PIMA COUNTY DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR PROGRAM

33 N. Stone Avenue, Suite 700 • Tucson, AZ 85701 • Phone: (520) 724-7400

PREVENTION OF SIGNIFICANT DETERIORATION AIR QUALITY PERMIT

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

ISSUED TO

TUCSON ELECTRIC POWER

IRVINGTON GENERATING STATION

3950 EAST IRVINGTON ROAD

TUCSON, AZ 85714

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

THIS PERMIT ISSUED SUBJECT TO THE SPECIFIC AND GENERAL CONDITIONS IDENTIFIED IN THIS PERMIT

PERMIT NUMBER **1052** PERMIT CLASS **I**

ISSUED EXPIRES**:**

DRAFT ***Rupesh Patel, Air Permit Manager, PDEQ***

SIGNATURE TITLE

Proposed Permit

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SUMMARY

This Class I, Title V air quality permit is issued to Tucson Electric Power Company (TEP), the Permittee, for the continued operation of its Irvington Generating Station (IGS), also known as the H. Wilson Sundt Generating Station. This permit allows the permittee to construct and operate the equipment listed in Attachment 2. Approval to construct becomes invalid if construction is not commenced within 18 months after the Department issues this permit or if construction is discontinued for a period of 18 months or longer.

TEP-IGS is a Class I Major Source. The potential emission rates of PM_{10}, $PM_{2.5}$, SO_2, NO_X, CO, and VOC exceed 100 tons. In addition TEP-IGS has potential emission rates of hazardous air pollutants in excess of 25 tons per year Total HAPs, and in excess of 10 tons per year of a single HAP; and CO_2e in excess of 100,000 tpy. The facility operates within an area classified as being in attainment for all criteria pollutants.

The facility is a stationary source which generates electricity and consists primarily of fossil-fuel fired electric utility steam generating units (EGU's), stationary combustion turbines with starter engines, cooling towers, emergency generators, and other processes and equipment associated with power production. There are four fossil fuel fired EGU's, designated as Units I1 through I4, and two simple cycle peaking internal combustion turbines with black start capability, designated as IGT1 and IGT2. The net generating capability for each of the EGU's is 81 megawatts (MW), 81 MW, 104 MW, and 156 MW respectively and the combined net capability total for IGT1 and IGT2 is 48 MW.

The EGU's, Units I1-I4 are subject to applicable provisions of the Acid Rain Program of the Clean Air Act (40 Code of Federal Regulations (CFR) 72-80).

In addition, Unit I4 is subject to the Arizona Regional Haze State and Interstate Visibility Transport State Implementation Program requirements for Best Available Retrofit Technology (BART) (FIP Final Rule, 40 CFR 52.145(j), Promulgated September 3, 2014, Federal Register Vol. 79, No. 170.) This rule is effective October 3, 2014 and requires compliance no later than December 31, 2017 when choosing to combust only natural gas or natural gas combined with landfill gas. TEP provided notification to the United States Environmental Protection Agency (US EPA) Director of Enforcement Division (EPA Region 9) for IGS Unit I4 that it will comply with the Regional Haze requirements by selecting the better than BART (switching to firing natural gas and landfill gas exclusively). The Permittee has stopped burning coal and fuel oil in Unit I4 and suspended the use of equipment necessary to fire coal and fuel oil in unit I4.

Reciprocating Internal Combustion Engine (RICE) Project: TEP has proposed to expand operations at the IGS facility to maintain load-interchange-generation balance within its designated distribution area. The proposed expansion includes the addition of up to ten RICE units, each with a nominal net generating capacity of 19 MW. Each RICE will be equipped with an oxidation catalyst system and a selective catalytic reduction (SCR) system. The oxidation catalyst will control emissions of volatile organic compounds (VOC), carbon monoxide (CO), and organic hazardous air pollutants and the SCR system will control emissions of nitrogen oxides (NOx).

The RICE project constitutes a major modification pursuant to Pima County Code (PCC) §17.04.340(A)(127) and 40 CFR §52.21(a)(2)(iv) and (b)(2). The emissions increases from the RICE project exceed the prevention of significant deterioration (PSD) significant levels for six pollutants: NOx, VOC, CO, PM10, PM2.5, and GHG. The Permittee has accepted the following three separate requirements to ensure that the net emissions increase in NO_X as a result of the RICE project is not significant and therefore not subject to PSD requirements:

1. One of the existing fossil fuel fired units (Unit 1 or Unit 2) will be shut down permanently within 180 days following initial startup of the first RICE;

2. Two of the existing fossil fuel fired units (Unit 1 and Unit 2) will be shut down permanently within 180 days following initial startup of the sixth RICE; and

3. The NO_X emissions from the ten RICE will be limited to 170.0 tpy.

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Pursuant to PSD requirements, an air dispersion modeling impact analysis, an additional impact analysis, and a BACT determination were conducted as part of the permit application process for the RICE project. BACT-based emission limitations were determined for the RICE and for fugitive emissions of VOC, and CO2e.

