

**PIMA COUNTY DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR PROGRAM**

33 North Stone Avenue, Suite 730 • Tucson, AZ 85701 • Phone: (520) 740-3340

AIR QUALITY OPERATING PERMIT

(As required by Title 17.12, Article II, Pima County Code)

ISSUED TO

**TUCSON ELECTRIC POWER COMPANY
NORTH LOOP GENERATING STATION
10600 N. CASA GRANDE HIGHWAY
MARANA, AZ 85653**

This air quality operating permit does not relieve applicant of responsibility for meeting all air pollution regulations

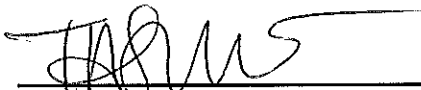
THIS PERMIT ISSUED SUBJECT TO THE FOLLOWING: Conditions contained in Parts A & B and, Attachments 1, 2 & 3

PDEQ PERMIT NUMBER 1053

PERMIT CLASS I

ISSUED: DECEMBER 5, 2008

EXPIRES: DECEMBER 4, 2013


SIGNATURE

Teresa Sobolewski Air Program Manager, PDEQ
TITLE

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**Tucson Electric Power Company
North Loop Generating Station
Air Quality Permit # 1053**

SUMMARY

This operating permit is the third 5-year air quality permit issued to Tucson Electric Power Company – North Loop, (TEP-NLP) the Permittee. This facility is a *major source of NO_x, CO and SO₂, a minor source of HAPs, and a true minor source of all other criteria pollutants*. The facility is a stationary source as defined by Title 17 of the Pima County Code, Title 18 of the Arizona Revised Statutes, and the Clean Air Act. The source operates three 25 MWe simple cycle gas turbine generators and one simple cycle gas turbine generator less than 25 MWe. The units are primarily used as "peaking" units and are only fired when electrical demand requires their use. Three of the units were installed prior to 1976 and are not subject to any New Source Performance Standards. One unit, installed in 2001 is subject to 40 CFR 60, Subpart GG. The three older units primarily fire natural gas during normal operations but are capable of firing fuel oil. These units have a diesel fuel fired starter engine rated at 635 horsepower. The newer turbine exclusively fires natural gas. The source also has a 3,034,858 gallon fuel oil storage tank on site.

All terms and conditions of this permit are federally enforceable by the Administrator of the United States Environmental Protection Agency (U.S.EPA) under the Clean Air Act, except as otherwise noted.

The following emission rates are for reference purposes only and are not intended to be enforced by direct measurement unless otherwise noted in Part B of this permit. These figures were a result of information contained in the renewal application submitted September 7, 2005; January 23, 2001 and February 1, 1995.

Pollutant	Facility-Wide Allowable Emissions (Tons per Year)
Nitrogen Oxides (NO _x)	4762
Carbon Monoxide (CO)	576
Volatile Organic Compounds (VOC)	64
Particulate Matter (as PM ₁₀)	83
Sulfur Oxides (SO _x)	4718
Lead	Negligible
Hazardous Air Pollutants (HAPs)	6

**Tucson Electric Power Company
North Loop Generating Station
Air Quality Permit # 1053**

PART A: GENERAL PROVISIONS

(References to A.R.S. are references to the Arizona Revised Statutes, references to A.A.C. are references to the Arizona Administrative Code, and references to PCC are references to Title 17 of the Pima County Code)

I. PERMIT EXPIRATION AND RENEWAL

[PCC 17.12.180.A.1 & PCC 17.12.160.D.2]

- A. This permit is valid for a period of five years from the date of issuance of the permit.
- B. The Permittee shall submit an application for renewal of this permit at least 6 months, but not greater than 18 months prior to the date of permit expiration.

II. COMPLIANCE WITH PERMIT CONDITIONS

[PCC 17.12.180.A.8.a & b]

- A. The Permittee shall comply with all conditions of this permit including all applicable requirements of Arizona air quality statutes and the air quality rules. Any permit noncompliance constitutes a violation of the Arizona Revised Statutes and is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. In addition, noncompliance with any federally enforceable requirement constitutes a violation of the Clean Air Act.
- B. Need to halt or reduce activity not a defense. 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 this permit.

III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE

[PCC 17.12.180.A.8.c & PCC 17.12.270]

- A. The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation and reissuance, or termination; or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
- B. The permit shall be reopened and revised under any of the following circumstances:
 - 1. Additional applicable requirements under the Act become applicable to a major source. Such reopening shall only occur if there are three or more years remaining in the permit term. The 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 date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to PCC 17.12.280. Any permit reopening required pursuant to this paragraph shall comply with provisions in PCC 17.12.280 for permit renewal and shall reset the five-year permit term.
 - 2. Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the Class I permit.
 - 3. The Control Officer or the Administrator 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 Control Officer or the Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.

- C. Proceedings to reopen and issue a permit, including appeal of any final action relating to a permit reopening, shall follow the same procedures as apply to initial permit issuance. Such reopenings shall be made as expeditiously as practicable. Permit reopenings for reasons other than those stated in paragraph III.B.1 of Part A shall not result in the resetting of the five-year permit term.

IV. POSTING OF PERMIT

[PCC 17.12.080]

The Permittee who has been granted an individual permit by PDEQ or a general permit by ADEQ shall maintain a complete copy of the permit onsite. If it is not feasible to maintain a copy of the permit onsite, the permittee may request, in writing, to maintain a copy of the permit at an alternate location. Upon written approval by the Control Officer, the permittee must maintain a complete copy of the permit at the approved alternative location.

V. FEE PAYMENT

[PCC 17.12.180.A.9 & PCC 17.12.510]

The Permittee shall pay fees to the Control Officer pursuant to PCC 17.12.510.

VI. ANNUAL EMISSIONS INVENTORY QUESTIONNAIRE

[PCC 17.12.320]

- A. When requested by the Control Officer, the Permittee shall complete and submit an annual emissions inventory questionnaire. The questionnaire is due by March 31 or ninety days after the Control Officer makes the request and provides the inventory form each year, whichever occurs later, and shall include emission information for the previous calendar year.
- B. The questionnaire shall be on a form provided by or approved by the Control Officer and shall include the information required by PCC 17.12.320.

VII. COMPLIANCE CERTIFICATIONS

[PCC 17.12.180.A.5 & PCC 17.12.220.A.2]

The Permittee shall submit to the Control Officer a compliance certification that describes the compliance status of the source with respect to each permit condition. Certifications shall be submitted as specified in Part "B" of this permit.

- A. The compliance certification shall include the following:
 1. Identification of each term or condition contained in the permit including emission limitations, standards, or work practices that are the basis of the certification;
 2. Identification of method(s) or other means used by the owner or operator for determining the compliance status of the source with each term and condition during the certification period. Such methods and other means shall include, at a minimum, the methods and means required under the monitoring, related recordkeeping and reporting sections of this permit;

3. 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 identify each deviation and take it into account in the compliance certification; and
 4. A progress report on all outstanding compliance schedules submitted pursuant to PCC 17.12.220.
- B. A copy of all compliance certifications for Class I permits shall also be submitted to the EPA Administrator. The address for the EPA administrator is:

EPA Region 9 Enforcement Office, 75 Hawthorne St (Air-5), San Francisco, CA 94105

VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS [PCC 17.12.220.A.3]

Any document required to be submitted by this permit, including reports, shall contain a certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required by this permit shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

IX. INSPECTION AND ENTRY [PCC 17.12.220.A.4]

The Permittee shall allow the Control Officer or the authorized representative of the Control Officer upon presentation of proper credentials to:

- A. Enter upon the Permittee's premises where a source is located or emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;
- B. Have access to and copy, at reasonable times, any records that are required to 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;
- D. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and
- E. Record any inspection by use of written, electronic, magnetic and photographic media.

X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD [PCC 17.12.160.C.4]

If this source becomes subject to a standard promulgated by the Administrator pursuant to section 112(d) of the Act, then the Permittee shall, within twelve months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard.

