shall be retained for a period of not less than five years.

For purposes of determining fee emissions values for the annual accounting period (July 1 through June 30 of every year), the fuel usage rates obtained below shall be used in conjunction with the emission factors found in Attachment 3 to calculate pollutant emission rates, except that NO_x emissions shall be measured and reported by Continuous Emissions Monitoring Systems that meet requirements described by **Condition E4-11**.

Month:						
Unit I.D.	Natural Gas			No. 2 Fuel Oil		
	Usage (ft ³ /month)	Hours of Operation (hr/month)	Electric Generation Output (GW-hr/month)	Usage (gal/month)	Hours of Operation (hr/month)	Electric Generation Output (GW-hr/month)
CT-1						
CT-2						
CT-3						
CT-4						
CT-5						
CT-6						
CT-7						
CT-8						
CT-9						
CT-10						
CT-11						
CT-12						
Total:						
GH-1	Total Monthly Usage in MM CF					
GH-2						
GH-3						
GH-4						

Monthly and 12 Consecutive Month CT Energy Production and Heater Gas Usage Log

	Total Electric Generation (GW-hr/month)		Total Electric Generation (GW-hr/12 months)		Total Natural Gas Usage in the Fuel Heaters	
Permit Limit:			1,151.1 GW-hr	3,474.2 GW-hr		183.8 MMScf
Month/Year	Firing Natural Gas	Firing No. 2 Oil	Firing No. 2 Oil	Firing Natural Gas + No. 2 Fuel Oil	MMScf/ month	MMScf/12 months

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

- E4-6.** Particulate matter (PM) emitted from each combustion turbine unit of this fuel-burning installation shall not exceed the following limits (in pounds per hour):

Pollutant	Emission Limits (lb/hr)	
	while firing natural gas	while firing fuel oil
PM	7.35	15.8

TAPCR 1200-03-09-.01(4)(j) and PSD construction permit 956987F

Compliance Method: Documentation from the manufacturer shall be retained as proof of the emission rate. This information shall be kept readily available/accessible and made available upon request by the Technical Secretary or a Division representative.

- E4-7.** Sulfur dioxide (SO₂) emitted from each combustion turbine shall not exceed the following limits (in pounds per million British thermal units of heat input), based on operation at full capacity:

Pollutant	Emission Limits (lb/MMBtu of heat input)	
	while firing natural gas	while firing fuel oil
SO ₂	0.0006	0.048

TAPCR 1200-03-09-.01(4)(j) and PSD construction permit 956987F

Compliance Method: Compliance with the emission limits specified in this condition shall be assured through compliance with **Conditions E4-2 and E4-3** of this permit.

- E4-8.** Exhaust concentrations of carbon monoxide (CO) and volatile organic compounds (VOC) from each combustion turbine shall not exceed the following limits (in parts per million (ppm), corrected to 15% oxygen), based on operation at full capacity:

Pollutant	Emission Limits (ppm, corrected to 15% oxygen)	
	while firing natural gas	while firing fuel oil
CO	25.0	20.0
VOC	1.4	3.5

TAPCR 1200-03-09-.01(4)(j) and PSD construction permit 956987F

Compliance Method: Compliance with the emission limits specified in this condition is inherent in the design of the combustion turbines.

- E4-9.** Exhaust nitrogen oxide (NO_x) concentrations for each CT unit shall not exceed 12 parts per million (corrected to 15% oxygen, on a dry basis) when burning natural gas and 42 parts per million (corrected to 15% oxygen, on a dry basis) when burning No. 2 fuel oil, based on a 30-operating-day rolling average and a 15-operating-day rolling average, respectively. These limitations represent BACT for emissions of NO_x. For the purposes of this permit, the term “operating day” shall be defined as any calendar day during which power is generated, excluding periods of start-up, shutdown, tuning and maintenance, and fuel switching. The calculation shall include all hours of operation within the averaging period.

Start-up is defined as the period beginning with initial ignition of fuel in the unit and ending 21 minutes after synchronization of the unit to the grid. Shutdown is defined as the 25-minute period immediately prior to cessation of fuel ignition in the unit. Tuning and maintenance periods normally occur after a combustor change-out, a major repair or maintenance to a combustor or other similar maintenance circumstances. Tuning sessions are completed periodically to optimize emission reductions from the combustion turbine process. For fuel oil to natural gas operations, fuel switching is defined as the 15-minute period commencing when the water injection system is shut off after a turbine has decreased to accommodate the fuel switch. For natural gas to fuel oil operations, a fuel switch is defined as the 15-minute period commencing with the actual fuel switch activity. The commencement and ending of this action shall be noted by the permittee on the NO_x emissions report required by **Conditions E4-14** and the logs required by **Condition E4-5** of this permit. There shall be no more than three fuel switching periods per turbine per calendar day. The permittee shall keep documentation of the commencement and end of each fuel switching period.

NO_x concentrations during start-up and shutdown, tuning and maintenance, and periods of fuel switching shall not be included in determining compliance with the above specified rolling average NO_x concentration limitations.

The exclusion of start-up and shutdown, tuning and maintenance, and fuel switching periods only applies to the determination of compliance with the above-specified 30-operating-day rolling average NO_x concentration limits. This exclusion does not affect the NO_x emission limits found in **Condition E4-10** of this permit.

TAPCR 1200-03-09-.01(4) and PSD construction permit 956987F

Compliance Method: Compliance shall be assured by the monitoring required by **Condition E4-11**.

- E4-10.** NO_x emitted from each combustion turbine shall not exceed 127.0 tons during all periods of 12 consecutive months. This mass emission limitation is based upon a 12-month average NO_x exhaust concentration of 9 ppm (corrected to 15% oxygen, on a dry basis) when burning natural gas and 42 ppm (corrected to 15% oxygen, on a dry basis) when burning No. 2 fuel oil.

TAPCR 1200-03-09-.01(4) and PSD construction permit 956987F

Compliance Method: Compliance with the emission limits specified in this condition shall be demonstrated through the calculation of the 12-month total NO_x emissions, in tons, using data from the NO_x CEMs as required by **Condition E4-11** of this permit.

- E4-11.** Emissions of NO_x from each CT unit shall be monitored using a continuous emission monitoring (CEM) device. The device shall be installed and maintained in accordance with the requirements of 40 CFR Part 75.

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

- E4-12.** Each NO_x CEMS shall be fully operational for at least 95% of the operating time of the monitored unit during each six-month semiannual reporting period, as specified in **Condition E2**. An operational availability of less than this amount may be the basis for declaring a unit in noncompliance with the applicable monitoring requirement, unless the reasons for the failure to maintain this level of a vailability are accepted by the Division as being legitimate malfunctions of the in struments, or due to low hours of operation. Further, should the NO_x monitor be inoperative for more than seven consecutive days, the use of a backup monitor may be required.

TAPCR 1200-03-10-.04

- E4-13.** Quality assurance checks shall be performed on each CEMS in accordance with the requirements of 40 CFR Part 75. The quality assurance checks shall consist of a repetition of the relative accuracy portion of the Performance Specification Test.

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

- E4-14.** The following information shall be submitted to the Technical Secretary in the semiannual report required by **Condition E2(a)**:

- (a) For NO_x, the report shall include emission averages, in the units of the applicable standard (ppmvd corrected to 15% O₂), for each averaging period during operation of the source (30- and 15-operating-day rolling averages).
- (b) The report shall include the date and time identifying each period during which the system was inoperative (except for zero and span checks) and the nature of system repairs or adjustments. The Technical Secretary may require proof of system performance whenever system repairs or adjustments have been made.
- (c) When the system has not been inoperative, repaired, or adjusted, such information shall be included in the report.
- (d) Excess emissions reports pursuant to §60.7(c), §60.334(j), and **Condition E4-17**.

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

E4-15. Pursuant to 40 CFR §63.6090(a)(1), the stationary combustion turbines are existing affected sources subject to 40 CFR Part 63, Subpart YYYYY - *National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines*. However, pursuant to 40 CFR §63.6090(b)(4), these existing stationary combustion turbines do not have to meet the requirements of 40 CFR Part 63, Subparts YYYYY or A. No initial notification is necessary for any existing stationary combustion turbine, even if a new or reconstructed turbine in the same category would require an initial notification.

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

E4-16. This source is required to monitor emissions of SO₂ in accordance with the Part 75 requirements of the Acid Rain Program. The sulfur dioxide (SO₂) emissions for each month (in units of tons per month) shall be calculated in accordance with the protocol for pipeline natural gas combustion, shown in Section 2.3.1 of 40 CFR Part 75, Appendix D: Optional SO₂ Emissions Data Protocol for Gas-fired and Oil-fired Units (Attachment 4).

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

E4-17. This source is subject to and shall comply with all applicable requirements of 40 CFR Part 60, Subpart GG - *Standards of Performance for Stationary Gas Turbines*, with the following exception(s):

- (a) The alternative compliance methods as approved by the U.S. EPA Region 4 in the July 8, 1999 letter.
- (b) The alternative testing and monitoring methods approved by U.S. EPA Region 4 in the April 6, 2000 letter and clarified in the June 27, 2000 TVA letter to the Division.

(see Attachment 6 for letters)

In accordance with sections §60.7(c) and §60.334(j), excess emissions must be reported for all periods of unit operation, including startup, shutdown, and malfunction. Reports of excess emissions and monitor downtime shall be submitted in accordance with **Condition E2**.

TAPCR 1200-03-09-.03(8) and 40 CFR §60.334

E4-18. Boilers and process heaters located at a major source of hazardous air pollutants are subject to and shall comply with all applicable requirements of 40 CFR Part 63, Subpart DDDDD - *National Emission Standards for Hazardous Air Pollutants for Major Source: Industrial, Commercial, and Institutional Boilers and Process Heaters*. Pursuant to 40 CFR §63.7495, existing boilers and process heaters (construction commenced before June 4, 2010) shall be in compliance by January 31, 2016. The fuel heaters associated with this source are existing affected units under Subpart DDDDD.

E4-19. The permittee must meet the applicable work practice standards in Table 3 to subpart DDDDD for each affected unit designed to burn gas 1 type fuel in accordance with 40 CFR §63.7500:

- (a) For each process heater with a heat input capacity of less than 10 million Btu per hour, but greater than 5 million Btu per hour (GH-3 and GH-4), the permittee must conduct a tune-up of the process heater biennially in accordance with §63.7540.
- (b) For each process heater without a continuous oxygen trim system and with heat input capacity of 10 million Btu per hour or greater (GH-1 and GH-2), the permittee must conduct a tune-up of the process heater annually in accordance with §63.7540.

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

E4-20. Pursuant to 40 CFR §63.7545(a), the permittee must submit all of the notifications in §63.7(b) and (c), §63.8(e), (f)(4) and (6), and §63.9(b) through (h) that apply by the dates specified.

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

E4-21. Pursuant to 40 CFR §63.7550, the permittee must submit annual or biennial Subpart DDDDD compliance reports, as applicable to each unit. Subpart DDDDD compliance reports must cover the period beginning January 31 and ending on December 31 of the same calendar year if reporting annually, or ending on December 31 of the following calendar year if reporting biennially. Reports must be postmarked or delivered no later than 60 days after the reporting period ends. Subsequent compliance reports will cover each 12- or 24-month period following the previous report and shall be submitted within 60 days after the end of each reporting period.