The RICE units (RICE01-RICE10), each are subject to applicable provisions of the New Source Performance Standard (NSPS) for Stationary Spark Ignition RICE (40 CFR 60, Subpart JJJJ) and National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary RICE (40 CFR 63 subpart ZZZZ).

This Class I, Title V air quality permit, includes the significant revision to the existing permit to incorporate the RICE Project expansion of the TEP-IGS operations.

Alternate Operating Scenarios: The permit contains two alternate operating scenarios to install and operate a third internal combustion turbine < 25 MW (IGT3) limited to less than significant levels of NO_X and CO and to be fired exclusively with natural gas. The proposed installation of Unit IGT3 will be subject to 40 CFR Subpart GG or 40 CFR 63, Subpart KKKK.

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PART A: GENERAL CONDITIONS

(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 17.11.090.A & PCC 17.12.010.D.1]

A. This permit is valid for a period of five years from the date of issuance.

B. The Permittee shall submit an application for renewal of this permit at least 6 months, but not more than 18 months prior to the date of permit expiration.

II. COMPLIANCE WITH PERMIT CONDITIONS [PCC 17.12.040.A.8.a & b]

A. The Permittee shall comply with all conditions of this permit including all applicable requirements of the Arizona air quality statutes and Pima County 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. 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 17.12.040.A.8.c & PCC 17.12.130]

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, 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 Clean Air Act become applicable to a Class I source. Such a reopening shall only occur if there are three or more years remaining in the permit term. The reopening shall be completed no 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 an application for renewal has been submitted pursuant to PCC 17.12.140.B. Any permit revision required pursuant to this subparagraph shall comply with the provisions in PCC 17.12.140 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.

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C. Proceedings to reopen and reissue a permit, including appeal of any final action relating to a permit reopening, shall follow the same procedures as apply to initial permit issuance. and shall affect only those parts of the permit for which cause to reopen exists. Such reopenings shall, except for reopenings under condition III.B.1 above, affect only those parts of the permit for which cause to reopen exist. Such reopenings shall be made as expeditiously as practicable. Permit reopenings for reasons other than those stated in condition III.B.1 above shall not result in a resetting of the five-year permit term.

IV. POSTING OF PERMIT [PCC 17.11.060 & ARS 49-485]

The Permittee, who has been granted an individual permit by PDEQ or a general permit and authorization to operate (ATO), shall maintain a complete copy of the permits and ATO's onsite. If it is not feasible to maintain a copy of the permit and ATO 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. In addition, the machine(s), equipment, device(s), or other article(s) for which the permit or ATO has been issued shall be affixed with a unique and clearly visible and accessible identification (ID).

V. FEE PAYMENT [PCC 17.12.040.A.9 & PCC 17.12.220]

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

VI. ANNUAL EMISSIONS INVENTORY QUESTIONNAIRE [PCC 17.12.160]

A. The Permittee shall complete and submit to the Control Officer an annual emissions inventory questionnaire. The questionnaire is due by March 31 or ninety days after the Control Officer makes the request and 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.

B. The questionnaire shall be on a form provided by or approved by the Control Officer and shall include the information required by PCC 17.12.160.

VII. COMPLIANCE CERTIFICATION [PCC 17.12.040.A.5 & PCC 17.12.080.A.2]

The Permittee shall submit a compliance certification to the Control Officer that describes the compliance status of the source with respect to each permit condition. Certifications shall be submitted on the dates and frequency 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 the method(s) or other means used by the Permittee 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 under PCC 17.12.040(A)(3), (monitoring including the related recordkeeping and reporting sections of this permit. If necessary, the Permittee also shall identify any other material information that must be included in the certification to comply with Section 113(c)(2) of the Clean Air Act, which prohibits knowingly making a false certification or omitting material information;

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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 be based on the methods or means designated in condition VII.A.2 above. The certification shall identify each deviation and take it into account for consideration in the compliance certification;

4. For emission units subject to 40 CFR Part 64, the certification shall also identify as possible exceptions to compliance any period during which compliance is required and in which an excursion or exceedance defined under 40 CFR Part 64 occurred;

5. All instances of deviations from permit requirements reported pursuant to condition XI.B of Part A as well as progress reports on all outstanding compliance schedules submitted pursuant to PCC 17.12.080; and

6. Other facts the Control Officer may require to determine the compliance status of the facility.

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 17.12.080.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 17.12.080.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, 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 17.12.010.D.3]

If this source becomes subject to a standard promulgated by the Administrator pursuant to Section 112(d) of the Clean Air Act (National Emission Standards for Hazardous Air Pollutants - NESHAP), 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.