XI EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCY REPORTING [PCC 17.12.040]

A. Excess Emissions Reporting [PCC 17.12.040]

1. Excess emissions shall be reported as follows:
 - a. The permittee shall report to the Control Officer any emissions in excess of the limits established by this permit. The report shall be in 2 parts as specified below:
 - i. Notification by telephone or facsimile within 24 hours of the time the Permittee first learned of the occurrence of excess emissions that includes all available information from 17.12.040.B. The number to call to report excess emissions is **520-740-3340**. The facsimile number to report excess emissions is **520-243-7340**.
 - ii. Detailed written notification by submission of an excess emissions report within 72 hours of the notification under subsection 2 above. **Send to PDEQ Air Program 33 N. Stone Avenue Suite 730, Tucson, Arizona 85701.**
 - b. The excess emission report shall contain the following information:
 - i. The identity of each stack or other emission point where the excess emission occurred;
 - ii. The magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;
 - iii. The time and duration or expected duration of the excess emissions;
 - iv. The identity of the equipment from which the excess emissions emanated;
 - v. The nature and cause of the emissions;
 - vi. The steps taken, if the excess emissions were the result of a malfunction, to remedy the malfunction and the steps taken or planned to prevent the recurrence of the malfunctions; and
 - vii. The steps that were or are being taken to limit the excess emissions; if the source's permit contains procedures governing source operation during periods of startup or malfunction and the excess emissions resulted from startup or malfunction, a list of the steps taken to comply with the permit procedures.
2. In the case of continuous or recurring excess emissions, the notification requirements of this Section shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in the notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period or changes in the nature of the emissions as originally reported shall require additional notification pursuant to subsections A.1 above.

B. Permit Deviations Reporting

[PCC 17.12.180.A.5.b]

The Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Notice in accordance with 17.12.180.E.3.d shall be considered prompt for purposes of this paragraph.

C. Emergency Provision

[PCC 17.12.180.E]

1. An "Emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, that requires immediate corrective action to restore normal operation and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emission attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.
2. An emergency constitutes an affirmative defense to an action brought for noncompliance with the technology-based emission limitations if the conditions of PCC 17.12.180.E.3 are met.
3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An emergency occurred and that the permittee can identify the cause or causes of the emergency;
 - b. At the time of the emergency, the permitted facility was being properly operated;
 - c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
 - d. The Permittee submitted notice of the emergency to the Control Officer by certified mail, hand delivery, or facsimile transmission within two working days of the time when emission limitations were exceeded due to the emergency. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.
4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

D. Compliance Schedule

[ARS § 49-426.I.5]

For any excess emission or permit deviation that cannot be corrected within 72 hours, the permittee is required to submit a compliance schedule to the Director within 21 days of such occurrence. The compliance schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with the permit terms or conditions that have been violated.

E. Affirmative Defenses for Excess Emissions Due to Malfunctions, Startup, and Shutdown.

[PCC 17.12.035]

1. Applicability

This rule establishes affirmative defenses for certain emissions in excess of an emission standard or limitation and applies to all emission standards or limitations except for standards or limitations:

- a. Promulgated pursuant to Sections 111 or 112 of the Clean Air Act,
- b. Promulgated pursuant to Titles IV or VI of the Clean Air Act,
- c. Contained in any Prevention of Significant Deterioration (PSD) or New Source Review (NSR) permit issued by the U.S. E.P.A., or
- d. Included in a permit to meet the requirements of PCC 17.16.590.A.5.

2. Affirmative Defense for Malfunctions

Emissions in excess of an applicable emission limitation due to malfunction shall constitute a violation. The owner or operator of a source with emissions in excess of an applicable emission limitation due to malfunction has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the owner or operator of the source has complied with the reporting requirements of XIII.B of this Part and has demonstrated all of the following:

- a. The excess emissions resulted from a sudden and unavoidable breakdown of process equipment or air pollution control equipment beyond the reasonable control of the operator;
- b. The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;
- c. If repairs were required, the repairs were made in an expeditious fashion when the applicable emission limitations were being exceeded. Off-shift labor and overtime were utilized where practicable to ensure that the repairs were made as expeditiously as possible. If off-shift labor and overtime were not utilized, the owner or operator satisfactorily demonstrated that the measures were impracticable;
- d. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;
- e. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;
- f. The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;
- g. During the period of excess emissions there were no exceedances of the relevant

ambient air quality standards established in PCC Chapter 17.08 that could be attributed to the emitting source;

- h. The excess emissions did not stem from any activity or event that could have been foreseen and avoided, or planned, and could not have been avoided by better operations and maintenance practices;
- i. All emissions monitoring systems were kept in operation if at all practicable; and
- j. The owner or operator's actions in response to the excess emissions were documented by contemporaneous records.

3. Affirmative Defense for Startup and Shutdown

a. Except as provided in XI.E.3.b of this Part, and unless otherwise provided for in the applicable requirement, emissions in excess of an applicable emission limitation due to startup and shutdown shall constitute a violation. The owner or operator of a source with emissions in excess of an applicable emission limitation due to startup and shutdown has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the owner or operator of the source has complied with the reporting requirements of XIII.B of this Part and has demonstrated all of the following:

- i. The excess emissions could not have been prevented through careful and prudent planning and design;
- ii. If the excess emissions were the result of a bypass of control equipment, the bypass was unavoidable to prevent loss of life, personal injury, or severe damage to air pollution control equipment, production equipment, or other property;
- iii. The source's air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;
- iv. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;
- v. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;
- vi. During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in PCC Chapter 17.08 that could be attributed to the emitting source;
- vii. All emissions monitoring systems were kept in operation if at all practicable; and
- viii. The Permittee's actions in response to the excess emissions were documented by contemporaneous records.

b. If excess emissions occur due to a malfunction during routine startup and

shutdown, then those instances shall be treated as other malfunctions subject to XI.B of Part A.

4. Affirmative Defense for Malfunctions During Scheduled Maintenance

If excess emissions occur due to a malfunction during scheduled maintenance, then those instances will be treated as other malfunctions subject to XI.B of Part A.

5. Demonstration of Reasonable and Practicable Measures

For an affirmative defense under XI.E.2 or 3 of Part A, the owner or operator of the source shall demonstrate, through submission of the data and information required by XI.E.1 – 5 and XIII.B of Part A, that all reasonable and practicable measures within the owner or operator's control were implemented to prevent the occurrence of the excess emissions.

XII. RECORDKEEPING REQUIREMENTS

[PCC 17.12.180.A.4]

- A. Permittee shall keep records of all required monitoring information including, where applicable, 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 name of the company or entity that performed the analyses;
 - 4. A description of 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. 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.
- C. All required records shall be maintained either in an unchangeable electronic format or in a handwritten logbook utilizing indelible ink.

XIII. REPORTING REQUIREMENTS

[PCC 17.12.180.A.5.a]

The Permittee shall comply with all of the reporting requirements of this permit. These include all of the following:

- A. Compliance certifications pursuant to VII of this Part.
- B. Excess emission; permit deviation, and emergency reports in accordance with XI of this Part.
- C. Performance test results in accordance with XVII.F of this Part.

- D. Reporting requirements listed in Part B of this permit.

XIV. DUTY TO PROVIDE INFORMATION

[PCC 17.12.160.G & PCC 17.12.180.A.8.e]

- A. The Permittee shall furnish to the Control Officer, within a reasonable time, any information that the Control Officer may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the Permittee shall also furnish to the Control Officer copies of records required to be kept by the permit. For information claimed to be confidential, the Permittee, for Class I sources, shall furnish an additional copy of such records directly to the Administrator along with a claim of confidentiality.
- B. If the Permittee has failed to submit any relevant facts or if the Permittee has submitted incorrect information in the permit application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.