Pursuant to §63.7550(h)(3) the permittee shall submit all reports required by Table 9 of Subpart DDDDD electronically using CEDRI that is accessed through the EPA's Central Data Exchange (CDX) (www.epa.gov/cdx), if the reporting form specific to Subpart DDDDD is available in CEDRI at the time that the report is due. If the reporting form specific to Subpart DDDDD is not available in CEDRI at the time that the report is due, the permittee must submit the report to the Administrator at the address listed in §63.13.

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

- E4-22.** Pursuant to 40 CFR §63.7555 and §63.7560, the permittee must keep records pertaining to 40 CFR 63, Subpart DDDDD in a form suitable and readily available for expeditious review, according to §63.10(b)(1). The permittee must keep each record for five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. Each record must be kept on site, or they must be accessible from on-site (for example, through a computer network), for at least two years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1). Records may be kept off site for the remaining three years.

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

END OF PERMIT NUMBER 578234

ATTACHMENT 1

**OPACITY MATRIX DECISION TREE for
VISIBLE EMISSION EVALUATION METHOD 9
dated June 18, 1996 and 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)(c)(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

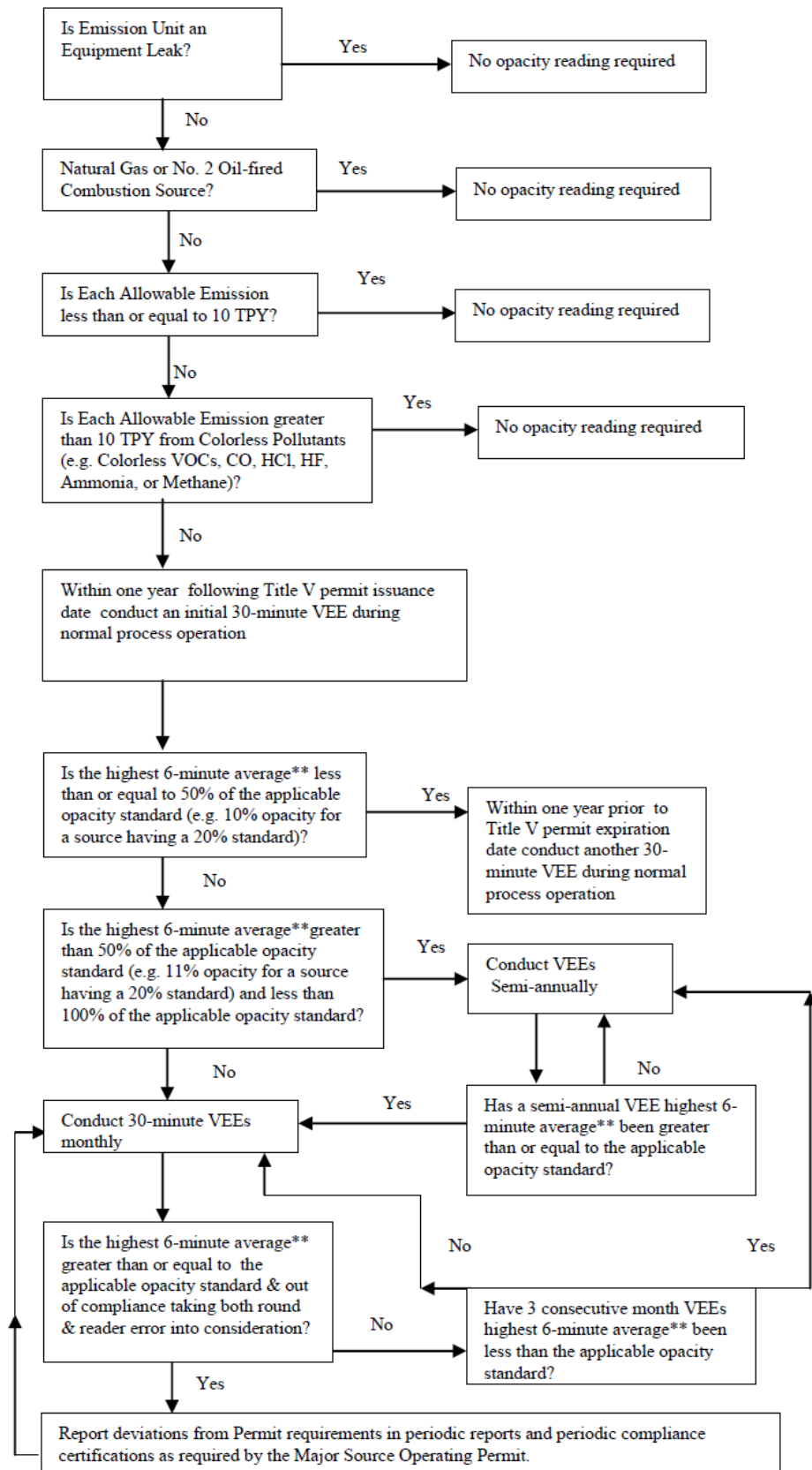
EPA Method 9, Non-NSPS or NESHAPS stipulated opacity standards: The TAPCD guidance is to declare non-compliance when the highest six-minute average** exceeds the standard plus 6.8% opacity (e.g. 26.8% for a 20% standard).

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 2

**ACID RAIN PERMIT #863254 for
Tennessee Valley Authority – Lagoon Creek**

**TENNESSEE AIR POLLUTION CONTROL BOARD
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37243-1531**



PHASE II ACID RAIN PERMIT

This permit fulfills the requirements of the federal regulations promulgated at 40 CFR Parts 72, 73, 75, 76, 77, and 78. This permit is issued in accordance with the applicable provisions of rule 1200-03-30 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: May 15, 2014

Permit Number: 863254

Effective Dates: May 15, 2014 through May 14, 2019

Issued By:

Tennessee Air Pollution Control Board
Tennessee Department of Environment and Conservation

Issued To:

Tennessee Valley Authority -
Lagoon Creek

Installation Addresses:

615 Elm Tree Road &
2585 Hudson Lane
Brownsville

Emission Source Reference Number: 38-0069

ORIS/Facility Code: 7845

Acid Rain Permit Contents:

1. Statement of Basis.
2. SO₂ allowances allocated under this permit and NO_x requirements for each affected unit.
3. Standard Requirements (40 CFR 72.9 and TAPCR 1200-03-30-.01(6))
4. Comments, notes, and justifications regarding permit decisions and changes made to the permit application forms during the review process, and any additional requirements or conditions.
5. The permit application submitted for this source, as corrected by the Tennessee Department of Environment and Conservation. The owners and operators of the source must comply with the standard requirements and special provisions set forth in the application.
6. Summary of previous actions and present action.

Darryl R. Stephens
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

Permit Number 863254 (Acid Rain Permit)

Expiration Date: May 14, 2019

1. Statement of Basis

Statutory and Regulatory Authorities: In accordance with Tennessee Code Annotated 68-201-105 and 4-5-202 and Titles IV and V of the Clean Air Act, the Tennessee Air Pollution Control Board and Tennessee Department of Environment and Conservation issue this permit pursuant to Chapter 1200-03-30 and Paragraph 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations and 40 CFR Part 72 of the Federal Regulations.

2. SO₂ Allowance Allocations and NO_x Requirements for each affected unit

Unit		2014	2015	2016	2017	2018
	SO ₂ allowances	*	*	*	*	*
LCT1	NO _x limit	40 CFR Part 76 is not applicable to unit. Natural gas fired unit.				
Unit		2014	2015	2016	2017	2018
	SO ₂ allowances	*	*	*	*	*
LCT2	NO _x limit	40 CFR Part 76 is not applicable to unit. Natural gas fired unit.				
Unit		2014	2015	2016	2017	2018
	SO ₂ allowances	*	*	*	*	*
LCT3	NO _x limit	40 CFR Part 76 is not applicable to unit. Natural gas fired unit.				
Unit		2014	2015	2016	2017	2018
	SO ₂ allowances	*	*	*	*	*
LCT4	NO _x limit	40 CFR Part 76 is not applicable to unit. Natural gas fired unit.				
Unit		2014	2015	2016	2017	2018
	SO ₂ allowances	*	*	*	*	*
LCT5	NO _x limit	40 CFR Part 76 is not applicable to unit. Natural gas fired unit.				
Unit		2014	2015	2016	2017	2018
	SO ₂ allowances	*	*	*	*	*
LCT6	NO _x limit	40 CFR Part 76 is not applicable to unit. Natural gas fired unit.				
Unit		2014	2015	2016	2017	2018
	SO ₂ allowances	*	*	*	*	*
LCT7	NO _x limit	40 CFR Part 76 is not applicable to unit. Natural gas fired unit.				
Unit		2014	2015	2016	2017	2018
	SO ₂ allowances	*	*	*	*	*
LCT8	NO _x limit	40 CFR Part 76 is not applicable to unit. Natural gas fired unit.				
Unit		2014	2015	2016	2017	2018
	SO ₂ allowances	*	*	*	*	*
LCT9	NO _x limit	40 CFR Part 76 is not applicable to unit. Natural gas fired unit.				
Unit		2014	2015	2016	2017	2018
	SO ₂ allowances	*	*	*	*	*
LCT10	NO _x limit	40 CFR Part 76 is not applicable to unit. Natural gas fired unit.				
Unit		2014	2015	2016	2017	2018
	SO ₂ allowances	*	*	*	*	*
LCT11	NO _x limit	40 CFR Part 76 is not applicable to unit. Natural gas fired unit.				

Permit Number 863254 (Acid Rain Permit)

Expiration Date: May 14, 2019

		2014	2015	2016	2017	2018
Unit	SO ₂ allowances	*	*	*	*	*
LCT12	NO _x limit	40 CFR Part 76 is not applicable to unit. Natural gas fired unit.				

		2014	2015	2016	2017	2018
Unit	SO ₂ allowances	*	*	*	*	*
LCC1	NO _x limit	40 CFR Part 76 is not applicable to unit. Natural gas fired unit.				

		2014	2015	2016	2017	2018
Unit	SO ₂ allowances	*	*	*	*	*
LCC2	NO _x limit	40 CFR Part 76 is not applicable to unit. Natural gas fired unit.				

* These new units are not eligible for an SO₂ allowance allocation under 40 CFR part 73, but the source must comply with all of the standard requirements and special provisions stated in the Phase II permit application. The source must hold sufficient allowances to cover SO₂ emissions.

3. Standard Requirements (40 CFR 72.9 and TAPCR 1200-03-30-.01(6)): Included with permit application (see Attachment).

4. Comments, Notes, and Justifications: Affected units are twelve (12) natural gas fired simple cycle combustion turbines and two (2) combined cycle combustion turbines.

5. Permit Application: Attached.

6. Summary of Previous Actions and Present Action:

Previous Actions:

1. Initial draft permit issued for public comment: **August 7, 2001**
2. Initial permit finalized and issued: **October 24, 2001**
3. Draft renewal issued for public comment: **June 12, 2008**
4. Renewal permit finalized and issued: **January 1, 2008**
5. Draft renewal issued for public comment: **March 27, 2014**

Present Action:

6. Renewal permit finalized and issued: **May 15, 2014**

Permit Number 863254 (Acid Rain Permit)

Expiration Date: May 14, 2019

Year	2014	2015	2016	2017	2018	2019
1.1.1	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.2	1.1.2	1.1.2	1.1.2	1.1.2	1.1.2	1.1.2
1.1.3	1.1.3	1.1.3	1.1.3	1.1.3	1.1.3	1.1.3

Attachment: Acid Rain Permit Application

Permit Number 863254 (Acid Rain Permit)

Expiration Date: May 14, 2019



United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258

Acid Rain Permit Application

2019 DEC 17 PM 1:12

For more information, see instructions and 40 CFR 72.30 and 72.31.