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XI. EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCY REPORTING

A. Excess Emissions Reporting [PCC 17.13.170]]

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. Such report shall be in two parts as specified below:

      i. Notification by telephone, facsimile or e-mail within 24 hours of the time when the Permittee first learned of the occurrence of excess emissions including all available information in condition XI.A.1.b below. The number to call to report excess emissions is **520-724-7400.** The facsimile number to report excess emissions is **520-838-7432.** The e-mail to report excess emissions is **Air.Permits@pima.gov**

      ii. Detailed written notification by submission of an excess emissions report within 72 hours of the notification in XI.A.1.a.i above. Notifications should be mailed or e-mailed to:

      PDEQ Air Program 33 N. Stone Avenue, Suite 700, Tucson, Arizona 85701.
      Air.Permits@pima.gov

   b. The report shall contain the following information:

      i. Identity of each stack or other emission point where the excess emission occurred;

      ii. 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. Date, time, and duration or expected duration of the excess emissions;

      iv. Identity of the equipment from which the excess emissions emanated;

      v. Nature and cause of the emissions;

      vi. If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions; and

      vii. The steps that were or are being taken to limit the excess emissions; If the excess emissions resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with 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 such 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 XI.A.1 above.

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B. Permit Deviations Reporting [PCC 17.12.040.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. Prompt reporting shall mean that the report was submitted to the Control Officer by certified mail, facsimile, e-mail (Air.Permits@pima.gov) or hand delivery within two working days of the time when emission limitations were exceeded due to an emergency or within two working days of the time when the Permittee first learned of the occurrence of a deviation from a permit requirement.

C. Emergency Provision [PCC 17.12.040.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 condition XI.C.3 below is 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. The permitted facility was being properly operated at the time of the emergency;

   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, facsimile, e-mail (Air.Permits@pima.gov) or hand delivery 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 § 49-480.F.3 & 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 Control Officer 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.

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E. Affirmative Defenses for Excess Emissions Due to Malfunctions, Startup, and Shutdown. [PCC 17.12.180]

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. EPA; 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. When emissions in excess of an applicable emission limitation are due to a malfunction, the Permittee 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 Permittee has complied with the reporting requirements of section XI.A above 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 Permittee;

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 Permittee 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 Permittee's actions in response to the excess emissions were documented by contemporaneous records.

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3. Affirmative Defense for Startup and Shutdown

   a. Except as provided in condition XI.E.3.b above, 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. When emissions in excess of an applicable emission limitation are due to startup and shutdown, the Permittee 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 Permittee has complied with the reporting requirements of XI.A above 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. Contemporaneous records documented the Permittee's actions in response to the excess emissions.

   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 condition XI.E.2 above.

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 condition XI.E.2 above.

5. Demonstration of Reasonable and Practicable Measures

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

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XII. RECORDKEEPING REQUIREMENTS [PCC 17.12.040.A.4]

A. The Permittee shall keep records of all required monitoring information including but not limited to 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 or other data 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 17.12.040.A.5]

The Permittee shall submit the following reports:

A. Compliance Certification pursuant to section VII above.

B. Excess emission; permit deviation, and emergency reports in accordance with section XI above.

C. Performance test results in accordance with section XVII.F. below.

D. Other reports required by any condition in Part B of this permit.

XIV. DUTY TO PROVIDE INFORMATION [PCC 17.12.040.A.8.e, PCC 17.12.270.G, & PCC 17.12.270.H]

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, 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 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. In addition, an applicant shall provide additional information as necessary to address any requirements that become applicable to the source after the date it filed a complete application but prior to release of a proposed permit.

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XV. PERMIT AMENDMENT OR REVISION [PCC 17.13.120, PCC 17.12.110 & PCC 17.12.120]

The 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 section XVI below as follows:

A. Administrative Permit Amendment (PCC 17.12.100);

B. Minor Permit Revision (PCC 17.12.110);

C. Significant Permit Revision (PCC 17.12.120).

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

XVI. FACILITY CHANGES ALLOWED WITHOUT PERMIT REVISIONS [PCC 17.12.090]

A. The Permittee may make changes at the permitted source 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 modifications as defined in A.R.S. 49-401.01;

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 17.12.110; 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 it meets all of the requirements of conditions XVI.A, D and E below.