XV. PERMIT AMENDMENT OR REVISION

[PCC 17.12.245, PCC 17.12.255 & PCC 17.12.260]

Permittee shall apply for a permit amendment or revision for changes to the facility which do not qualify for a facility change without revision under XVI of this Part, as follows:

- A. Administrative Permit Amendment (PCC 17.12.245);
- B. Minor Permit Revision (PCC 17.12.255);
- C. Significant Permit Revision (PCC 17.12.260).

The applicability and requirements for such action are defined in the above referenced regulations.

XVI. FACILITY CHANGES ALLOWED WITHOUT PERMIT REVISIONS

[PCC 17.12.230]

- A. A facility with a Class I permit may make changes without a permit revision if all of the following apply:
 - 1. The changes are not modifications under any provision of Title I of the Clean Air Act (Air Pollution Prevention and Control) or under A.R.S. 49-401.01(17);
 - 2. The changes do not exceed the emissions allowable under the permit whether expressed therein as a rate of emissions or in terms of total emissions;
 - 3. The changes do not violate any applicable requirements or trigger any additional applicable requirements;
 - 4. The changes satisfy all requirements for a minor permit revision under PCC 17.12.255; and
 - 5. The changes do not contravene federally enforceable permit terms and conditions that are monitoring (including test methods), record keeping, reporting, or compliance certification requirements.

- B. The substitution of an item of process or pollution control equipment for an identical or substantially similar item of process or pollution control equipment shall qualify as a change that does not require a permit revision, if the substitution meets all of the requirements of XVI.A, D and E of this Part.
- C. Except for sources with authority to operate under general permits, permitted sources may trade increases and decreases in emissions within the permitted facility, as established in the permit under PCC 17.12.180.A.12 if an applicable implementation plan provides for the emissions trades, without applying for a permit revision and based on the seven working days notice prescribed in XVI.D of this Part. This provision is available if the permit does not provide for the emissions trading as a minor permit revision.
- D. For each change under XVI.A through C of this Part, a written notice, by certified mail or hand delivery, shall be received by the Control Officer and the Administrator a minimum of seven (7) working days in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided less than 7 working days in advance of the change but must be provided as far in advance of the change, or if advance notification is not practicable as soon after the change as possible.
- E. Each notification shall include:
1. When the proposed change will occur;
 2. A description of the change;
 3. Any change in emissions of regulated air pollutants;
 4. The pollutants emitted subject to the emissions trade, if any;
 5. The provisions in the implementation plan that provide for the emissions trade with which the source will comply and any other information as may be required by the provisions in the implementation plan authorizing the trade;
 6. If the emissions trading provisions of the implementation plan are invoked, then the permit requirements with which the source will comply; and
 7. Any permit term or condition that is no longer applicable as a result of the change.
- F. The permit shield described in PCC 17.12.310 shall not apply to any change made under XVI.A through C of this Part. Compliance with the permit requirements that the source will meet using the emissions trade shall be determined according to requirements of the implementation plan authorizing the emissions trade.
- G. Except as otherwise provided for in the permit, making a change from one alternative operating scenario to another as proved under PCC 17.12.180.A.11 shall not require any prior notice under XVI Part A.
- H. Notwithstanding any other part of this Section, the Control Officer may require a permit to be revised for any change that when considered together with any other changes submitted by the same source under this section over the term of the permit, do not satisfy XVI.A of this Part.

XVII. TESTING REQUIREMENTS

[PCC 17.12.050]

A. Operational Conditions During Testing

Tests shall be conducted while the unit is operating at full load under representative operational conditions unless other conditions are required by the applicable test method or in this permit. With prior written approval from the Control Officer, testing may be performed at a lower rate. Operations during start-up, shutdown, and malfunction (as defined in PCC 17.04.340.A.) shall not constitute representative operational conditions unless otherwise specified in the applicable requirement.

B. Tests shall be conducted and data reduced in accordance with the test methods and procedures contained in the Arizona Testing Manual unless modified by the Control Officer pursuant to PCC 17.12.050.B.

C. Test Plan

At least 14 calendar days prior to performing a test, the Permittee shall submit a test plan to the Control Officer, in accordance with PCC 17.12.050.B. and the Arizona Testing Manual.

D. Stack Sampling Facilities

Permittee shall provide or cause to be provided, performance testing facilities as follows:

1. Sampling ports adequate for test methods applicable to the facility;
2. Safe sampling platforms;
3. Safe access to sampling platforms; and
4. Utilities for sampling and testing equipment.

E. Interpretation of Final Results

Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs is required to be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control, compliance may, upon the Control Officer's approval, be determined using the arithmetic mean of the results of the other two runs. If the Control Officer or the Control Officer's designee is present, tests may only be stopped with the Control Officer's or such designee's approval. If the Control Officer or the Control Officer's designee is not present, tests may only be stopped for good cause. Good cause includes: forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control. Termination of any test without good cause after the first run is commenced shall constitute a failure of the test. Supporting documentation, which demonstrates good cause, must be submitted.

F. Report of Final Test Results

A written report of the results of all performance tests shall be submitted to the Control Officer within 30 days after the test is performed. The report shall be submitted in accordance with the Arizona Testing Manual.

XVIII. PROPERTY RIGHTS

[PCC 17.12.180.A.8.d]

This permit does not convey any property rights of any sort, or any exclusive privilege.

XIX. SEVERABILITY CLAUSE

[PCC 17.12.180.A.7]

The provisions of this permit are severable. If any provision of this permit is held invalid, the remainder of this permit shall not be affected thereby.

XX. PERMIT SHIELD

[PCC 17.12.310]

Compliance with the conditions of this permit shall be deemed compliance with the applicable requirements identified in Part "C" of this permit. The permit shield shall not apply to any change made pursuant to Section XV.B of this Part and Section XVI of this Part.

XXI. ACCIDENT PREVENTION REQUIREMENTS UNDER THE CLEAN AIR ACT (CAA Section 112(r))

Should this stationary source, as defined in 40 CFR Part 68.3, become subject to the accidental release prevention regulations in Part 68, then the Permittee shall submit a risk management plan (RMP) by the date specified in Section 68.10 and shall certify compliance with the requirements of Part 68 as part of the semiannual compliance certification as required by 40 CFR Part 70 and Part B of this permit.

XXII. ASBESTOS REQUIREMENTS (Demolition/ Renovation)

Should this stationary source, pursuant to 40 CFR 61, Subpart M become subject to the National Emission Standards for Hazardous Air Pollutants - Asbestos for asbestos regulations when conducting any renovation or demolition at this premises, then the Permittee shall submit proper notification as described in 40 CFR Subpart M and shall comply with all other applicable requirements of subpart M. The Permittee shall keep a record of all relevant paperwork on file. [40 CFR 61]

XXIII. STRATOSPHERIC OZONE DEPLETING SUBSTANCES

The Permittee shall not use, sell, or offer for sale any fluid as a substitute material for use in any motor vehicle, residential, commercial, or industrial air conditioning system, refrigerator or freezer unit, or other cooling or heating device designed to use a chlorofluorocarbon (CFC) or hydrochlorofluorocarbon (HCFC) compound as a working fluid, unless such fluid has been approved for sale and such use by the Administrator. The Permittee shall keep a record of all paperwork relevant to the applicable requirements of 40 CFR 82, Subpart F onsite. [40 CFR 82 & PCC 17.16.710]

**Tucson Electric Power Company
North Loop Generating Station
Air Quality Permit # 1053**

PART B: SPECIFIC CONDITIONS

I. APPLICABILITY

The source covered by this permit constitutes a major source of NO_x, SO_x and CO and a true minor source of all other criteria pollutants and HAPs based on 8760 hours per year of operation and considering emissions from other emission units of the same SIC Code at this facility. Equipment specifically addressed by the permit is listed in Attachment D and falls under the following Categories:

- A. NSPS Stationary Gas Turbine (NLGT4 Subject to 40 CFR 60 Subpart GG);
- B. Non-NSPS Stationary Turbine-Generator sets and ancillary equipment (Subject to Local Standards only);

II. EMISSION LIMITS AND STANDARDS

[PCC 17.12.180.A.2]

- A. NSPS Stationary Gas Turbine (NLGT4)

- 1. Nitrogen Oxides Standard

The Permittee shall not cause to be discharged into the atmosphere any gases which contain nitrogen oxides in excess of: [40 CFR 60.332(a)(1)]

$$STD = 0.0075 \frac{(14.4)}{Y} + F$$

where:

STD = allowable ISO corrected (if required as given in 40 CFR 60.335(b)(1)) NO_x emission concentration (percent by volume at 15 percent oxygen and on a dry basis).