This submission is: ☐ new ☐ revised ☒ for Acid Rain permit renewal

STEP 1

Identify the facility name,
State, and plant (ORIS)
code.

Lagoon Creek Facility (Source) Name	TN State	7845 Plant Code
--	-------------	--------------------

STEP 2

Enter the unit ID#
for every affected
unit at the affected
source in column "a."

a	b
Unit ID#	Unit Will Hold Allowances in Accordance with 40 CFR 72.9(c)(1)
LCT1	Yes
LCT2	Yes
LCT3	Yes
LCT4	Yes
LCT5	Yes
LCT6	Yes
LCT7	Yes
LCT8	Yes
LCT9	Yes
LCT10	Yes
LCT11	Yes
LCT12	Yes
LCC1	Yes
LCC2	Yes

Permit Number 863254 (Acid Rain Permit)

Expiration Date: May 14, 2019

Lagoon Creek
Facility (Source) Name (from STEP 1)

Acid Rain - Page 2

Permit Requirements**STEP 3**

Read the standard requirements.

- (1) The designated representative of each affected source and each affected unit at the source shall:
- (i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30; and
 - (ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit;
- (2) The owners and operators of each affected source and each affected unit at the source shall:
- (i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and
 - (ii) Have an Acid Rain Permit.

Monitoring Requirements

- (1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the source or unit, as appropriate, with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
- (3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements

- (1) The owners and operators of each source and each affected unit at the source shall:
- (i) Hold allowances, as of the allowance transfer deadline, in the source's compliance account (after deductions under 40 CFR 73.34(c)), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the affected units at the source; and
 - (ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
- (2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
- (3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
- (i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or
 - (ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).

Permit Number 863254 (Acid Rain Permit)

Expiration Date: May 14, 2019

Lagoon Creek
Facility (Source) Name (from STEP 1)

Acid Rain - Page 3

Sulfur Dioxide Requirements, Cont'd.**STEP 3, Cont'd.**

- (4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
- (5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
- (6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
- (7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements

The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements

- (1) The designated representative of an affected source that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
- (2) The owners and operators of an affected source that has excess emissions in any calendar year shall:
- (i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
 - (ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements

- (1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:

- (i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;

Permit Number 863254 (Acid Rain Permit)

Expiration Date: May 14, 2019

Lagoon Creek
Facility (Source) Name (from STEP 1)

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Recordkeeping and Reporting Requirements, Cont'd.**STEP 3, Cont'd.**

- (ii) All emissions monitoring information, in accordance with 40 CFR part 75, provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply.
 - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,
 - (iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.
- (2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability

- (1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
- (2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
- (3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
- (4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.
- (5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.
- (6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit.
- (7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities

No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 shall be construed as:

- (1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating

Permit Number 863254 (Acid Rain Permit)

Expiration Date: May 14, 2019

Lagoon Creek
Facility (Source) Name (from STEP 1)

Acid Rain - Page 5

Effect on Other Authorities, Cont'd.**STEP 3, Cont'd.**

to applicable National Ambient Air Quality Standards or State Implementation Plans;

(2) Limiting the number of allowances a source can hold; *provided*, that the number of allowances held by the source shall not affect the source's obligation to comply with any other provisions of the Act;


(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;

(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,

(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

Certification**STEP 4**
Read the
certification
statement,
sign, and date.

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name	John J. McCormick
Signature	
Date	12-15-09

2009 DEC 17 PM 1:12

ATTACHMENT 3

**AP-42 FIFTH EDITION EMISSION FACTORS for
EXTERNAL NATURAL GAS COMBUSTION
(REVISED 4/00, 7/98, and 10/96)**

**Table 3.1-1. EMISSION FACTORS FOR NITROGEN OXIDES (NO_x) AND
CARBON MONOXIDE (CO) FROM STATIONARY GAS TURBINES**
(revised 4/00)

Emission Factors ^a				
Turbine Type	Nitrogen Oxides		Carbon Monoxide	
Natural Gas-Fired Turbines ^b	(lb/MMBtu) ^c (Fuel Input)	Emission Factor Rating	(lb/MMBtu) ^c (Fuel Input)	Emission Factor Rating
Uncontrolled	3.2 E-01	A	8.2 E-02 ^d	A
Water-Steam Injection	1.3 E-01	A	3.0 E-02	A
Lean-Premix	9.9 E-02	D	1.5 E-02	D
Distillate Oil-Fired Turbines ^e	(lb/MMBtu) ^f (Fuel Input)	Emission Factor Rating	(lb/MMBtu) ^f (Fuel Input)	Emission Factor Rating
Uncontrolled	8.8 E-01	C	3.3 E-03	C
Water-Steam Injection	2.4 E-01	B	7.6 E-02	C
Landfill Gas-Fired Turbines ^g	(lb/MMBtu) ^h (Fuel Input)	Emission Factor Rating	(lb/MMBtu) ^h (Fuel Input)	Emission Factor Rating
Uncontrolled	1.4 E-01	A	4.4 E-01	A
Digester Gas-Fired Turbines ^j	(lb/MMBtu) ^k (Fuel Input)	Emission Factor Rating	(lb/MMBtu) ^k (Fuel Input)	Emission Factor Rating
Uncontrolled	1.6 E-01	D	1.7 E-02	D

- ^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”.
- ^b Source Classification Codes (SCCs) for natural gas-fired turbines include 2-01-002-01, 2-02-002-01, 2-02-002-03, 2-03-002-02, and 2-03-002-03. 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.
- ^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.
- ^d It is recognized that the uncontrolled emission factor for CO is higher than the water-steam injection and lean-premix emission factors, which is contrary to expectation. The EPA could not identify the reason for this behavior, except that the data sets used for developing these factors are different.
- ^e SCCs for distillate oil-fired turbines include 2-01-001-01, 2-02-001-01, 2-02-001-03, and 2-03-001-02.
- ^f 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.
- ^g SCC for landfill gas-fired turbines is 2-03-008-01.
- ^h Emission factors based on an average landfill gas heating value of 400 Btu/scf at 60°F. To convert from (lb/MMBtu), to (lb/10⁶ scf) multiply by 400.
- ^j SCC for digester gas-fired turbine is 2-03-007-01.
- ^k Emission factors based on an average digester gas heating value of 600 Btu/scf at 60°F. To convert from (lb/MMBtu) to (lb/10⁶ scf) multiply by 600.

**Table 3.1-2a. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND
GREENHOUSE GASES FROM STATIONARY GAS TURBINES**
(revised 4/00)

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 ^j	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/10⁶ scf. 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).

^j 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 1.4-1. EMISSION FACTORS FOR NITROGEN OXIDES (NO_x) AND CARBON MONOXIDE (CO) FROM NATURAL GAS COMBUSTION^a
(revised 7/98)

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 MMBtu/hr) [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 MMBtu/hr) [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 recirc.	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 MMBtu/hr) [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 NO₂. 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
(revised 7/98)

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 1b/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, 4.2x10⁴ 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 of natural gas is 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.

ATTACHMENT 4

40 CFR Part 75, Appendix D, Section 2.3.1:

Optional SO₂ Emissions Data Protocol for Gas-fired and Oil-fired Units

40 CFR Part 75, Appendix D: Optional SO₂ Emissions Data Protocol for Gas-fired and Oil-fired Units

2.3.1 *Pipeline Natural Gas Combustion*

The owner or operator may determine the SO₂ mass emissions from the combustion of a fuel that meets the definition of pipeline natural gas, in §72.2 of this chapter, using the procedures of this section.

2.3.1.1 *SO₂ Emission Rate*

For a fuel that meets the definition of pipeline natural gas under §72.2 of this chapter, the owner or operator may determine the SO₂ mass emissions using either a default SO₂ emission rate of 0.0006 lb/mmBtu and the procedures of this section, the procedures in section 2.3.2 for natural gas, or the procedures of section 2.3.3 for any gaseous fuel. For each affected unit using the default rate of 0.0006 lb/mmBtu, the owner or operator must document that the fuel combusted is actually pipeline natural gas, using the procedures in section 2.3.1.4 of this appendix.

2.3.1.2 *Hourly Heat Input Rate*

Calculate hourly heat input rate, in mmBtu/hr, for a unit combusting pipeline natural gas, using the procedures of section 3.4.1 of this appendix. Use the measured fuel flow rate from section 2.1 of this appendix and the gross calorific value from section 2.3.4.1 of this appendix in the calculations.

2.3.1.3 *SO₂ Hourly Mass Emission Rate and Hourly Mass Emissions*

For pipeline natural gas combustion, calculate the SO₂ mass emission rate, in lb/hr, using Equation D–5 in section 3.3.2 of this appendix (when the default SO₂ emission rate is used) or Equation D–4 (if daily or hourly fuel sampling is used). Then, use the calculated SO₂ mass emission rate and the unit operating time to determine the hourly SO₂ mass emissions from pipeline natural gas combustion, in pounds, using Equation D–12 in section 3.5.1 of this appendix.

2.3.1.4 *Documentation that a Fuel is Pipeline Natural Gas*

- (a) A fuel may initially qualify as pipeline natural gas, if information is provided in the monitoring plan required under §75.53, demonstrating that the definition of pipeline natural gas in §72.2 of this chapter has been met. The information must demonstrate that the fuel meets either the percent methane or GCV requirement and has a total sulfur content of 0.5 grains/100scf or less. The demonstration must be made using one of the following sources of information:
 - (1) The gas quality characteristics specified by a purchase contract, tariff sheet, or by a pipeline transportation contract; or
 - (2) Historical fuel sampling data for the previous 12 months, documenting the total sulfur content of the fuel and the GCV and/or percentage by volume of methane. The results of all sample analyses obtained by or provided to the owner or operator in the previous 12 months shall be used in the demonstration, and each sample result must meet the definition of pipeline natural gas in §72.2 of this chapter; or
 - (3) If the requirements of paragraphs (a)(1) and (a)(2) of this section cannot be met, a fuel may initially qualify as pipeline natural gas if at least one representative sample of the fuel is obtained and analyzed for total sulfur content and for either the gross calorific value (GCV) or percent methane, and the results of the sample analysis show that the fuel meets the definition of pipeline natural gas in §72.2 of this chapter. Use the sampling methods specified in sections 2.3.3.1.2 and 2.3.4 of this appendix. The required fuel sample may be obtained and analyzed by the owner or operator, by an independent laboratory, or by the fuel supplier. If multiple samples are taken, each sample must meet the definition of pipeline natural gas in §72.2 of this chapter.
- (b) If the results of the fuel sampling under paragraph (a)(2) or (a)(3) of this section show that the fuel does not meet the definition of pipeline natural gas in §72.2 of this chapter, but those results are believed to be anomalous, the owner or operator may document the reasons for believing this in the monitoring plan for the unit, and may immediately perform additional sampling. In such cases, a minimum of three additional samples must be obtained and analyzed, and the results of each sample analysis must meet the definition of pipeline natural gas.
- (c) If several affected units are supplied by a common source of gaseous fuel, a single sampling result may be applied to all of the units and it is not necessary to obtain a separate sample for each unit, provided that the composition of the fuel is not altered by blending or mixing it with other gaseous fuel(s) when it is transported from the sampling location to the affected units. For the purposes of this paragraph, the term “other gaseous fuel(s)” excludes compounds such as mercaptans when they are added in trace quantities for safety reasons.