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 17.12.040.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 section XVI.D below. This provision is available if the permit does not provide for the emissions trading as a minor permit revision.

D. For each change under conditions XVI.A through C above, 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.

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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 Condition XX shall not apply to any change made under this section. 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 provided under PCC 17.12.040.A.11 shall not require any prior notice under this section..

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 the provisions of this condition over the term of the permit, do not satisfy the conditions in XVI.A above.

XVII. TESTING REQUIREMENTS [PCC 17.11.210]

A. New sources required to conduct performance testing shall do so within 60 days after the source has achieved the capability to operate at its maximum production rate on a sustained basis but no later than 180 days after initial startup of such sources. The Permittee shall conduct performance testing as specified in Part B of the permit and at such other times as may be required by the Control Officer. The Permittee shall furnish the control officer a written report or the results of the tests.

B. Operational Conditions During Testing

Performance 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.

C. Tests shall be conducted and data reduced in accordance with the test methods and procedures contained in the Arizona Testing Manual, 40 CFR 52; Appendices D and E, 40 CFR 60; Appendices A through F; and 40 CFR 61, Appendices B and C unless modified by the Control Officer pursuant to PCC 17.11.210.B or by the Director pursuant to A.A.C. R18-2-312.B.

Proposed Permit

D. 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 17.11.210.D and the Arizona Testing Manual. This test plan must include the test duration, test location(s), test methods, and source operation and other parameters that may affect the test results.

E. Stack Sampling Facilities

The 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 platform(s);

3. Safe access to sampling platform(s); and,

4. Utilities for sampling and testing equipment.

F. 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 mean of the 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.

G. 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 and PCC 17.11.210.A.

XVIII. PROPERTY RIGHTS [PCC 17.12.040.A.8.d]

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

XIX. SEVERABILITY CLAUSE [PCC 17.12.040.A.7]

The provisions of this permit are severable. In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force.

Proposed Permit

XX. PERMIT SHIELD [PCC 17.11.080]

Compliance with the conditions of this permit shall be deemed compliance with any applicable requirement identified in the permit as of the date of permit issuance, provided that such applicable requirements are included and expressly identified in the permit. The permit shield shall not apply to any change made pursuant to conditions XV.B and XVI above.

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 annual 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 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, Subpart M]

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]

Proposed Permit

PART B: SPECIFIC CONDITIONS

All standards are Federally Enforceable unless otherwise noted
[References are to Title 17 of the Pima County Code unless otherwise noted]

I. FACILITY GENERAL PROVISIONS

A. Statutory Authority

[PCC 17.11.010.D & PCC 17.12.130, & SIP Rule 301]

Emissions from this facility, specifically the emissions from the equipment described in Attachment 2 of this permit, fall under primary SIC Code 4911 and are subject to enforceable limitations as provided in the Specific Conditions in this permit. This permit is issued pursuant to (ARS) §49-480 and authorizes the construction and/or operation of the equipment enumerated in the "Equipment List" in Attachment 2. This authorization is based on the regulations in effect on the date of issuance of this permit, and a finding that the allowable emissions from this facility constitute an existing "major source" within the meaning of PCC 17.04.340.A.128. Notwithstanding the above findings, the issuance of this air quality permit shall not relieve the Permittee from compliance with all local, county, state and federal air quality laws, statutes, and codes.

[PCC 17.11.010.B & D, PCC 17.12.010 and ARS §49-480]

B. Permit Classification

[PCC 17.11.090]

Class I; Major Source; Stationary: The permitted facility sources constitute a major source of all criteria pollutants except lead (Pb), and a major source of combined HAPs based on the equipment capacity, fuel limitations, and emission limitations contained in this permit and when considering the emissions from sources aggregated under the same primary SIC Code at this facility.

C. Permitted Facility Sources

The Specific Conditions contained in this permit apply to the equipment listed in Attachment 2 of this permit and the following source categories:

a. Electric Utility Steam Generating Units 'EGU's
b. Cooling Towers
c. Stationary Rotating Machinery
d. Emergency Generators – Local Requirements
e. NESHAP Subpart ZZZZ Requirements
f. NSPS Subpart IIII Requirements
g. Nonpoint Fugitive Dust Sources
h. Use of Paints
i. Abrasive Blasting
j. Reciprocating Internal Combustion Engine (RICE)

D. Compliance Certification Reporting

The Permittee shall submit annual compliance certification reports to the Control Officer and EPA Administrator pursuant to section VII of Part A. Annual compliance certification reports shall be due on February 15th of each year and shall cover the period January 1st through December 31st.