Y = manufacturer's rated heat rate at manufacturer's rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour.

F = NO_x emission allowance for fuel bound nitrogen (NO_x percent by volume) value =0.

- 2. Nitrogen Oxides Emission Limit

The Permittee shall not allow the emissions of nitrogen oxides to equal or exceed 40 tons per year. [PCC 17.12.190.B]

[Material Permit Condition]

- 3. Fuel & Sulfur Content Limitation

The Permittee shall only burn pipeline natural gas that contains total sulfur not in excess of 0.8 percent by weight (8000 ppmw). [40 CFR 60.333(b)] [PCC 17.12.190.B]

[Material Permit Condition]

4. Operation and Maintenance Standard

a. At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the unit including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator or Control Officer which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [40 CFR 60.11(d) & PCC 17.16.020.A]

b. CEMS Operation and Maintenance and Fuel Flow Rate Monitoring System

The Permittee shall operate a CEMS to monitor and record nitrogen oxides, oxygen and carbon monoxide emissions and, a continuous monitoring system (CMS) to monitor and record the fuel consumption and the ratio of water to fuel being fired in the turbine. The CMS shall be accurate to within ± 5.0 percent and shall be operated & calibrated according to the recommendations of the system manufacturer or as approved by the Administrator or the Control Officer. [40 CFR 60.334(a), PCC 17.12.190 & 17.16.020.A]

[Material Permit Condition]

B. Non-NSPS Stationary Turbine-Generator sets (NLGT1, NLGT2 & NLGT3)

1. Fuel Limitation

The Permittee shall combust only pipeline quality natural gas, fuel oil or a combination of both as the fuel in the stationary turbine engines. [PCC 17.12.190.B]

[Material Permit Condition]

2. Sulfur Content Limitation

a. The Permittee shall only burn fuel that contains sulfur less than 0.90 percent by weight in the stationary turbine engines. [PCC 17.16.340.H]

[Material Permit Condition]

b. When low sulfur oil is fired, the Permittee shall burn fuel which limits the emission of sulfur dioxide to 1.0 pound per million Btu heat input. [PCC 17.16.340.F]

3. Particulate Matter Standard

The Permittee shall not cause, allow or permit the emission of particulate matter, caused by combustion of fuel, from any stationary gas turbine engine having a heat input rate of 4200 million Btu per hour or less in excess of the amounts calculated by the following equation:

[PCC 17.16.340.C.1]

[Locally Enforceable Condition]

$$E = 1.02 Q^{0.769}$$

where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.

Q = the heat input in million Btu per hour.

4. Opacity Standard

The Permittee shall not cause, allow or permit to be emitted into the atmosphere from any stationary gas turbine engine, smoke for any period of time greater than ten consecutive seconds, which exceeds 40 percent opacity. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes. [SIP Rule 321.A & PCC 17.16.340.E]

5. Fuel Oil Monitoring Standard

The Permittee shall at all times when each turbine is operating, implement and maintain in good working order, a recording system as described in IV.B.1 that records each turbines' hours of operation. The Permittee shall, to the extent practicable, maintain and operate the recording system including any associated equipment in a manner consistent with good engineering practice. [PCC 17.12.180.A.2]

[Material Permit Condition]

C. Facility-Wide Operations

1. Opacity Standard

The Permittee shall not cause or permit the effluent from a single emission point, multiple emission point, or fugitive emissions source to have an average optical density equal to or greater than 20%, subject to the following provisions: [SIP Rule 321 & PCC 17.16.040]

[This condition is only federally enforceable when opacity is above 40%]

- a. Opacities (optical densities), as measured in accordance with Method 9, of an effluent shall be measured by a certified visible emissions evaluator with his natural eyes, approximately following the procedures which were used during his certification, or by an approved and precisely calibrated in-stack monitoring instrument.
- b. A violation of an opacity standard shall be determined by measuring and recording a set of consecutive, instantaneous opacities, and calculating the arithmetic average of the measurements within the set unless otherwise noted herein. The measurements shall be made at approximately fifteen-second intervals for a period of at least six minutes, and the number of required measurements shall be as specified in Table 17.16.040. Sets need not be consecutive in time, and in no case shall two sets overlap. If the average opacity of the set of instantaneous measurements exceeds the maximum allowed by any rule, this shall constitute a violation.
- c. The use of air or other gaseous diluents solely for the purpose of achieving compliance with an opacity standard is prohibited.
- d. When the presence of uncombined water is the only reason for failure of a source to otherwise meet the requirements of this article, this article shall not apply.

2. Visibility Limiting Standard

The Permittee shall not cause, suffer, allow, or permit diffusion of visible emissions, including fugitive dust, beyond the property boundary line within which the emissions become airborne, without taking reasonably necessary and feasible precautions to control generation of airborne particulate matter. Sources may be required to cease temporarily the activity or operation which is causing or contributing to the emissions until reasonably necessary and feasible precautions are taken. [SIP Rule 343.A & PCC 17.16.050.D]

a. This subsection shall not apply when wind speeds exceed twenty-five (25) miles per hour (using the Beaufort Scale of Wind-Speed Equivalents, or as recorded by the National Weather Service). This exception does not apply if control measures have not been taken or were not commensurate with the size or scope of the emission source.
[SIP Rule 343.B & PCC 17.16.050.D.2]

b. This subsection shall not apply to the generation of airborne particulate matter from undisturbed land.
[PCC 17.16.050.D.3]

[Locally Enforceable Condition]

c. Any disregard of, neglect of, or inattention to other controls required herein, during any time when SIP Rule 343.A is in effect, shall automatically waive the exception, and such relaxation of controls shall be a violation.

3. Unpaved Service Roads and Parking Areas

The Permittee shall not cause, suffer, allow, or permit a driveway, or a parking area, or a vacant lot, or a suburban open area to be constructed, used, altered, repaired, demolished, cleared, or leveled, or the earth to be moved or excavated, without taking reasonable precautions to limit excessive amounts of particulate matter from becoming airborne. Dust and other types of air contaminants shall be kept to a minimum by good modern practices such as using an approved dust suppressant or adhesive soil stabilizer, paving, covering, landscaping, continuous wetting, detouring, barring access, or other acceptable means.
[SIP Rule 318.A & PCC 17.16.080.A]

4. Demolition/Renovation

The Permittee shall comply with all of the requirements of 40 CFR 61, Subpart M (National Emissions Standards for Hazardous Air Pollutants - Asbestos).
[PCC 17.16.530]

5. Non-vehicle Air Conditioner Maintenance and/or Services

The Permittee shall comply with all of the requirements of 40 CFR 82, Subpart F (Protection of Stratospheric Ozone - Recycling and Emissions Reduction).
[40 CFR 82, Subpart F]

III. MONITORING REQUIREMENTS

[PCC 17.12.180.A.3]

A. NSPS Stationary Gas Turbine (NLGT4)

1. Nitrogen Oxides Standard & Emission Limit

None. See Recordkeeping

2. Fuel & Sulfur Content Limitation

The Permittee shall monitor daily, the sulfur content of the fuel being combusted in the unit.
(See Recordkeeping for compliance methods)