(d) If the results of fuel sampling and analysis under paragraph (a)(2), (a)(3), or (b) of this section show that the fuel does not qualify as pipeline natural gas, proceed as follows:

- (1) If the fuel still qualifies as natural gas under section 2.3.2.4 of this appendix, re-classify the fuel as natural gas and determine the appropriate default SO₂ emission rate for the fuel, according to section 2.3.2.1.1 of this appendix; or
- (2) If the fuel does not qualify either as pipeline natural gas or natural gas, re-classify the fuel as “other gaseous fuel” and implement the procedures of section 2.3.3 of this appendix, within 180 days of the end of the quarter in which the disqualifying sample was taken. In addition, the owner or operator shall use Equation D–1h in this appendix to calculate a default SO₂ emission rate for the fuel, based on the results of the sample analysis that exceeded 20 grains/100 scf of total sulfur, and shall use that default emission rate to report SO₂ mass emissions under this part until section 2.3.3 of this appendix has been fully implemented.

(e) If a fuel qualifies as pipeline natural gas based on the specifications in a fuel contract or tariff sheet, no additional, on-going sampling of the fuel's total sulfur content is required, provided that the contract or tariff sheet is current, valid and representative of the fuel combusted in the unit. If the fuel qualifies as pipeline natural gas based on fuel sampling and analysis, on-going sampling of the fuel's sulfur content is required annually and whenever the fuel supply source changes. For the purposes of this paragraph, (e), sampling “annually” means that at least one sample is taken in each calendar year. The effective date of the annual total sulfur sampling requirement is January 1, 2003.

(f) On-going sampling of the GCV of the pipeline natural gas is required under section 2.3.4.1 of this appendix.

(g) For units that are required to monitor and report NO_x mass emissions and heat input under subpart H of this part, but which are not affected units under the Acid Rain Program, the owner or operator is exempted from the requirements in paragraphs (a) and (e) of this section to document the total sulfur content of the pipeline natural gas.

ATTACHMENT 5

CROSS-STATE AIR POLLUTION RULE REQUIREMENTS

Cross-State Air Pollution Rule (CSAPR) Trading Program Title V Requirements

Description of CSAPR Monitoring Provisions

The CSAPR subject unit(s), and the unit-specific monitoring provisions at this source, are identified in the following table(s). These unit(s) are subject to the requirements for the CSAPR NO_x Annual Trading Program, CSAPR NO_x Ozone Season Trading Programs (Group 2), and CSAPR SO₂ Group 1 Trading Program.

Unit ID: LCT1, LCT2, LCT3, LCT4, LCT5, LCT6, LCT7, LCT8, LCT9, LCT10, LCT11, LCT12					
Parameter	CEMS requirements pursuant to 40 CFR part 75, Subparts B (SO ₂ monitoring) and H (NO _x monitoring)	Excepted monitoring system requirements for gas- and oil-fired units pursuant to 40 CFR 75, Appendix D	Excepted monitoring system requirements for gas- and oil-fired peaking units pursuant to 40 CFR 75, Appendix E	Low Mass Emissions excepted monitoring (LME) requirements for gas- and oil-fired units pursuant to §75.19	EPA-approved alternative monitoring system requirements pursuant to 40 CFR 75 Subpart E
SO ₂	--	X	--	--	--
NO _x	X	--	--	--	--
Heat Input	X	--	--	--	--

- The above description of the monitoring used by a unit does not change, create an exemption from, or otherwise affect the monitoring, recordkeeping, and reporting requirements applicable to the unit under 40 CFR §§97.430 through 97.435 (CSAPR NO_x Annual Trading Program), §§97.630 through 97.635 (CSAPR SO₂ Group 1 Trading Program), and §§97.801 through 97.835 (CSAPR NO_x Ozone Season Group 2 Trading Program). The monitoring, recordkeeping, and reporting requirements applicable to each unit are included below in the standard conditions for the applicable CSAPR trading programs.
- Owners and operators must submit to the Administrator a monitoring plan for each unit in accordance with §§75.53, 75.62 and 75.73, as applicable. The monitoring plan for each unit is available at the EPA's website at <http://www.epa.gov/airmarkets/emissions/monitoringplans.html>.
- Owners and operators that want to use an alternative monitoring system must submit to the Administrator a petition requesting approval of the alternative monitoring system in accordance with 40 CFR 75 Subpart E and §§75.66 and §97.435, §97.535, and §97.635, as applicable. The Administrator's response approving or disapproving any petition for an alternative monitoring system is available on the EPA's website at <http://www.epa.gov/airmarkets/emissions/petitions.html>.
- Owners and operators that want to use an alternative to any monitoring, recordkeeping, or reporting requirement under 40 CFR §§97.430 through 97.434, §§97.530 through 97.534, or §§97.630 through 97.634 must submit to the Administrator a petition requesting approval of the alternative in accordance with §§75.66 and §97.435, §97.535, and §97.635, as applicable. The Administrator's response approving or disapproving any petition for an alternative to a monitoring, recordkeeping, or reporting requirement is available on EPA's website at <http://www.epa.gov/airmarkets/emissions/petitions.html>.
- The descriptions of monitoring applicable to the unit included above meet the requirements of §§97.430 through 97.434, §§97.530 through 97.534, and §§97.630 through 97.634, as applicable, and minor permit modification procedures, in accordance with §70.7(e)(2)(i)(B) or §71.7(e)(1)(i)(B), may be used to add to or change this unit's monitoring system description.

CSAPR NO_x Annual Trading Program requirements (40 CFR 97.406)

- Designated representative requirements.** The owners and operators shall comply with the requirement to have a designated representative, and may have an alternate designated representative, in accordance with 40 CFR 97.413 through 97.418.
- Emissions monitoring, reporting, and recordkeeping requirements.**
 - The owners and operators, and the designated representative, of each CSAPR NO_x Annual source and each CSAPR NO_x Annual unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR 97.430 (general requirements, including installation, certification, and data accounting, compliance deadlines, reporting data, prohibitions, and long-term cold storage), 97.431 (initial monitoring system certification and recertification procedures), 97.432 (monitoring system out-of-control periods), 97.433 (notifications concerning monitoring), 97.434 (recordkeeping and reporting, including monitoring plans, certification applications, quarterly reports, and compliance certification), and 97.435 (petitions for alternatives to monitoring, recordkeeping, or reporting requirements).
 - The emissions data determined in accordance with 40 CFR 97.430 through 97.435 shall be used to calculate allocations of CSAPR NO_x Annual allowances under 40 CFR 97.411(a)(2) and (b) and 97.412 and to determine compliance with the CSAPR NO_x Annual emissions limitation and assurance provisions under paragraph (c) below, provided that, for each monitoring location from which mass emissions are reported, the mass emissions amount used in calculating such allocations and determining such compliance shall be the mass emissions amount for the monitoring location determined in accordance with 40 CFR 97.430 through 97.435 and rounded to the nearest ton, with any fraction of a ton less than 0.50 being deemed to be zero.
- NO_x emissions requirements.**
 - CSAPR NO_x Annual emissions limitation.
 - As of the allowance transfer deadline for a control period in a given year, the owners and operators of each CSAPR NO_x Annual source and each CSAPR NO_x Annual unit at the source shall hold, in the source's compliance account, CSAPR NO_x Annual allowances available for deduction for such control period under 40 CFR 97.424(a) in an amount not less than the tons of total NO_x emissions for such control period from all CSAPR NO_x Annual units at the source.

- (ii) If total NO_x emissions during a control period in a given year from the CSAPR NO_x Annual units at a CSAPR NO_x Annual source are in excess of the CSAPR NO_x Annual emissions limitation set forth in paragraph (c)(1)(i) above, then:
 - (A) The owners and operators of the source and each CSAPR NO_x Annual unit at the source shall hold the CSAPR NO_x Annual allowances required for deduction under 40 CFR 97.424(d); and
 - (B) The owners and operators of the source and each CSAPR NO_x Annual unit at the source shall pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act, and each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart AAAAA and the Clean Air Act.
- (2) CSAPR NO_x Annual assurance provisions.
 - (i) If total NO_x emissions during a control period in a given year from all CSAPR NO_x Annual units at CSAPR NO_x Annual sources in the state exceed the state assurance level, then the owners and operators of such sources and units in each group of one or more sources and units having a common designated representative for such control period, where the common designated representative's share of such NO_x emissions during such control period exceeds the common designated representative's assurance level for the state and such control period, shall hold (in the assurance account established for the owners and operators of such group) CSAPR NO_x Annual allowances available for deduction for such control period under 40 CFR 97.425(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with 40 CFR 97.425(b), of multiplying— (A) The quotient of the amount by which the common designated representative's share of such NO_x emissions exceeds the common designated representative's assurance level divided by the sum of the amounts, determined for all common designated representatives for such sources and units in the state for such control period, by which each common designated representative's share of such NO_x emissions exceeds the respective common designated representative's assurance level; and (B) The amount by which total NO_x emissions from all CSAPR NO_x Annual units at CSAPR NO_x Annual sources in the state for such control period exceed the state assurance level.
 - (ii) The owners and operators shall hold the CSAPR NO_x Annual allowances required under paragraph (c)(2)(i) above, as of midnight of November 1 (if it is a business day), or midnight of the first business day thereafter (if November 1 is not a business day), immediately after such control period.
 - (iii) Total NO_x emissions from all CSAPR NO_x Annual units at CSAPR NO_x Annual sources in the State during a control period in a given year exceed the state assurance level if such total NO_x emissions exceed the sum, for such control period, of the state NO_x Annual trading budget under 40 CFR 97.410(a) and the state's variability limit under 40 CFR 97.410(b).
 - (iv) It shall not be a violation of 40 CFR part 97, subpart AAAAA or of the Clean Air Act if total NO_x emissions from all CSAPR NO_x Annual units at CSAPR NO_x Annual sources in the State during a control period exceed the state assurance level or if a common designated representative's share of total NO_x emissions from the CSAPR NO_x Annual units at CSAPR NO_x Annual sources in the state during a control period exceeds the common designated representative's assurance level.
 - (v) To the extent the owners and operators fail to hold CSAPR NO_x Annual allowances for a control period in a given year in accordance with paragraphs (c)(2)(i) through (iii) above,
 - (A) The owners and operators shall pay any fine, penalty, or assessment or comply with any other remedy imposed under the Clean Air Act; and
 - (B) Each CSAPR NO_x Annual allowance that the owners and operators fail to hold for such control period in accordance with paragraphs (c)(2)(i) through (iii) above and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart AAAAA and the Clean Air Act.
- (3) Compliance periods.
 - (i) A CSAPR NO_x Annual unit shall be subject to the requirements under paragraph (c)(1) above for the control period starting on the later of January 1, 2015, or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.430(b) and for each control period thereafter.
 - (ii) A CSAPR NO_x Annual unit shall be subject to the requirements under paragraph (c)(2) above for the control period starting on the later of January 1, 2017 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.430(b) and for each control period thereafter.
- (4) Vintage of allowances held for compliance.
 - (i) A CSAPR NO_x Annual allowance held for compliance with the requirements under paragraph (c)(1)(i) above for a control period in a given year must be a CSAPR NO_x Annual allowance that was allocated for such control period or a control period in a prior year.
 - (ii) A CSAPR NO_x Annual allowance held for compliance with the requirements under paragraphs (c)(1)(ii)(A) and (2)(i) through (iii) above for a control period in a given year must be a CSAPR NO_x Annual allowance that was allocated for a control period in a prior year or the control period in the given year or in the immediately following year.
- (5) Allowance Management System requirements. Each CSAPR NO_x Annual allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with 40 CFR part 97, subpart AAAAA.
- (6) Limited authorization. A CSAPR NO_x Annual allowance is a limited authorization to emit one ton of NO_x during the control period in one year. Such authorization is limited in its use and duration as follows:
 - (i) Such authorization shall only be used in accordance with the CSAPR NO_x Annual Trading Program; and
 - (ii) Notwithstanding any other provision of 40 CFR part 97, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.
- (7) Property right. A CSAPR NO_x Annual allowance does not constitute a property right.