[40 CFR 70.6(c)(5) & PCC 17.12.080.A.2]

E. Semiannual Summary Reports of Required Monitoring

The Permittee shall submit a semiannual summary report of all permit deviations and exceedances that have occurred during the reporting period. Semiannual reports shall be due on January 31st and July 31st of each year and shall cover the period July 1st through December 31st and January 1st through June 30th, respectively. The first semiannual report may not cover a six-month period. If there are no deviations, excursions, or exceedances in a reporting period, no report shall be required.

[40 CFR 70.6(c)(5) & PCC 17.12.040.A.5.a]

Proposed Permit

F. Opacity Limits [Federally Enforceable when opacity is greater than 40%]

1. The opacity of an emission from nonpoint sources shall not exceed 20% as measured in accordance with the Arizona Test Manual and EPA Reference Method 9 in 40 CFR Part 60, Appendix A. For purposes of this condition, a nonpoint source is any source of air contaminants which due to a lack of an identifiable emission point or plume cannot be considered a point source.
[PCC 17.16.050.B, & SIP Rule 321]

2. The opacity of all plumes and effluents from a single emission point, multiple emission point, or fugitive emission sources shall not equal or exceed an average optical density equal to or greater than 20%, except as otherwise specified in the Specific Conditions of this permit and the table in Attachment 4 subject to the following provisions:
[PCC 17.16.040, PCC 17.16.130.B.3, & SIP Rule 321, Installation Permit #1156, Condition #5]

   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.
[PCC 17.16.040 & SIP Rule 321, Installation Permit #1156, Condition #6]

   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 in this permit. 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 Attachment 4. 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. [PCC 17.16.040.A.3 & SIP Rule 321]

   d. When the presence of uncombined water is the only reason for failure of a source to otherwise meet the requirements as specified in conditions I.F and I.E, conditions I.F and I.E shall not apply. [PCC 17.16.040.B & SIP Rule 321]

3. Unless otherwise required by the Specific Conditions in this permit, a demonstration to show compliance with the emission limitations for opacity in equipment listed in Attachment 2 of this permit when combusting natural gas and/or landfill gas shall not be required since the percent of opacity of visible emissions while combusting gaseous fuels is inherently low.

G. Visibility Limiting Standard

1. 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. This condition shall not apply to the generation of airborne particulate matter from undisturbed land. [PCC 17.16.050.D & SIP Rule 343]

2. I.G.2 of this section 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. [PCC 17.16.050.D & SIP Rule 343]

Proposed Permit

3. The Permittee shall not cause, suffer, allow or permit operations or activities likely to result in excessive amounts of airborne dust without taking reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne. [PCC 17.16.050.A]

[Locally Enforceable Condition]

H. Odor Limiting Standard

The Permittee shall not emit gaseous or odorous materials from equipment, operations, or premises in such quantities or concentrations to cause air pollution. [PCC 17.16.430.D & SIP Rule 344]

I. General Control Standards

1. The Permittee shall not commence construction of a new major source or the major modification of a source covered by this permit without first obtaining a permit or permit revision from the Control Officer. [PCC 17.16.550 & SIP Rule 301]

2. The Permittee shall not cause or permit the planning, construction, installation, erection, modification, use, or operation of an emission source which will cause or contribute to a violation of an applicable performance standard. [PCC 17.16.020 & SIP Rule 302]

3. Where a stack, vent or other outlet is at such a level that fumes, gas mist, odor, smoke, vapor or any combination thereof constituting air pollution are discharged to adjoining property, the Control Officer may require the installation of abatement equipment or the alteration of such stack, vent or other outlet by the owner or operator thereof to a degree that will adequately reduce or eliminate the discharge of air pollution to adjoining property. [PCC 17.16.020.B]

[Locally Enforceable Condition]

J. General Materials Handling Standards **[Locally Enforceable Conditions]**

1. The Permittee shall not transport or store VOCs without taking necessary and feasible measures to control evaporation, leakage, or other discharge into the atmosphere. [PCC 17.16.400.A]

2. Materials including solvents or other volatile compounds, paints, acids, alkalies, pesticides, fertilizers and manure shall be processed, stored, used and transported in such a manner and by such means that they will not evaporate, leak, escape or be otherwise discharged into the ambient air so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage or discharge, the installation and use of such control methods, devices, or equipment shall be mandatory. [PCC 17.16.430.F]

K. Definition of Heat Input

For purposes of sections II. through IV. of this Part, the heat input shall be the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet.