3. CEMS Operation and Maintenance

a. The Permittee shall calibrate, maintain, and operate the continuous emissions monitoring system (CEMS) and data acquisition and handling system (DAHS) for measuring and recording emissions of nitrogen oxides and oxygen or carbon monoxide while the gas turbine is firing.
[40 CFR 60.334(b)]

[Material Permit Condition]

- b. The CEMS for NO_x and O₂ or CO shall meet the following requirements:
[40 CFR 60.334(b)(1), (b)(2) & (b)(3)(i) & (ii)]
- i. The CEMS and DAHS monitoring and recording devices shall be installed and operational prior to conducting any performance test(s). Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device.
[40 CFR 60.13(b)]
[Material Permit Condition]
- ii. The Permittee must check the zero (or low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily in accordance with a written procedure. The zero and span must, as a minimum, be adjusted whenever either the 24-hour zero drift or the 24-hour span drift exceeds two times the limit of the applicable performance specification in 40 CFR, Part 60, appendix B. The system must allow the amount of the excess zero and span drift to be recorded and quantified whenever specified.
[40 CFR 60.13(d)]
[Material Permit Condition]
- iii. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under III.A.3.b.iv, the CEMS shall be in continuous operation and shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.
[40 CFR 60.13(e) & (e)(2)]
[Material Permit Condition]
- iv. The CEMS devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained.
[40 CFR 60.13(f)]
- v. The Permittee shall reduce all data to 1-hour averages. 1-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. Data recorded during periods of continuous system breakdown, repair, calibration checks, and zero and span adjustments shall not be included in the data averages. The data may be recorded in reduced or nonreduced form (e.g., ppm pollutant and percent O₂ or ng/J of pollutant). All excess emissions shall be converted into units of the standard. After conversion into units of the standard, the data may be rounded to the same number of significant digits as used to specify the emission limit.
[40 CFR 60.13(h)]
- vi. The CEMS installation and measurement location specification shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2 (8.1).
- vii. Pretest preparation shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2 (8.2).
- viii. Calibration drift test procedure shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2 (8.3).
- ix. Relative accuracy test procedure shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2 (8.4).
- x. Reporting requirements shall be in accordance with the methods and procedures in

40 CFR Part 60, Appendix B, Specification 2 (8.5).

- x. Analytical procedures shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2 (11.0).
- xi. Calculation and data analysis shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2 (12.0).
- xii. Method performance shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2 (13.0).
- xiii. Alternative procedures shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2 (16.0).
- xiv. References are located in 40 CFR Part 60, Appendix B, Specification 2 (17.0).
- xv. Tables, diagrams, flowcharts, and validation data necessary for NO_x CEMS testing are located in 40 CFR Part 60, Appendix B, Specification 2 (18.0).
- xvi. Specifications and test procedures for O₂ and CO₂ CEMS shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 3.
- xvii. Quality control requirements shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix F(3).
- xviii. Calibration drift assessment shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix F(4).
- xix. Data accuracy assessment shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix F(5).
- xx. Calculations for CEMS data accuracy shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix F(6).
- xxi. Reporting requirements shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix F(7).

B. Non-NSPS Stationary Turbine-Generator sets (NLGT1, NLGT2 & NLGT3)

1. Fuel Oil Monitoring

[PCC 17.12.180.A.3]

The Permittee shall monitor when fuel oil is fired and the number of continuous hours fuel oil is fired in the unit(s).

(See Recordkeeping for compliance methods)

2. Sulfur Content Limitation

The Permittee shall monitor the sulfur content of the fuel fired in the turbine(s).

(See Recordkeeping for compliance methods)

3. Particulate Matter Standard [PCC 17.12.180.A.3]

None Required. See explanation under Particulate Matter Testing in the technical support document.

4. Opacity Standard [PCC 17.12.180.A.3]

The Permittee shall perform a visible emissions evaluation (test) of each turbine exhaust stack at least once during each period when each turbine fires fuel oil for at least 168 continuous hours. EPA Test Method 9 shall be used to conduct the tests.

- C. Facility-Wide Operations [PCC 17.12.180.A.3]

1. Opacity & Visibility Limiting Standard

The Permittee shall perform a visual survey of the facility once a quarter to ensure that methods employed to reduce fugitive dust are effective. During the visible survey, if on an instantaneous basis, the opacity seems to exceed 20%, the Permittee shall if practicable perform a visible emissions evaluation (test). If necessary more effective dust suppressant activities shall be taken to reduce/eliminate the source of the fugitive dust.

2. Unpaved Service Roads and Parking Areas

Follow procedures in III.C.1 of Part B.

3. Demolition/Renovation

See Recordkeeping for compliance method.

4. Non-vehicle Air Conditioner Maintenance and/or Services

See Recordkeeping for compliance method.

IV. RECORDKEEPING REQUIREMENTS

[PCC 17.12.180.A.4]

- A. NSPS Stationary Gas Turbine (NLGT4) [40 CFR 60.334(b)(3)(iii), (i)(2)]

1. Nitrogen Oxides Standard & Emission Limit

a. The Permittee shall use the NO_x-diluent CEMS data to calculate the amount of NO_x being emitted during periods when the turbine is firing. Amounts of NO_x emissions shall be summarized daily by the DAHS with the previous 12-month rolling total computed by the fifth working day of each month. If the 12-month rolling NO_x total equals or exceeds 32 tons, then the Permittee shall calculate 12-month rolling NO_x totals weekly until such time as the value drops below 32 tons. At that time the monthly calculation schedule shall be resumed. The Permittee shall use the following procedures to convert the CEMS measurements of NO_x concentration (ppm), diluent concentration (percentage), and heat input (mmBtu/hr) into NO_x emissions rates (lb/mmBtu), and NO_x mass emissions:

i.
$$E = KC_hF \frac{20.9}{20.9 - \%O_2}$$
 [40 CFR Part 75, Equation F-5 (used as a reference)]

where,

E = NOx emission rate for the unit, lb/mmBtu
 K = 1.194×10^{-7} , (lb/dscf)/ppm NOx
 C_h = hourly average NOx concentration, ppm
 F = a factor representing a ratio of the volume of dry flue gases generated to the caloric value of the fuel combusted. For natural gas, F = 8710 dscf/mmbtu.
 %O₂ = Oxygen volume, %

ii.
$$HI = \frac{Q_g \times GCV_g}{1,000,000}$$
 [40 CFR Part 75, Equation F-20 (used as a reference)]

where,

HI = hourly heat input rate from gaseous fuel, mmBtu/hr
 Q_g = metered flow rate of gaseous fuel combusted, hundred cubic feet
 GCV_g = gross calorific value of gaseous fuel, Btu/100 scf

iii.
$$M_{(NO_x)_h} = E_{(NO_x)_h} HI_h t_h$$
 [40 CFR Part 75, Equation F-24 (used as a reference)]

where,

M_{(NO_x)h} = NOx mass emissions, lbs/hr
 E_{(NO_x)h} = hourly average NOx emission rate, lb/mmBtu
 HI_h = hourly average heat input rate, mmBtu/hr
 t_h = monitoring location operating time, hours or fractions of an hour

iv.
$$M_{(NO_x)_m} = \sum_{h=1}^p M_{(NO_x)_h} / 2000 \text{ lbs}$$
 [40 CFR Part 75, Equation F-27 (used as a reference)]

where,

M_{(NO_x)m} = NOx mass emissions, tons per month
 M_{(NO_x)h} = NOx mass emission in lbs for the hour
 p = the number of hours in the time period (month)

v. 12-month NOx rolling total (tons/12 months) = sum of the monthly NOx mass emissions for the most recent 12 months.

b. The Permittee shall use the following procedure to account for NOx emissions and heat input during periods that the NOx-diluent CEMS or fuel flow meter is unavailable to record the NOx emission rate: [PCC 17.12.180.A.3]

i. The DAHS shall sum the duration (in hours) for periods that the NOx-diluent CEMS or fuel flow rate is unavailable.