(d) Title V permit revision requirements.

- (1) No title V permit revision shall be required for any allocation, holding, deduction, or transfer of CSAPR NO_x Annual allowances in accordance with 40 CFR part 97, subpart AAAAA.
- (2) This permit incorporates the CSAPR emissions monitoring, recordkeeping and reporting requirements pursuant to 40 CFR 97.430 through 97.435, and the requirements for a continuous emission monitoring system (pursuant to 40 CFR part 75, subparts B and H), an excepted monitoring system (pursuant to 40 CFR part 75, appendices D and E), a low mass emissions excepted monitoring methodology (pursuant to 40 CFR 75.19), and an alternative monitoring system (pursuant to 40 CFR part 75, subpart E). Therefore, the Description of CSAPR Monitoring Provisions table for units identified in this permit may be added to, or changed, in this title V permit using minor permit modification procedures in accordance with 40 CFR 97.406(d)(2) and 70.7(e)(2)(i)(B) or 71.7(e)(1)(i)(B).

(e) Additional recordkeeping and reporting requirements.

- (1) Unless otherwise provided, the owners and operators of each CSAPR NO_x Annual source and each CSAPR NO_x Annual unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.
 - (i). The certificate of representation under 40 CFR 97.416 for the designated representative for the source and each CSAPR NO_x Annual unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a new certificate of representation under 40 CFR 97.416 changing the designated representative.
 - (ii). All emissions monitoring information, in accordance with 40 CFR part 97, subpart AAAAA.
 - (iii). Copies of all reports, compliance certifications, and other submissions and all records made or required under, or to demonstrate compliance with the requirements of, the CSAPR NO_x Annual Trading Program.
- (2) The designated representative of a CSAPR NO_x Annual source and each CSAPR NO_x Annual unit at the source shall make all submissions required under the CSAPR NO_x Annual Trading Program, except as provided in 40 CFR 97.418. This requirement does not change, create an exemption from, or otherwise affect the responsible official submission requirements under a title V operating permit program in 40 CFR parts 70 and 71.

(f) Liability.

- (1) Any provision of the CSAPR NO_x Annual Trading Program that applies to a CSAPR NO_x Annual source or the designated representative of a CSAPR NO_x Annual source shall also apply to the owners and operators of such source and of the CSAPR NO_x Annual units at the source.
- (2) Any provision of the CSAPR NO_x Annual Trading Program that applies to a CSAPR NO_x Annual unit or the designated representative of a CSAPR NO_x Annual unit shall also apply to the owners and operators of such unit.

- (g) Effect on other authorities.** No provision of the CSAPR NO_x Annual Trading Program or exemption under 40 CFR 97.405 shall be construed as exempting or excluding the owners and operators, and the designated representative, of a CSAPR NO_x Annual source or CSAPR NO_x Annual unit from compliance with any other provision of the applicable, approved state implementation plan, a federally enforceable permit, or the Clean Air Act.

CSAPR SO₂ Group 1 Trading Program requirements (40 CFR 97.606)

- (a) Designated representative requirements.** The owners and operators shall comply with the requirement to have a designated representative, and may have an alternate designated representative, in accordance with 40 CFR 97.613 through 97.618.

(b) Emissions monitoring, reporting, and recordkeeping requirements.

- (1) The owners and operators, and the designated representative, of each CSAPR SO₂ Group 1 source and each CSAPR SO₂ Group 1 unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR 97.630 (general requirements, including installation, certification, and data accounting, compliance deadlines, reporting data, prohibitions, and long-term cold storage), 97.631 (initial monitoring system certification and recertification procedures), 97.632 (monitoring system out-of-control periods), 97.633 (notifications concerning monitoring), 97.634 (recordkeeping and reporting, including monitoring plans, certification applications, quarterly reports, and compliance certification), and 97.635 (petitions for alternatives to monitoring, recordkeeping, or reporting requirements).
- (2) The emissions data determined in accordance with 40 CFR 97.630 through 97.635 shall be used to calculate allocations of CSAPR SO₂ Group 1 allowances under 40 CFR 97.611(a)(2) and (b) and 97.612 and to determine compliance with the CSAPR SO₂ Group 1 emissions limitation and assurance provisions under paragraph (c) below, provided that, for each monitoring location from which mass emissions are reported, the mass emissions amount used in calculating such allocations and determining such compliance shall be the mass emissions amount for the monitoring location determined in accordance with 40 CFR 97.630 through 97.635 and rounded to the nearest ton, with any fraction of a ton less than 0.50 being deemed to be zero.

(c) SO₂ emissions requirements.

- (1) CSAPR SO₂ Group 1 emissions limitation.
 - (i) As of the allowance transfer deadline for a control period in a given year, the owners and operators of each CSAPR SO₂ Group 1 source and each CSAPR SO₂ Group 1 unit at the source shall hold, in the source's compliance account, CSAPR SO₂ Group 1 allowances available for deduction for such control period under 40 CFR 97.624(a) in an amount not less than the tons of total SO₂ emissions for such control period from all CSAPR SO₂ Group 1 units at the source.

- (ii) If total SO₂ emissions during a control period in a given year from the CSAPR SO₂ Group 1 units at a CSAPR SO₂ Group 1 source are in excess of the CSAPR SO₂ Group 1 emissions limitation set forth in paragraph (c)(1)(i) above, then:
 - (A) The owners and operators of the source and each CSAPR SO₂ Group 1 unit at the source shall hold the CSAPR SO₂ Group 1 allowances required for deduction under 40 CFR 97.624(d); and
 - (B) The owners and operators of the source and each CSAPR SO₂ Group 1 unit at the source shall pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act, and each ton of such excess emissions and each day of such control period shall constitute a separate violation 40 CFR part 97, subpart CCCCC and the Clean Air Act.
- (2) CSAPR SO₂ Group 1 assurance provisions.
 - (i) If total SO₂ emissions during a control period in a given year from all CSAPR SO₂ Group 1 units at CSAPR SO₂ Group 1 sources in the state exceed the state assurance level, then the owners and operators of such sources and units in each group of one or more sources and units having a common designated representative for such control period, where the common designated representative's share of such SO₂ emissions during such control period exceeds the common designated representative's assurance level for the state and such control period, shall hold (in the assurance account established for the owners and operators of such group) CSAPR SO₂ Group 1 allowances available for deduction for such control period under 40 CFR 97.625(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with 40 CFR 97.625(b), of multiplying—
 - (A) The quotient of the amount by which the common designated representative's share of such SO₂ emissions exceeds the common designated representative's assurance level divided by the sum of the amounts, determined for all common designated representatives for such sources and units in the state for such control period, by which each common designated representative's share of such SO₂ emissions exceeds the respective common designated representative's assurance level; and
 - (B) The amount by which total SO₂ emissions from all CSAPR SO₂ Group 1 units at CSAPR SO₂ Group 1 sources in the state for such control period exceed the state assurance level.
 - (ii) The owners and operators shall hold the CSAPR SO₂ Group 1 allowances required under paragraph (c)(2)(i) above, as of midnight of November 1 (if it is a business day), or midnight of the first business day thereafter (if November 1 is not a business day), immediately after such control period.
 - (iii) Total SO₂ emissions from all CSAPR SO₂ Group 1 units at CSAPR SO₂ Group 1 sources in the state during a control period in a given year exceed the state assurance level if such total SO₂ emissions exceed the sum, for such control period, of the state SO₂ Group 1 trading budget under 40 CFR 97.610(a) and the state's variability limit under 40 CFR 97.610(b).
 - (iv) It shall not be a violation of 40 CFR part 97, subpart CCCCC or of the Clean Air Act if total SO₂ emissions from all CSAPR SO₂ Group 1 units at CSAPR SO₂ Group 1 sources in the state during a control period exceed the state assurance level or if a common designated representative's share of total SO₂ emissions from the CSAPR SO₂ Group 1 units at CSAPR SO₂ Group 1 sources in the state during a control period exceeds the common designated representative's assurance level.
 - (v) To the extent the owners and operators fail to hold CSAPR SO₂ Group 1 allowances for a control period in a given year in accordance with paragraphs (c)(2)(i) through (iii) above,
 - (A) The owners and operators shall pay any fine, penalty, or assessment or comply with any other remedy imposed under the Clean Air Act; and
 - (B) Each CSAPR SO₂ Group 1 allowance that the owners and operators fail to hold for such control period in accordance with paragraphs (c)(2)(i) through (iii) above and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart CCCCC and the Clean Air Act.
- (3) Compliance periods.
 - (i) A CSAPR SO₂ Group 1 unit shall be subject to the requirements under paragraph (c)(1) above for the control period starting on the later of January 1, 2015 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.630(b) and for each control period thereafter.
 - (ii) A CSAPR SO₂ Group 1 unit shall be subject to the requirements under paragraph (c)(2) above for the control period starting on the later of January 1, 2017 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.630(b) and for each control period thereafter.
- (4) Vintage of allowances held for compliance.
 - (i) A CSAPR SO₂ Group 1 allowance held for compliance with the requirements under paragraph (c)(1)(i) above for a control period in a given year must be a CSAPR SO₂ Group 1 allowance that was allocated for such control period or a control period in a prior year.
 - (ii) A CSAPR SO₂ Group 1 allowance held for compliance with the requirements under paragraphs (c)(1)(ii)(A) and (2)(i) through (iii) above for a control period in a given year must be a CSAPR SO₂ Group 1 allowance that was allocated for a control period in a prior year or the control period in the given year or in the immediately following year.
- (5) Allowance Management System requirements. Each CSAPR SO₂ Group 1 allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with 40 CFR part 97, subpart CCCCC.
- (6) Limited authorization. A CSAPR SO₂ Group 1 allowance is a limited authorization to emit one ton of SO₂ during the control period in one year. Such authorization is limited in its use and duration as follows:
 - (i) Such authorization shall only be used in accordance with the CSAPR SO₂ Group 1 Trading Program; and

- (ii) Notwithstanding any other provision of 40 CFR part 97, subpart CCCCC, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.

- (7) Property right. A CSAPR SO₂ Group 1 allowance does not constitute a property right.