[PCC 17.16.160.B & PCC 17.16.340.B]

[Locally Enforceable Condition]

L. Fuel Sulfur Limitations

Except as otherwise specified in the Specific Conditions of this permit, the Permittee shall be considered in compliance with the fuel sulfur limitations in this permit by demonstrating that only the specified fuel allowed was fired in the applicable equipment. Such a demonstration may be made by making available to the Control Officer for his inspection, documentation, such as invoices or statements from the fuel supplier, or sample analysis which verify the sulfur content of the fuel being piped and/or delivered.

[PCC 17.12.180.A.3.c]

[Locally Enforceable Condition]

Proposed Permit

M. Applicability of More Than One Standard

If more than one emission limit or emission standard in this permit is applicable to the same source, the more stringent standard or emission limit shall apply. [PCC 17.16.010.B]

[Locally Enforceable Condition]

N. Authorization to Construct and Conditional Authorization to Operate Modifications to IGS

1. This significant revision to the Class I, Title V air quality permit is an authorization to construct a major modification, i.e., to install up to ten reciprocating internal combustion engines (Units RICE01-RICE10) and ancillary equipment as set forth in Specific Conditions II.A through II.D below.

2. The stack for each RICE must be configured into two groups of five (ten stacks in total) clustered stacks. Within each group of five there are two clusters, one of three stacks and one of two stacks each separated by slightly less than one diameter (outside edge to outside edge) from the other stack(s) in the cluster for a total of four clusters in two groups. [40 CFR §52.21(k)]

II. RECIPROCATING INTERNAL COMBUSTION ENGINES (RICE), PSD AND BEST AVAILABLE CONTROL TECHNOLOGY (BACT) REQUIREMENTS

The conditions in this section apply to the RICE Units (RICE01, RICE02, RICE03, RICE04, RICE05, RICE06, RICE07, RICE08, RICE09, and RICE10).

A. RICE PSD AND BEST AVAILABLE CONTROL TECHNOLOGY (BACT) EMISSION LIMITS AND STANDARDS

1. Nitrogen Oxides (NO_X) Emissions Cap [PCC 17.12.050]

a. The combined total NO_X from emissions units RICE01 through RICE10 shall not exceed 170.0 tons per year (tpy), based on a 12-month rolling total, calculated monthly.

b. Compliance with the NO_X emission limit shall be demonstrated by performance tests as detailed in Condition II.D, monitoring as detailed in Condition II.B., and recordkeeping as detailed in Conditions II.C.

c. The permittee shall equip each RICE with an SCR system. The SCR system shall be operated at all times while fuel is flowing to the RICE, excluding periods of startup. The SCR system shall be maintained and operated in a manner consistent with good air pollution control practice for minimizing NO_X emissions. Good engineering practices shall include the following:

i. The catalyst shall be cleaned and/or replaced in accordance with manufacturer recommendations.

ii. Routine maintenance and inspections shall be conducted in accordance with manufacturer recommendations.

iii. If the ammonia injection fails at any time, the permittee shall conduct an investigation of the SCR system. If the ammonia injection cannot be restored within 10 minutes, the RICE shall be shut down.

iv. Each SCR system shall be equipped with a continuous NO_X process monitor capable of measuring and recording the NO_X concentration in the SCR outlet gases.

Proposed Permit

2. Volatile Organic Compounds (VOC) Limit [40 CFR §52.21(j)(3)]

a. VOC emissions from each emissions unit (RICE01 through RICE10) shall not exceed 4.49 pounds per hour (lbs/hr), excluding periods of startup.

b. The permittee shall equip each RICE with an oxidation catalyst system. The oxidation catalyst system shall be operated at all times while fuel is flowing to the RICE, including periods of startup, shutdown, and malfunction. The oxidation catalyst system shall be maintained and operated in a manner consistent with good air pollution control practice for minimizing VOC emissions. Good engineering practices shall include the following:

i. The catalyst shall be cleaned and/or replaced in accordance with manufacturer recommendations.

ii. Routine maintenance and inspections shall be conducted in accordance with manufacturer recommendations.

c. Compliance with this limit shall be demonstrated by a performance test as detailed in Condition II.D.3.

3. Carbon Monoxide (CO) Limit [40 CFR §52.21(j)(3)]

a. CO emissions from each emissions unit (RICE01 through RICE10) shall not exceed 4.43 lbs/hr, excluding periods of startup.

b. The permittee shall equip each RICE with an oxidation catalyst system. The oxidation catalyst system shall be operated at all times while fuel is flowing to the RICE, including periods of startup, shutdown, and malfunction. The oxidation catalyst system shall be maintained and operated in a manner consistent with good air pollution control practice for minimizing CO emissions. Good engineering practices shall include the following:

i. The catalyst shall be cleaned and/or replaced in accordance with manufacturer recommendations.

ii. Routine maintenance and inspections shall be conducted in accordance with manufacturer recommendations.

c. Compliance with this limit shall be demonstrated by a performance test as detailed in Condition II.D.4.