ii. Determine the monitor availability using one of the following formulae:

(A) Prior to completion of 8,760 unit operating hours following initial certification, the Permittee shall, for the purpose of applying standard missing data procedures, use the following equation to calculate, hourly, percent monitor data availability: [40 CFR 75.32, Equation 8 (used as a reference)]

$$\text{Percent Monitor Data Availability} = \frac{\text{Total unit operating hours for which quality-assured data were recorded since certification}}{\text{Total unit operating hours since certification}} \times 100$$

- (B) Upon completion of 8,760 unit operating hours following initial certification (or, for a unit with less than 8,760 unit operating hours, three years (26,280 clock hours) after initial certification, upon completion of three years (26,280 clock hours) following initial certification) and thereafter, the Permittee shall, for the purpose of applying standard missing data procedures, use the following equation to calculate, hourly, percent monitor data availability:

[40 CFR 75.32, Equation 9 (used as a reference)]

$$\text{Percent Monitor Data Availability} = \frac{\text{Total unit operating hours for which quality-assured data were recorded during previous 8,760 unit operating hours}}{8,760} \times 100$$

- iii. During the first 2,160 quality-assured monitor hours of the flow monitor, NO_x-diluent monitoring system, or NO_x concentration monitoring system used to determine NO_x mass emissions, the Permittee shall provide substitute data as follows:

[40 CFR 75.33(a) (used as a reference)]

- (A) For periods when the NO_x-diluent CEMS or fuel flow meter is unavailable during turbine operation and monitoring system data (O₂, and/or metered flow rate of gaseous fuel and/or NO_x) availability is equal to or greater than 95 percent, the Permittee shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:

[40 CFR 75.33(c)(1) (used as a reference)]

- (B) For a missing data period less than or equal to 24 hours, substitute, as applicable, for each missing hour, the arithmetic average of the NO_x emission rates or NO_x concentrations or fuel flow rate as recorded by a monitoring system during the previous 2,160 quality assured monitor operating hours at the corresponding unit load range.

[40 CFR 75.33(c)(1)(i) (used as a reference)]

- (C) For a missing data period greater than 24 hours, substitute, as applicable, for each missing hour, the greater of:

[40 CFR 75.33(c)(1)(ii) (used as a reference)]

- (1) The 90th percentile NO_x emission rate or the 90th percentile NO_x concentration or the 90th percentile fuel flow rate recorded by a monitoring system during the previous 2,160 quality-assured monitor operating hours at the corresponding unit load range.
- (2) The average of the recorded hourly NO_x emission rates or NO_x concentrations or fuel flow rate recorded by a monitoring system for the hour before and the hour after the missing data period.

- (D) Whenever the monitor or CEMS data availability is at least 90.0 percent but

less than 95.0 percent, the Permittee shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:

[40 CFR 75.33(c)(2) (used as a reference)]

- (1) For a missing data period of less than or equal to 8 hours, substitute, as applicable for each missing hour, the arithmetic average of the NOx emission rate or NOx concentration or fuel flow rate recorded by a monitoring system during the previous 2,160 quality-assured monitor operating hours at the corresponding unit load range.
- (2) For a missing data period greater than 8 hours, substitute, as applicable, for each missing hour, the greater of:
 - (a) The 95th percentile NOx emission rate or the 95th percentile NOx concentration or the 95th percentile fuel flow rate recorded by a monitoring system during the previous 2,160 quality-assured monitor operating hours at the corresponding unit load range.
 - (b) The average of the recorded hourly NOx emission rates or NOx concentrations or fuel flow rates recorded by a monitoring system for the hour before and the hour after the missing data period.
- (E) Whenever the monitor data availability is at least 80.0 percent but less than 90.0 percent, the Permittee shall, by means of the automated data acquisition and handling system, substitute, as applicable, for each hour of each missing data period, the maximum hourly NOx emission rates or the maximum hourly NOx concentration or the maximum hourly fuel flow rate recorded during the previous 2,160 quality-assured monitor operating hours at the corresponding unit load range.
- (F) Whenever the monitor data availability is less than 80.0 percent, the Permittee shall, by means of the automated data acquisition and handling system, substitute, as applicable, for each hour of each missing data period, the maximum hourly NOx emission rates or the maximum hourly NOx concentrations or the maximum hourly fuel flow rates as determined in II.A.1 of Part B.
- (G) Whenever no prior quality-assured NOx concentration data or NOx emission rate data or gas flow rate data exist for the corresponding load range, the Permittee shall substitute, as applicable, for each hour of missing data, the maximum hourly NOx emission rate or the maximum hourly NOx concentrations or the maximum hourly fuel flow rates at the next higher level load range for which quality-assured data are available.

[40 CFR 75.33(c)(5) (used as a reference)]
- (H) Whenever no prior quality-assured NOx concentration data or NOx emission rate or fuel flow rate data exist for either the corresponding load range or a higher load range, the Permittee shall substitute, as applicable, the maximum hourly NOx emission rates or the maximum hourly NOx concentrations or the maximum hourly fuel flow rates as determined in II.A.1 of Part B.

2. Fuel & Sulfur Content Limitation

The Permittee may verify compliance with this requirement by maintaining and updating at least once per calendar year a vendor-provided copy of that part of the Federal Energy Regulatory Commission (FERC)-approved Tariff agreement that limits transmission to pipeline quality natural gas of sulfur content less than 0.8 percent by weight and that the maximum total sulfur content is 20 grains/ 100 scf or less.

[40 CFR 60.334(h)(3)(i)]

3. Operation and Maintenance (Includes CEMS & fuel flow monitor)

a. The Permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the unit; any malfunction of the air pollution control equipment; or any periods during which a continuous emission monitoring system or continuous monitoring device is inoperative.

[40 CFR 60.7(b)]

b. The Permittee shall maintain a file of all measurements, including continuous emission monitoring system, continuous monitoring system (for fuel flow), and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this permit (regarding unit NLGT4 and associated equipment) recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports, and records.

[40 CFR 60.7(f) & PCC 17.12.180.A.4.b]

B. Non-NSPS Stationary Turbine-Generator sets (NLGT1, NLGT2 & NLGT3)

[PCC 17.12.180.A.4]

1. Fuel Oil Monitoring

a. The Permittee shall record when fuel oil is fired in each turbine and shall immediately record for each turbine the date the fuel being fired is changed, the name and title of the individual making the record. Until such time that a DAHS is in service to record fuel oil burn hours, the Permittee shall manually record in a log (hardcopy or electronic) the number of continuous hours each turbine operates while firing fuel oil.

b. At such a time that a DAHS is in service to record fuel oil burn hours, the Permittee shall then use the DAHS to determine the number of continuous hours each turbine operates while firing fuel oil. The DAHS shall be used to record for each turbine each time the fuel being fired is changed. The Permittee shall keep a record of the date that manual recording was changed to the DAHS.

2. Sulfur Content Limitation

The Permittee shall record the sulfur content of the fuel being fired in the turbine. When firing natural gas fuel, the Permittee may comply with this requirement by maintaining a vendor provided copy of the Federal Energy Regulatory Commission (FERC) approved tariff agreement that limits the sulfur content of transmitted pipeline quality natural gas to less than 0.9% sulfur by weight. When firing fuel oil, the Permittee shall obtain from the fuel vendor and keep on record a copy of the fuel specification sheet. This fuel specification sheet shall include the sulfur content and the method used to determine the sulfur content of the fuel oil.

3. Particulate Matter Standard

None Required

4. Opacity Standard

To show compliance with III.B.4, the Permittee shall ensure that the test results are recorded and shall include at least the following information:

- a. The opacity of stack exhaust emissions;
- b. The name of the person conducting the test, and;
- c. The date the test was conducted. The tests shall be conducted by an individual who is Method 9 certified.