(d) Title V permit revision requirements.

- (1) No title V permit revision shall be required for any allocation, holding, deduction, or transfer of CSAPR SO₂ Group 1 allowances in accordance with 40 CFR part 97, subpart CCCCC.
- (2) This permit incorporates the CSAPR emissions monitoring, recordkeeping and reporting requirements pursuant to 40 CFR 97.630 through 97.635, and the requirements for a continuous emission monitoring system (pursuant to 40 CFR part 75, subparts B and H), an excepted monitoring system (pursuant to 40 CFR part 75, appendices D and E), a low mass emissions excepted monitoring methodology (pursuant to 40 CFR part 75.19), and an alternative monitoring system (pursuant to 40 CFR part 75, subpart E). Therefore, the Description of CSAPR Monitoring Provisions table for units identified in this permit may be added to, or changed, in this title V permit using minor permit modification procedures in accordance with 40 CFR 97.606(d)(2) and 70.7(e)(2)(i)(B) or 71.7(e)(1)(i)(B).

(e) Additional recordkeeping and reporting requirements.

- (1) Unless otherwise provided, the owners and operators of each CSAPR SO₂ Group 1 source and each CSAPR SO₂ Group 1 unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.
 - (i) The certificate of representation under 40 CFR 97.616 for the designated representative for the source and each CSAPR SO₂ Group 1 unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a new certificate of representation under 40 CFR 97.616 changing the designated representative.
 - (ii) All emissions monitoring information, in accordance with 40 CFR part 97, subpart CCCCC.
 - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under, or to demonstrate compliance with the requirements of, the CSAPR SO₂ Group 1 Trading Program.
- (2) The designated representative of a CSAPR SO₂ Group 1 source and each CSAPR SO₂ Group 1 unit at the source shall make all submissions required under the CSAPR SO₂ Group 1 Trading Program, except as provided in 40 CFR 97.618. This requirement does not change, create an exemption from, or otherwise affect the responsible official submission requirements under a title V operating permit program in 40 CFR parts 70 and 71.

(f) Liability.

- (1) Any provision of the CSAPR SO₂ Group 1 Trading Program that applies to a CSAPR SO₂ Group 1 source or the designated representative of a CSAPR SO₂ Group 1 source shall also apply to the owners and operators of such source and of the CSAPR SO₂ Group 1 units at the source.
- (2) Any provision of the CSAPR SO₂ Group 1 Trading Program that applies to a CSAPR SO₂ Group 1 unit or the designated representative of a CSAPR SO₂ Group 1 unit shall also apply to the owners and operators of such unit.

- (g) **Effect on other authorities.** No provision of the CSAPR SO₂ Group 1 Trading Program or exemption under 40 CFR 97.605 shall be construed as exempting or excluding the owners and operators, and the designated representative, of a CSAPR SO₂ Group 1 source or CSAPR SO₂ Group 1 unit from compliance with any other provision of the applicable, approved state implementation plan, a federally enforceable permit, or the Clean Air Act.

CSAPR NO_x Ozone Season Group 2 Trading Program Requirements (40 CFR §97.806)

- (a) Designated representative requirements. The owners and operators shall comply with the requirement to have a designated representative, and may have an alternate designated representative, in accordance with §§97.813 through 97.818.
- (b) Emissions monitoring, reporting, and recordkeeping requirements.
 - (1) The owners and operators, and the designated representative, of each CSAPR NO_x Ozone Season Group 2 source and each CSAPR NO_x Ozone Season Group 2 unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of §§97.830 through 97.835.
 - (2) The emissions data determined in accordance with §§97.830 through 97.835 shall be used to calculate allocations of CSAPR NO_x Ozone Season Group 2 allowances under §§97.811(a)(2) and (b) and 97.812 and to determine compliance with the CSAPR NO_x Ozone Season Group 2 emissions limitation and assurance provisions under paragraph (c) of this section, provided that, for each monitoring location from which mass emissions are reported, the mass emissions amount used in calculating such allocations and determining such compliance shall be the mass emissions amount for the monitoring location determined in accordance with §§97.830 through 97.835 and rounded to the nearest ton, with any fraction of a ton less than 0.50 being deemed to be zero.
- (c) NO_x emissions requirements—
 - (1) CSAPR NO_x Ozone Season Group 2 emissions limitation.
 - (i) As of the allowance transfer deadline for a control period in a given year, the owners and operators of each CSAPR NO_x Ozone Season Group 2 source and each CSAPR NO_x Ozone Season Group 2 unit at the source shall hold, in the source's compliance account, CSAPR

NO_x Ozone Season Group 2 allowances available for deduction for such control period under §97.824(a) in an amount not less than the tons of total NO_x emissions for such control period from all CSAPR NO_x Ozone Season Group 2 units at the source.

- (ii) If total NO_x emissions during a control period in a given year from the CSAPR NO_x Ozone Season Group 2 units at a CSAPR NO_x Ozone Season Group 2 source are in excess of the CSAPR NO_x Ozone Season Group 2 emissions limitation set forth in paragraph (c)(1)(i) of this section, then:
 - (A) The owners and operators of the source and each CSAPR NO_x Ozone Season Group 2 unit at the source shall hold the CSAPR NO_x Ozone Season Group 2 allowances required for deduction under §97.824(d); and
 - (B) The owners and operators of the source and each CSAPR NO_x Ozone Season Group 2 unit at the source shall pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act, and each ton of such excess emissions and each day of such control period shall constitute a separate violation of this subpart and the Clean Air Act.
- (2) CSAPR NO_x Ozone Season Group 2 assurance provisions.
 - (i) If total NO_x emissions during a control period in a given year from all base CSAPR NO_x Ozone Season Group 2 units at base CSAPR NO_x Ozone Season Group 2 sources in a State (and Indian country within the borders of such State) exceed the State assurance level, then the owners and operators of such sources and units in each group of one or more sources and units having a common designated representative for such control period, where the common designated representative's share of such NO_x emissions during such control period exceeds the common designated representative's assurance level for the State and such control period, shall hold (in the assurance account established for the owners and operators of such group) CSAPR NO_x Ozone Season Group 2 allowances available for deduction for such control period under §97.825(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with §97.825(b), of multiplying—
 - (A) The quotient of the amount by which the common designated representative's share of such NO_x emissions exceeds the common designated representative's assurance level divided by the sum of the amounts, determined for all common designated representatives for such sources and units in the State (and Indian country within the borders of such State) for such control period, by which each common designated representative's share of such NO_x emissions exceeds the respective common designated representative's assurance level; and
 - (B) The amount by which total NO_x emissions from all base CSAPR NO_x Ozone Season Group 2 units at base CSAPR NO_x Ozone Season Group 2 sources in the State (and Indian country within the borders of such State) for such control period exceed the State assurance level.
 - (ii) The owners and operators shall hold the CSAPR NO_x Ozone Season Group 2 allowances required under paragraph (c)(2)(i) of this section, as of midnight of November 1 (if it is a business day), or midnight of the first business day thereafter (if November 1 is not a business day), immediately after the year of such control period.
 - (iii) Total NO_x emissions from all base CSAPR NO_x Ozone Season Group 2 units at base CSAPR NO_x Ozone Season Group 2 sources in a State (and Indian country within the borders of such State) during a control period in a given year exceed the State assurance level if such total NO_x emissions exceed the sum, for such control period, of the State NO_x Ozone Season Group 2 trading budget under §97.810(a) and the State's variability limit under §97.810(b).
 - (iv) It shall not be a violation of this subpart or of the Clean Air Act if total NO_x emissions from all base CSAPR NO_x Ozone Season Group 2 units at base CSAPR NO_x Ozone Season Group 2 sources in a State (and Indian country within the borders of such State) during a control period exceed the State assurance level or if a common designated representative's share of total NO_x emissions from the base CSAPR NO_x Ozone Season Group 2 units at base CSAPR NO_x Ozone Season Group 2 sources in a State (and Indian country within the borders of such State) during a control period exceeds the common designated representative's assurance level.
 - (v) To the extent the owners and operators fail to hold CSAPR NO_x Ozone Season Group 2 allowances for a control period in a given year in accordance with paragraphs (c)(2)(i) through (iii) of this section,
 - (A) The owners and operators shall pay any fine, penalty, or assessment or comply with any other remedy imposed under the Clean Air Act; and
 - (B) Each CSAPR NO_x Ozone Season Group 2 allowance that the owners and operators fail to hold for such control period in accordance with paragraphs (c)(2)(i) through (iii) of this section and each day of such control period shall constitute a separate violation of this subpart and the Clean Air Act.
- (3) Compliance periods.
 - (i) A CSAPR NO_x Ozone Season Group 2 unit shall be subject to the requirements under paragraph (c)(1) of this section for the control period starting on the later of May 1, 2017 or the deadline for meeting the unit's monitor certification requirements under § 97.830(b) and for each control period thereafter.
 - (ii) A base CSAPR NO_x Ozone Season Group 2 unit shall be subject to the requirements under paragraph (c)(2) of this section for the control period starting on the later of May 1, 2017 or the deadline for meeting the unit's monitor certification requirements under §97.830(b) and for each control period thereafter.
- (4) Vintage of CSAPR NO_x Ozone Season Group 2 allowances held for compliance.