4 Particulate Matter (PM_{10}/$PM_{2.5}$) Limit [40 CFR §52.21(j)(3)]

a. PM_{10}/$PM_{2.5}$ emissions from each emissions unit (RICE01 through RICE10) shall not exceed 2.37 lb/hr, excluding periods of startup.

b. Compliance with this limit shall be demonstrated by a performance test as detailed in Condition II.D.5.

5. For emissions units RICE01 through RICE10, during periods of startup, the permittee shall minimize the engine's time spent at idle and shall minimize the startup time to a period needed for appropriate and safe loading of the engine. Startup shall not exceed 30 minutes in duration. After 30 minutes of operation, the non-startup emission limitations for CO, VOC, and PM10/PM2.5 applies.
[40 CFR §§52.21(j)(3), 52.21(k)]

6. The total number of startups per calendar day for each RICE shall not exceed 5.
[40 CFR §§52.21(j)(3), 52.21(k)]

Proposed Permit

7. The permittee shall, at all times, operate and maintain each RICE, including associated air pollution control equipment (oxidation catalysts and SCRs) and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.
[40 CFR §§52.21(j)(3), 52.21(k)]

8. Greenhouse Gases (GHG) Limit [40 CFR §52.21(j)(3)]

   a. CO_2 emissions from each emissions unit (RICE01 through RICE10) shall not exceed 1,100 lbs/MWh of gross electric output based on a 12-month rolling average, calculated monthly.

   b. Compliance with this limit shall be demonstrated by monitoring as detailed in Condition II.B and recordkeeping as detailed in Condition II.C.12.

9. Greenhouse Gases (GHG) BACT Equipment Design Standard for sulfur hexafluoride (SF_6)-Containing Circuit Breakers [40 CFR §52.21(j)(3)]

   a. The permittee shall install and operate only enclosed SF6-containing high-voltage circuit breakers having a vendor-guaranteed leak rate of 0.5 percent or less per year.

   b. The permittee shall implement a density monitor alarm system with a threshold of 10 percent or less. In the event of an alarm, the permittee shall investigate the event and take any necessary corrective action to address problems. Compliance with this requirement shall be demonstrated by recordkeeping as detailed in Condition II.C.9.

10. Greenhouse Gases (GHG) BACT Work Practice Requirement for Natural Gas Piping
[40 CFR §52.21(j)(3)]

   a. The permittee shall implement an auditory/visual/olfactory method for detecting leaking from natural gas piping components which shall involve making observations on no less than a daily basis.

   b. Compliance with this requirement shall be demonstrated by recordkeeping as detailed in Condition II.C.13.

B. PSD AND BACT MONITORING REQUIREMENTS [40 CFR §52.21(j)(3)]

1. Each emissions unit (RICE01 through RICE10) shall be equipped with a monitoring system capable of measuring and recording the hours of operation (in tenths of an hour) and natural gas consumption (in millions of British thermal units [MMBtu]).

2. Startup is defined as setting in operation any air pollution source for any purpose. Startup begins when fuel is first combusted in the engine and ends when the generator output is 4.75 MW (25% of net-rated capacity) or more and the temperature at the outlet of the SCR is 536 degrees Fahrenheit (˚F) or more. The duration of startup shall be monitored and recorded.

3. The following parameters shall be monitored for each SCR when the associated RICE is operational:

   a. The ammonia injection rate to the SCR system shall be monitored continuously.

   b. The temperature at the outlet of the SCR. The SCR is not considered operational until the temperature at the outlet of the SCR exceeds 536˚F.

Proposed Permit

4. The following parameters shall be monitored for each oxidation catalyst when the associated RICE is operational:

   a. The pressure drop and temperature across the oxidation catalyst shall be monitored continuously.

5. Each emissions unit (RICE01 through RICE10) shall be equipped with a station grade watt-hour meter for monitoring the gross electrical power output of the associated generator.