C. Facility-Wide Operations

[PCC 17.12.180.A.4]

1. Opacity & Visibility Limiting Standard

The Permittee shall record the results of III.C.1 of Part B. At a minimum the record shall indicate the date and results of the visual survey, the dates and types of dust suppressant activities that were undertaken if any, the name and title of the individual making the entry.

2. Unpaved Service Roads and Parking Areas

The Permittee shall record the results of III.C.2 of Part B. At a minimum the record shall indicate the date and results of the visual survey, the dates and types of dust suppressant activities that were undertaken if any, the name and title of the individual making the entry.

3. Demolition/Renovation

As a means of demonstrating compliance with condition II.C.4 of Part B, the Permittee shall keep a record of all relevant paperwork on file. The relevant paperwork shall include but not be limited to the "NESHAP Notification for Renovation and Demolition Activities" form(s), and all supporting documents.

4. Non-vehicle Air Conditioner Maintenance and/or Services

As a means of demonstrating compliance with condition II.C.5 of Part B, the Permittee shall keep a record of all paperwork relevant to the applicable requirements of 40 CFR 82, Subpart F on file.

V. REPORTING REQUIREMENTS

[PCC 17.12.180.A.5]

A. NSPS Stationary Gas Turbine (NLGT4)

1. The Permittee shall furnish the Administrator and the Control Officer written notification or, if acceptable to the Administrator, the Control Officer, and the Permittee, electronic notification, of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted

under an applicable subpart or in 40 CFR 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator or Control Officer may request additional relevant information subsequent to this notice. [40 CFR 60.7(a)(4)]

2. If notification substantially similar to that in V.A.1 of Part B is required by any other State or local agency, sending the Administrator a copy of that notification will satisfy the requirements of V.A.1 of Part B. [40 CFR 60.7(g)]

3. Excess Emissions, Permit Deviations and Monitoring System Performance Reports [PCC 17.12.180.A.5.b, 17.12.040 & 17.12.180.E.3.d]

a. The Permittee shall report to the Control Officer any emissions in excess of the limits (as defined in PCC 17.04.340.A.78) established by this permit within 24 hours of the time the Permittee first learned of the excess emissions occurrence. The Permittee shall report other deviations from permit requirements in this permit within two working days of the time the Permittee first learned of the occurrence of the deviation.

(See Part A, Section XI for detailed information on these two reports)

b. If the Permittee exceeds the NO_x emission limitation in II.A.2 of Part B, the Permittee shall immediately apply for a permit revision pursuant to the provisions in PCC 17.16.550 and 17.16.590 (i.e., major modifications and Best Available Control Technology (BACT) requirements).

c. The Permittee shall submit excess emissions and monitoring systems performance report and/or summary report form (see V.B.2.e of Part B below) to the Administrator and Control Officer semiannually, except when more frequent reporting is specifically required by an applicable subpart; the Administrator, or the Control Officer, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each six-month period. Written reports of excess emissions shall include the following information, if applicable: (applicable to Unit NLGT4 only).

[40 CFR 60.334(j)(1), 40 CFR 60.7(c) & 40 CFR 60.334(j)(5)]

i. The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

ii. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

iii. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

iv. When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

- v. The summary report form shall contain the information and be in the format shown in 40 CFR 60.7, Figure 1, unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored. [40 CFR 60.7(d)]
 - (A) If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in 40 CFR 60.7(c) need not be submitted unless requested by the Administrator or the Control Officer.
 - (B) If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in 40 CFR 60.7(c) shall both be submitted.
- d. For the purpose of excess emission reports, periods of excess emissions that shall be reported are defined as follows: [40 CFR 60.334(c)]
 - i. Nitrogen oxides. Any one-hour period during which the average water-to-fuel ratio (if a water injection system is used to control NOx) as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance during the initial performance test or any period during which the fuel-bound nitrogen of the fuel is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowance used during the initial performance test. Each report shall include the average water-to-fuel ratio, average fuel consumption, ambient conditions, gas turbine load, and nitrogen content of the fuel during the period of excess emissions. Since pipeline quality natural gas will be the only fuel allowed to be combusted in Unit NLGT4, the nitrogen content of the fuel may be assumed to be below 0.015% by weight.
 - ii. Fuel Sulfur Content. Any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8 percent.

B. Facility-Wide

- 1. Excess Emissions and Permit Deviation Reporting [PCC 17.12.180.A.5.b & 17.12.180.E.3.d]

The Permittee shall report to the Control Officer any emissions in excess of the limits (as defined in PCC 17.04.340.A.78) established by this permit within 24 hours of the time the Permittee first learned of the excess emissions occurrence. The Permittee shall report other deviations from permit requirements in this permit within two working days of the time the Permittee first learned of the occurrence of the deviation.

(See Part A, Section XI for detailed information on these two reports).

- 2. Semiannual Reports of Required Monitoring [PCC 17.12.180.A.5.a]

The Permittee shall submit semiannual reports of the following monitoring and/or recordkeeping requirements:

- a. Dates on which the fuel types were changed.
 - b. The visible emission test results conducted during periods when turbines (NLGT1, NLGT2 & NLGT3) have fired fuel oil for 168 continuous hours.
 - c. Sulfur content of liquid fuels used during the reporting period.
 - d. Results of any performance tests conducted during the reporting period.
 - e. If a water injection system is used to control NOx emissions, a monitoring systems performance report.
 - f. The most recent complete 12-month rolling total of NOx emissions from Unit NLGT4.
 - g. Any instances during the reporting period when the rolling 12-month total of NOx from Unit NLGT4 equaled or exceeded 32 tons.
3. Semiannual reports shall be due on January 31st (covering the period July 1st through December 31st) and July 31st (covering the period January 1st through June 30th) of each year. The first semiannual report due after permit issuance may not cover a 6-month period. All instances of excess emissions and deviations from permit requirements as defined in Section XI of Part A shall be clearly identified in such reports.
4. Compliance Certification Reporting [PCC 17.12.210.A.2]
- a. The Permittee shall submit an annual compliance certification to the Control Officer and to EPA Region IX. The Compliance Certification Report is due on February 15th of each year (covering the period January 1st through December 31st of the previous year). The first report due after permit issuance may not cover a 12-month period. (See Section VII of Part A for detailed information on this report).
 - b. For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any standard in this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed. (Applicable to Unit NLGT4 only). [40 CFR 60.11(g)]
5. Emissions Inventory Reporting [PCC 17.12.320]

Every source subject to a permit requirement shall complete and submit an annual emissions inventory questionnaire when requested by the Control Officer. The questionnaire is due by March 31st, or 90 days after the Control Officer makes the inventory form available, whichever occurs later, and shall include emission information for the previous calendar year. These requirements apply whether or not a permit has been issued and whether or not a permit application has been filed. (See Part A, Section VI for additional information on this report).