- (i) A CSAPR NO_x Ozone Season Group 2 allowance held for compliance with the requirements under paragraph (c)(1)(i) of this section for a control period in a given year must be a CSAPR NO_x Ozone Season Group 2 allowance that was allocated or auctioned for such control period or a control period in a prior year.
 - (ii) A CSAPR NO_x Ozone Season Group 2 allowance held for compliance with the requirements under paragraphs (c)(1)(ii)(A) and (c)(2)(i) through (iii) of this section for a control period in a given year must be a CSAPR NO_x Ozone Season Group 2 allowance that was allocated or auctioned for a control period in a prior year or the control period in the given year or in the immediately following year.
- (5) Allowance Management System requirements. Each CSAPR NO_x Ozone Season Group 2 allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with this subpart.
- (6) Limited authorization. A CSAPR NO_x Ozone Season Group 2 allowance is a limited authorization to emit one ton of NO_x during the control period in one year. Such authorization is limited in its use and duration as follows:
 - (i) Such authorization shall only be used in accordance with the CSAPR NO_x Ozone Season Group 2 Trading Program; and
 - (ii) Notwithstanding any other provision of this subpart, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.
- (7) Property right. A CSAPR NO_x Ozone Season Group 2 allowance does not constitute a property right.
- (d) Title V permit requirements.
 - (1) No title V permit revision shall be required for any allocation, holding, deduction, or transfer of CSAPR NO_x Ozone Season Group 2 allowances in accordance with this subpart.
 - (2) A description of whether a unit is required to monitor and report NO_x emissions using a continuous emission monitoring system (under subpart H of part 75 of this chapter), an excepted monitoring system (under appendices D and E to part 75 of this chapter), a low mass emissions excepted monitoring methodology (under §75.19 of this chapter), or an alternative monitoring system (under subpart E of part 75 of this chapter) in accordance with §§97.830 through 97.835 may be added to, or changed in, a title V permit using minor permit modification procedures in accordance with §§70.7(e)(2) and 71.7(e)(1) of this chapter, provided that the requirements applicable to the described monitoring and reporting (as added or changed, respectively) are already incorporated in such permit. This paragraph explicitly provides that the addition of, or change to, a unit's description as described in the prior sentence is eligible for minor permit modification procedures in accordance with §§70.7(e)(2)(i)(B) and 71.7(e)(1)(i)(B) of this chapter.
- (e) Additional recordkeeping and reporting requirements.
 - (1) Unless otherwise provided, the owners and operators of each CSAPR NO_x Ozone Season Group 2 source and each CSAPR NO_x Ozone Season Group 2 unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.
 - (i) The certificate of representation under §97.816 for the designated representative for the source and each CSAPR NO_x Ozone Season Group 2 unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a new certificate of representation under §97.816 changing the designated representative.
 - (ii) All emissions monitoring information, in accordance with this subpart.
 - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under, or to demonstrate compliance with the requirements of, the CSAPR NO_x Ozone Season Group 2 Trading Program.
 - (2) The designated representative of a CSAPR NO_x Ozone Season Group 2 source and each CSAPR NO_x Ozone Season Group 2 unit at the source shall make all submissions required under the CSAPR NO_x Ozone Season Group 2 Trading Program, except as provided in §97.818. This requirement does not change, create an exemption from, or otherwise affect the responsible official submission requirements under a title V operating permit program in parts 70 and 71 of this chapter.
- (f) Liability.
 - (1) Any provision of the CSAPR NO_x Ozone Season Group 2 Trading Program that applies to a CSAPR NO_x Ozone Season Group 2 source or the designated representative of a CSAPR NO_x Ozone Season Group 2 source shall also apply to the owners and operators of such source and of the CSAPR NO_x Ozone Season Group 2 units at the source.
 - (2) Any provision of the CSAPR NO_x Ozone Season Group 2 Trading Program that applies to a CSAPR NO_x Ozone Season Group 2 unit or the designated representative of a CSAPR NO_x Ozone Season Group 2 unit shall also apply to the owners and operators of such unit.
- (g) Effect on other authorities. No provision of the CSAPR NO_x Ozone Season Group 2 Trading Program or exemption under §97.805 shall be construed as exempting or excluding the owners and operators, and the designated representative, of a CSAPR NO_x Ozone Season Group 2 source or CSAPR NO_x Ozone Season Group 2 unit from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the Clean Air Act.

ATTACHMENT 6

**LETTERS FROM U.S. EPA REGION 4 AND TVA CONCERNING
ALTERNATIVE TESTING AND MONITORING**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

JUL 08 1999 P 2:07

4APT-ARB

Mr. Jeryl W. Stewart
Compliance Validation Program
Tennessee Division of Air Pollution Control
9th Floor, L & C Annex
401 Church St.
Nashville, Tennessee 37243-1531

SUBJECT: Alternative Monitoring Proposals for Tennessee Valley Authority (TVA) for Electric Utility Gas Turbines at the TVA Gallatin and Johnsonville Facilities

Dear Mr. Stewart:

This letter is in response to your March 31, 1999, request for approval of alternative monitoring proposals for Tennessee Valley Authority's (TVA's) Gallatin and Johnsonville facilities. TVA will operate eight (four at each installation) natural gas-fired combustion turbines subject to 40 C.F.R. Part 60, Subpart GG - Standards of Performance for Stationary Gas Turbines. Region 4 has concluded that the use of acid rain nitrogen oxides (NO_x) continuous emission monitoring systems (CEMS) for demonstrating compliance is acceptable. Region 4 has also concluded that the use of sulfur content data supplied by the natural gas supplier is acceptable. Additionally, it is acceptable to sample the natural gas from a sampling station upstream of each turbine installation and for a single sample to suffice for the multiple turbines at each of the two installations. Finally, Region 4 has concluded the proposed reduction in sulfur monitoring to a semiannual basis is not acceptable at this time. Described in the last paragraph of this letter is a gradual reduction in monitoring frequency consistent with national guidance and previous Region 4 determinations.

Under the provisions for 40 C.F.R. 60.334(c)(1), the operating parameters used to identify NO_x excess emissions for Subpart GG turbines are water-to-fuel injection rates and fuel nitrogen content. As an alternative to monitoring NO_x excess emissions using these parameters, TVA is proposing to use a NO_x CEMS that is certified for measuring NO_x emissions under 40 C.F.R. Part 75. Based upon a determination issued by the Environmental Protection Agency (EPA) on March 12, 1993, NO_x CEMS can be used to monitor excess emissions from Subpart GG turbines if a number of conditions specified in the determination are met. This determination has been enclosed for your convenience.

According to 40 C.F.R. 60.334(b)(2), owners and operators of stationary gas turbines subject to Subpart GG are required to monitor fuel nitrogen and sulfur content on a daily basis if a company does not have intermediate bulk storage for its fuel. 40 C.F.R. 60.334(b)(2) also contains provisions allowing owners and operators of turbines that do not have intermediate bulk

storage for their fuel to request approval of custom fuel monitoring schedules that require less frequent monitoring of fuel nitrogen and sulfur content.

TVA has requested three separate deviations from the fuel sulfur content monitoring procedures set forth in 40 C.F.R. 60.334. First, TVA proposes to utilize the fuel sulfur content data provided by the natural gas supplier in lieu of directly sampling each shipment of fuel. This is acceptable to Region 4, provided the supplier agrees to comply with the test method requirements of 40 C.F.R. 60.335(d). Second, TVA proposes that a single sulfur content analysis suffice for each turbine installation, provided it is conducted upstream of each turbine installation and downstream of any new gas entry into the pipeline. This proposal is acceptable to Region 4, as it is consistent with previous determinations regarding the use of fuel sulfur content analyses from a single site for multiple turbines.

Finally, TVA requests that sulfur monitoring be conducted twice a year for natural gas. Under EPA guidance issued August 14, 1987, an alternative to daily sulfur monitoring is described as a three stage process under which owners and operators of natural gas fired turbines can obtain approval to conduct sampling on a semiannual basis. In the first step of this process the sulfur content of the fuel must be monitored twice a month for at least six months. If the results of this bimonthly monitoring verify compliance with the applicable sulfur limit and indicate little variability in the sulfur content of the fuel, the fuel sampling and analysis frequency can be reduced from a bimonthly to a quarterly basis. If six quarters of fuel monitoring data verify compliance with the applicable sulfur standard and indicate little variability in the sulfur content of the fuel, the sampling and analysis frequency can be reduced to a semiannual basis. Unless TVA provides historical data on fuel sulfur content in order to justify deviating from the approach described in the 1987 custom fuel monitoring policy, it will be necessary for the company to conduct the bimonthly and quarterly sampling required by this policy as prerequisite to approval of a semiannual sampling frequency.

If you have any questions about the determination provided in this letter, please contact Ms. Katy R. Forney of my staff at 404-562-9130.

Sincerely,



R. Douglas Neeley
Chief
Air and Radiation Technology Branch
Air, Pesticides and Toxics
Management Division

Enclosure



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

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RECEIVED

APR 13 2000
FACILITY

4APT-ARB

Mr. Jeryl W. Stewart
Compliance Validation Program
Department of Environment and Conservation
Division of Air Pollution Control
9th Floor, L&C Annex
401 Church Street
Nashville, Tennessee 37243-1531

SUBJ: Alternative Monitoring and Testing Proposals for Combustion Turbines Located at the
Tennessee Valley Authority Gallatin and Johnsonville Facilities

Dear Mr. Stewart:

Thank you for your March 13, 2000, letter requesting a determination regarding several alternative monitoring and testing proposals that the Tennessee Valley Authority (TVA) submitted for four new combustion turbines (CTs) that will be installed at the Gallatin Facility and for eight new CTs that will be installed at the Johnsonville Facility. These CTs will be subject to sulfur dioxide (SO₂) and nitrogen oxides (NO_x) emission limits under 40 C.F.R. Part 60, Subpart GG (Standards of Performance for Stationary Gas Turbines). In addition, they will be subject to NO_x emission limits under the terms of a Prevention of Significant Deterioration (PSD) permit issued by your agency and acid rain monitoring requirements for SO₂ and NO_x pursuant to 40 C.F.R. Part 75. The alternative monitoring and testing proposals from TVA are summarized along with our comments in the remainder of this letter.

SO₂ custom fuel monitoring

Since TVA will not have intermediate bulk storage for the natural gas burned in the CTs at the Gallatin and Johnsonville Facilities, 40 C.F.R. §60.334(b)(2) would require that the company collect gas samples on a daily basis and analyze them for sulfur content. Under the terms of a custom fuel monitoring policy issued by the U.S. Environmental Protection Agency (EPA) Headquarters on August 14, 1987, the sulfur monitoring frequency for pipeline quality natural gas can be reduced from a daily to a semiannual basis. In order to qualify for this reduction, companies must conduct sampling twice a month for six months followed by quarterly sampling for six quarters and demonstrate that the sulfur content of the samples is well below the applicable standard with low variability. TVA asked that it be allowed to use a semiannual sampling frequency immediately upon the startup of the CTs at the Gallatin and Johnsonville Facilities, and

in a July 8, 1999, letter to you we indicated that TVA would have to provide historical data on the sulfur content of the natural gas from its fuel supplier(s) in order to justify an immediate reduction the sulfur monitoring frequency for natural gas burned in the CTs at the Gallatin and Johnsonville Facilities.

Based upon data provided by TVA in a February 22, 2000, letter that was enclosed with your request, it will be acceptable for the company to use a semiannual sulfur monitoring frequency for natural gas immediately upon startup at the Gallatin and Johnsonville Facilities. The data for Gallatin were for 35 samples collected between January 1998 and January 1999, and the data for Johnsonville were for 22 samples collected between January 1995 and September 1999. In all cases, the sulfur content of the samples analyzed was either at or below the method detection limit of 0.0001 weight percent. This concentration is three order of magnitude below the applicable standard of 0.8 weight percent in 40 C.F.R. §60.333(b), and the results confirm low variability in the sulfur concentration of the gas supplied to TVA. On this basis, semiannual monitoring for sulfur content in the gas used to fire the CTs at the Gallatin and Johnsonville Facilities will be adequate.

Use of NO_x monitor data for initial performance test

TVA made two different proposals involving NO_x emission testing that must be conducted in order to demonstrate compliance with both Subpart GG and PSD limits. One proposal is to drop the requirement to sample at four different load points across the CTs' operating ranges, and the other one is to demonstrate compliance using data from certified continuous emission monitoring systems (CEMS) that will be installed on the units. Based upon the fact that NO_x CEMS will be installed and certified on the CTs at Gallatin and Johnsonville, conducting the initial performance test at four different operating rates will not be necessary, and using the CEMS to conduct the initial performance test would be acceptable under certain conditions.

TVA cited the fact that NO_x emissions at the Gallatin and Johnsonville Facilities will not be controlled using water injection as the basis for dropping the requirement to test at four operation loads, but this fact does not by itself constitute a basis for allowing the company to conduct the initial performance test at fewer than four loads. The basis for this position is that, in addition to providing data to develop a water-to-fuel injection ratio curve for excess emission monitoring purposes, conducting a four-load test also provides assurance that a turbine is capable of complying with the applicable NO_x limit across the unit's entire operating range. This assurance is important because EPA generally requires that performance testing be conducted under "worst case" conditions, and Region 4 experience has been that predicting the operating load that represents worst case conditions for stationary gas turbines is difficult. In TVA's case, however, the CEMS installed and certified on its CTs will provide credible evidence of compliance even after the initial performance test has been completed. Therefore, conducting the initial performance test at multiple loads will not be necessary.