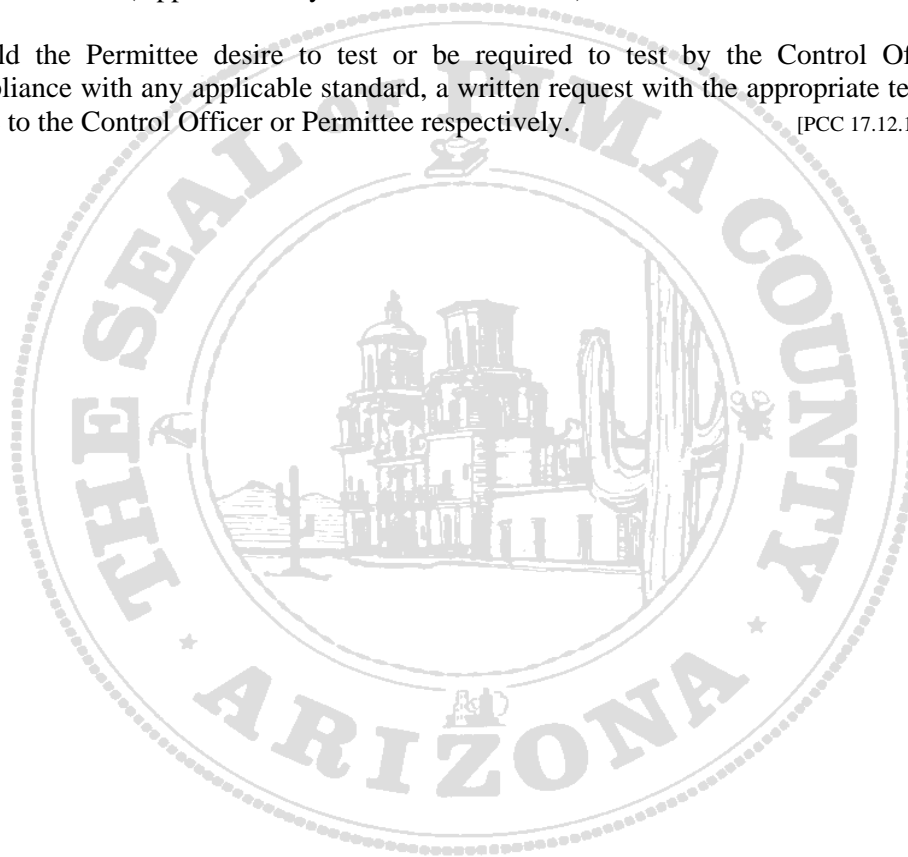
VII TESTING REQUIREMENTS

[PCC 17.12.180.A.3.a & 17.20.010]

For purposes of demonstrating compliance, these test methods shall be used, provided that for the purpose of establishing whether or not the facility has violated or is in violation of any provision of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable federal

requirements if the appropriate performance or compliance procedures or methods had been performed.

- A. Should the 12 month rolling total of NO_x exceed 32 tpy, the Permittee shall verify that unit NLGT4 (NSPS unit) meets the Nitrogen Oxides standard in II.A.1 of Part B by completing a performance test before the end of the permit term. Should the permit term expire 6 months or less from the date that the 12-month rolling NO_x emissions from NLGT4 are greater than 32 tpy (trigger date) then the Permittee shall complete a performance test within 12 months of the trigger date. [40 CFR 60.335(b)]
- B. When required or necessary, the Permittee shall use ASTM Method D129-91 (Test Method for Sulfur in Petroleum Products) (General Bomb Method) or ASTM D1552-07 or other ASTM Method approved by the Administrator to determine the sulfur content of liquid fuels. (Applicable only when fuel oil is fired) [PCC 17.16.340.K.1.b]
- C. When required EPA Test Method 9 shall be used to monitor compliance with the opacity standard in II.B.4 & II.C.1. (Applicable only when fuel oil is fired) [PCC 17.12.180.A.3]
- D. Should the Permittee desire to test or be required to test by the Control Officer to determine compliance with any applicable standard, a written request with the appropriate test methods shall be made to the Control Officer or Permittee respectively. [PCC 17.12.180.A.3 & PCC 17.20.010]



**Tucson Electric Power Company
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ATTACHMENT 1: APPLICABLE REGULATIONS

Requirements Specifically Identified as Applicable:

Acid Rain provisions are not applicable to this facility (per 40 CFR 72.6(b)(1) and 40 CFR 72.7).

Code of Federal Regulations Title 40, Chapter 60 (40 CFR 60)

40 CFR Part 60 Subpart A	General Provisions (applicable to Unit NLGT4 only)
40 CFR Part 60 Subpart GG	Standards of Performance for Stationary Gas Turbines (applicable to Unit NLGT4 only)
40 CFR Part 61 Subpart M	National Emissions Standards for Hazardous Air Pollutants – Asbestos
40 CFR Part 82 Subpart F	Protection of Stratospheric Ozone - Recycling and Emissions Reduction

Requirements Identified as not Applicable:

The following regulation is not applicable to TEP but is used only as a reference for emission calculations and missing data procedures.

40 CFR Part 75	Continuous Emission Monitoring
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Pima County State Implementation Plan (SIP):

- Rule 318 – Vacant Lots and Open Spaces
- Rule 321 – Standards and Applicability (Includes NESHAPS)
- Rule 343 – Visibility Limiting Standard

Pima County Code (PCC) Title 17, Chapter 17.16:

- 17.12.190 – Permits Containing Voluntarily Accepted Emission Limitations and Standards
- 17.16.020 – Noncompliance with Applicable Standards
- 17.16.040 – Standards and Applicability (Includes NESHAP)
- 17.16.050 – Visibility Limiting Standard
- 17.16.080 – Vacant Lots and Open Spaces
- 17.16.340 – Standards of Performance for Stationary Rotating Machinery

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ATTACHMENT 2: EQUIPMENT LIST

Unit I.D.	Description	Capacity	Serial Number	Model	Installation Date
NLGT1	Westinghouse Gas Turbine Generator Set	25MW Nameplate	1782088-1	W-251-B	Before 1976
NLGT1A	Cummins Diesel Starter Engine	635 H.P.	10209209	VT1710P635	Before 1976
NLGT1B	Westinghouse Lube Oil Vapor Extractor	N/A	N/A	5K49FG164	Before 1976
NLGT2	Westinghouse Gas Turbine Generator Set	25MW Nameplate	1782086-1	W-251-B	Before 1976
NLGT2A	Cummins Diesel Starter Engine	635 H.P.	772266-3	VT1710P635	Before 1976
NLGT2B	Westinghouse Lube Oil Vapor Extractor	N/A	N/A	5K39FG357	Before 1976
NLGT3	Westinghouse Gas Turbine Generator Set	25MW Nameplate	1782084-1	W-251-B	Before 1976
NLGT3A	Cummins Diesel Starter Engine	635 H.P.	10209207	VT1710P635	Before 1976
NLGT3B	Westinghouse Lube Oil Vapor Extractor	N/A	N/A	5K49FG2080	Before 1976
NLGT4	General Electric Gas Turbine Generator Set	<25 MW Nameplate	481-532	LM-2500	2001
FH1	Fuel Oil Storage Tank	3,034,858 Gallons		Garland Steel	Before 1976

CONTINUOUS EMISSIONS MONITORING SYSTEMS EQUIPMENT

NO_x Monitor	Diluent Monitor
Installed & Certified	Installed & Certified

**Tucson Electric Power Company
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ATTACHMENT E: INSIGNIFICANT ACTIVITIES

Insignificant Activities Listed in the Application	
Type of Activity or Equipment	Insignificant Determination
Out-of-service fuel oil tank.	Yes. Only when tank is empty.
Internal combustion (IC) engine driven compressors, IC engine driven electrical generator sets, and IC engine driven water pumps used only for emergency replacement or standby service.	Yes. Defined.
Fuel burning equipment fired at a rate less than 1.0 MMBtu/hr for less than an 8-hour period.	No. May be subject to 17.16.165.
Petroleum product storage tanks and associated loading operations for lubricating oil, used oil, and transformer oil.	Yes
Piping of fuel oils, used oil, and transformer oil.	Yes
Storage and handling of drums or other transportable containers where the containers are sealed during storage, and covered during loading and unloading.	Yes
Chemical storage associated with water or wastewater treatment where the water is treated for consumption and/or used within the permitted facility.	Yes
VOC emissions from the cooling towers.	No. May be subject to 17.16.430.
Individual flanges, valves, seals, pressure relief valves, and other individual components not in VOC service that have the potential for leaks	Yes
Aerosol can usage.	No. May be subject to 17.16.400.
Blast cleaning equipment using a suspension of abrasive in water and any exhaust system or collector serving them exclusively.	No. May be subject to 17.16.100.D.
Adhesive use.	Yes if not VOC containing
Air conditioning, cooling, heating, or ventilation equipment.	Yes providing the air conditioning units have no applicable requirements under Title VI of the Act.
Operation and testing of emergency fire water pumps, firefighting activities, and training conducted at the facility in preparation of fighting fires.	Yes