Using the certified NO_x CEMS to conduct the initial performance test would be acceptable

provided that TVA completes certification testing which verifies that its CEMS sampling probes are located in representative locations and conducts pre- and post-test calibration checks of the CEMS in accordance with the provisions in EPA Method 20. If the CEMS are calibrated properly before and after each test run, using the CEMS to conduct the NO_x performance test would constitute a Method 20 alternative only to the extent that sampling would be conducted at a single point, rather than at eight points selected based upon the results of a pre-test traverse. In order to be certified under the acid rain rule, the CEMS must pass a relative accuracy test audit (RATA), and passing the RATA provides justification for single point sampling by demonstrating that the CEMS probe is located at points where the pollutant and diluent gas concentrations are representative of the average concentrations in the stack.

One issue that was not addressed in the TVA proposal was the number and duration of test runs that would be conducted with the CEMS. In order to ensure that representative results are obtained, we recommend that compliance be determined on the basis of at least three hours of CEMS data for each of the CTs at the Gallatin and Johnsonville Facilities. These data could be collected over three one-periods or they could be collected using shorter test periods similar to the 21-minute test runs conducted during a RATA. Regardless of the number of test runs conducted, however, a calibration check conducted in accordance with Section 6.2.3 of Method 20 must be performed on the CEMS following each run.

Fuel oil nitrogen content monitoring

TVA asked that the requirement in 40 C.F.R. §60.334(b) to monitor the nitrogen content of the fuel oil burned in its CTs be waived. Under Subpart GG, the two operating parameters used to track NO_x excess are water-to-fuel injection rates and fuel nitrogen content. Baseline values for both parameters are established during an initial performance test, and 40 C.F.R. §60.334(c)(1) defines how excess emissions are identified in terms of these parameters. TVA will be installing, certifying, operating, and maintaining NO_x CEMS on its CTs in order to comply with requirements under 40 C.F.R. Part 75 and will also be using these CEMS to track excess emissions under Subpart GG. Since TVA will be monitoring NO_x excess emissions directly using its CEMS, monitoring the nitrogen content of the oil burned in the CTs is unnecessary, and the waiver requested by the company is acceptable.

Correcting NO_x data to International Standard Organization (ISO) conditions

The enclosed March 12, 1993, EPA determination summarizes requirements for CEMS that are used for NO_x excess emission monitoring under Subpart GG, and one of these requirements is that the CEMS be capable of calculating emissions corrected to 15 percent oxygen and ISO standard day conditions (288 Kelvin, 60 percent relative humidity, and 101.3 kilopascals pressure). In several recent determinations, Region 4 has indicated that making the ISO correction on a continuous basis is not necessary for turbines that are subject to PSD NO_x limits that are substantially more stringent than those under Subpart GG. In these determinations, Region 4 has indicated, however, that records of the ambient temperature and humidity data used

to correct the results to ISO conditions must be maintained so that results can be calculated in terms of the standard in Subpart GG whenever requested by the EPA or a state or local air pollution control agency.

In addition to requesting that a correction to ISO day conditions not be required for its CTs, TVA requested that the requirement to maintain records of the ambient data used to make the ISO correction also be waived. The justification provided for this proposal was that the PSD NO_x limits for its CTs (15 parts per million for gas and 42 parts per million for oil) are so far below the standard in Subpart GG (75 parts per million) that NSPS compliance will be assured even if the ISO correction is not made. Although we have determined that it will not be necessary for TVA's CEMS to correct results to ISO conditions on a continuous basis, there is not enough information at this time to justify waiving the requirement to keep records of the ambient data used to make the ISO correction.

One basis for our conclusion that there is not enough information to justify waiving the requirement to keep records of the data used to make the ISO correction is that, even though TVA's PSD limits are tighter than the corresponding NSPS limit, this assures compliance with Subpart GG only to the extent that the company remains in compliance with the PSD limits. If the company does ever violate either of its PSD limits, there would be a point at which it would be necessary to correct results to ISO conditions in order to verify NSPS compliance. A second basis for our conclusion that there is not enough information to justify waiving the requirement to keep records of the data used to make the ISO correction is that the averaging time for the PSD limit (30 days) is substantially longer than the averaging time of the NSPS limit (one hour). Because of this difference in averaging times, meeting the long-term PSD limit does not necessarily assure compliance with the short-term ISO-corrected NSPS limit. Therefore, a waiver of the requirement to maintain records of the data used to make the ISO correction cannot be granted at this time. We would, however, be willing to reconsider this issue at a later date if TVA collects at least one year of operating data verifying that emissions from its CTs are always well below the applicable ISO-corrected NSPS limits based upon a one-hour average.


Fuel oil sulfur monitoring

According to 40 C.F.R. §60.334(b)(1) the sulfur content of fuel held in a bulk storage tank must be determined each time fuel is transferred to the tank from any other source. At the Gallatin and Johnsonville Facilities, the amount of sampling that would have to be conducted in order to comply with this requirement would be limited since oil is transferred into the storage tanks at both facilities from barges. At another facility where TVA plans to install CTs, oil will be delivered in tanker trucks, and using the procedures in 40 C.F.R. §60.334(b)(1) to monitor the sulfur content of the oil at this facility would be burdensome because TVA would have to collect and analyze a sample after each tanker truck delivery. Therefore, TVA has proposed to use vendor analyses, rather than onsite sampling to monitor the sulfur content of the oil burned at the facility.

Provided that all of the oil delivered to the facility in question meets the sulfur content limit of 0.8 weight percent promulgated at 40 C.F.R. §60.333(b), TVA's proposal for monitoring the sulfur content of the oil used to fire the CTs at this facility will be acceptable. The basis for this determination is that if all of the oil delivered to the facility has a sulfur content of less than 0.8 weight percent, the oil contained in the storage tank and used to fire the CTs will meet the applicable standard by default. If the sulfur content of any oil delivered to the facility exceeds the applicable standard, it would be necessary to collect and analyze samples from the storage tank to ensure that the average sulfur content of the oil burned is less than 0.8 weight percent. This issue is not expected to be a concern at the facility in question, however, because the American Society for Testing and Materials limit on the sulfur content of distillate oil (0.5 weight percent) is well below the standard in Subpart GG.

If you have any questions about the issues addressed in this letter, please contact Mr. David McNeal of the EPA Region 4 staff at (404) 562-9102.

Sincerely,



R. Douglas Neeley
Chief
Air and Radiation Technology Branch
Air, Pesticides and Toxics
Management Division

Enclosure

- (1) March 12, 1993, EPA policy on the use of CEMS for excess emission monitoring under Subpart GG



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402-2801

Handwritten: JAT
RECEIVED
20 JUL -6 11 10 25
AIR POLLUTION CONTROL

June 27, 2000

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

Dear Mr. Stephens:

TENNESSEE VALLEY AUTHORITY (TVA) - GALLATIN, JOHNSONVILLE AND
LAGOON CREEK COMBUSTION TURBINES - CONSTRUCTION PERMIT
NOs 950852F, 950853F AND 952409F - TESTING AND MONITORING
REQUIREMENTS

This letter confirms TVA's understanding of the exceptions and alternatives from 40CFR, Part 60, Subpart GG which we have been granted and contains an additional request. All previous requests and the additional request are addressed in EPA's general guidance on "Approval of Routine Alternative Testing and Monitoring Procedures for Combustion Turbines Regulated Under New Source Performance Standards" contained in a letter from Doug Neeley of Region IV to you on May 26, 2000. It is our understanding that the alternatives shown below are acceptable:

1. Fuel monitoring for nitrogen content will not be required for either gas or oil since the units will have NO_x continuous emissions monitors (CEMs).
2. Based on the historical data we previously submitted, we will use a semiannual monitoring frequency for natural gas sulfur content immediately upon startup of the units. Since the gas suppliers already monitor according to EPA's custom fuel monitoring schedule, their analyses may be used to demonstrate compliance with the semiannual monitoring requirement. Their monitoring takes place upstream of the units and is downstream of any point at which additional gas enters the pipeline.
3. NO_x CEMs will be used in lieu of the operating parameter monitoring specified in Subpart GG.

Mr. Barry Stephens

Page 2

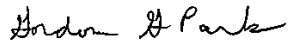
June 27, 2000

4. CEMs data will not be corrected to ISO conditions. EPA requires that records be maintained of the data necessary for an ISO correction (ambient temperature, ambient humidity and atmospheric pressure).
5. NO_x performance testing at different loads will not be performed since the units are monitored by CEMs.
6. Vendor analysis will be used to verify the sulfur content of the No. 2 fuel oil at Lagoon Creek since this facility will be served by tanker trucks. This is in lieu of site sampling of individual trucks.

In addition to the alternatives previously addressed as shown above, TVA also requests:

1. That initial NO_x performance testing be approved using the data collected during the relative accuracy test audits required under 40 CFR Part 75 in lieu of EPA Method 20.
2. Clarification of the recordkeeping requirements for data necessary for ISO corrections (see item 4 above). Will the records of this data maintained by the nearest first order weather station operated by the National Weather Service satisfy this requirement? For Gallatin and Johnsonville, this would be Nashville. For Lagoon Creek, it would be Memphis.

We appreciate your previous and current assistance on these issues. If you have any questions or comments, please call Steven Strunk at (423) 751-2808.


for Janet K. Watts
Manager of Environmental Affairs
5D Lookout Place

ATTACHMENT 7

Title V Fee Selection Form

APC 36 (CN-1583)



DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF AIR POLLUTION CONTROL
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor, Nashville, TN 37243
Telephone: (615) 532-0554, Email: Air.Pollution.Control@TN.gov

APC 36

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) <input type="checkbox"/>		Fiscal Year Basis (July 1 – June 30) <input type="checkbox"/>	
7. Payment Basis (choose one):			
Actual Emissions Basis <input type="checkbox"/> Allowable Emissions Basis <input type="checkbox"/> Combination of Actual and Allowable Emissions Basis <input type="checkbox"/>			
8. If Payment Basis is "Actual Emissions" or "Combination of Actual and Allowable Emissions", complete the following table for each permitted source and each pollutant for which fees are due for that source. See instructions for further details.			
Source ID	Pollutant	Allowable or Actual Emissions	If allowable emissions: Specify condition number and limit. If actual emissions: Describe calculation method and provide example. Provide condition number that specifies method, if applicable.

8. (Continued)					
Source ID	Pollutant	Allowable or Actual Emissions	If allowable emissions: Specify condition number and limit. If actual emissions: Describe calculation method and provide example. Provide condition number that specifies method, if applicable.		
CONTACT INFORMATION (BILLING)					
9. Billing contact				Phone number with area code	
Mailing address (St./Rd./Hwy.)				Fax number with area code	
City		State	Zip code	Email address	
SIGNATURE BY RESPONSIBLE OFFICIAL					
Based upon information and belief formed after reasonable inquiry, I, as the responsible person of the above mentioned facility, certify that the information contained in the submittal is accurate and true to the best of my knowledge. As specified in TCA Section 39-16-702(a)(4), this declaration is made under penalty of perjury.					
10. Signature					Date
Signer's name (type or print)			Title	Phone number with area code	