C. PSD AND BACT RECORDKEEPING AND REPORTING REQUIREMENTS

1. For each hour (or tenth of an hour), the RICE operation shall be recorded as startup or operating. For any startup event, the duration of the startup event shall be recorded. [40 CFR §52.21(j)(3)]

2. The Permittee shall document that the associated SCR and oxidation catalyst are operable prior to starting each RICE. [40 CFR §52.21(j)(3)]

3. The number of startups per RICE unit shall be recorded daily. [40 CFR §52.21(j)(3)& PCC 17.12.050]

4. The following parameters shall be recorded for each SCR when the associated RICE is operational: [PCC 17.12.050]

   a. The ammonia injection rate to the SCR system shall be recorded at least once every 15 minutes.

   b. The temperature at the outlet to the SCR shall be recorded at least once every 15 minutes.

   c. Records shall be kept of any event in which the ammonia injection fails for more than two minutes at any time while the RICE is operating, excluding periods of startup.

5. The following parameters shall be recorded for each oxidation catalyst when the associated RICE is operational: [40 CFR §52.21(j)(3)]

   a. The pressure drop across the oxidation catalyst and the temperature at the inlet to the oxidation catalyst shall be recorded at least once every 15 minutes.

6. The following parameters shall be recorded for each SCR when the associated RICE is operational: [PCC 17.12.050]

   a. The Permittee shall maintain records of the catalyst cleaning, replacement, or reconditioning.

   b. The Permittee shall maintain records of the operation and maintenance (O&M) procedures, maintenance schedules, and records of inspections and maintenance onsite.

7. The gross electrical power output of the associated generator for each emissions unit (RICE01 through RICE10) shall be recorded hourly during every hour of operation, including startup. [40 CFR §52.21(j)(3)]

8. For circuit breakers, the permittee shall document alarm events and corrective actions. The Permittee shall notify PDEQ within 7 days of alarm events. The notification shall include the planned corrective action, estimated timeframe for completion, and an estimate of emissions. Within 7 days of completion of corrective actions, the Permittee shall notify PDEQ of the completion of the corrective actions, including the corrective action taken, the calculated emissions, and the date of completion of the corrective action. [40 CFR §52.21(j)(2)]

Proposed Permit

9. On a monthly basis, for each RICE, the permittee shall calculate and record NO_X emissions using the monthly records of heat input during periods other than startup, the NO_X emission factor for non-startup periods as determined during the most recent emission test for that RICE, the number of startup events during the month, and the vendor-guaranteed NO_X emission rate for each startup event. [PCC 17.12.050]

10. On a monthly basis, the permittee shall calculate and record total NO_X emissions for the ten RICE, both for the most recent month and as a 12-month rolling total calculated using data from the most recent month and the eleven immediately preceding months. [PCC 17.12.050]

11. On a monthly basis, for each RICE and its associated generator, the permittee shall calculate and record GHG emissions in pounds, using the monthly total heat input records and the applicable GHG emission calculation procedures in 40 CFR part 98, and in lbs/MWh, using the monitoring data from the associated watt-hour meter. [40 CFR §52.21(j)(3)]

12. The permittee shall record any leaks detected in natural gas piping components, and any corrective actions taken, no less frequently than daily. [40 CFR §52.21(j)(3)]

D. PSD AND BACT TESTING REQUIREMENTS

1. Performance tests to demonstrate compliance with the NO_X, VOC, CO, and PM10/PM2.5 emission limitations shall be conducted annually, in accordance with the following schedule. Each RICE shall be subjected to a performance test within 60 days after achieving the maximum production rate, but not later than 180 days after initial startup.. Thereafter, testing shall be conducted annually according to the following schedule: The Permittee shall conduct performance tests of at least five RICE in each calendar year, and each RICE shall be subjected to a performance test no less frequently than once in each period of two consecutive calendar years.

2. Nitrogen Oxides (NO_X)

   a. The permittee shall perform NO_X emissions testing of each RICE using the methods and procedures in 40 CFR § 60.4244 and Table 2 of 40 CFR part 60, subpart JJJJ.

   b. Tests shall be performed at 25, 40, 70, and 100 percent of peak load or at a minimum and peak load capacity in the normal operating range of the engine, based upon the past twelve months of operation.

   c. The Permittee shall establish a NO_X emission factor for non-startup periods expressed in lb/MMBtu heat input using the results of the most recent NO_X emissions test approved by PDEQ. The emission factor for each RICE shall be set as the maximum lb/MMBtu emission factor observed during testing of such RICE under any load conditions.

3. Volatile Organic Compounds (VOC)

   a. The permittee shall measure the emission rate of VOC at the exhaust of the engines (RICE01 through RICE10) using US EPA Method 25A. US EPA Method 18 may be used in conjunction with US EPA Method 25A in order to quantify methane and ethane emissions.

   b. Tests shall be performed at 25, 40, 70, and 100 percent of peak load or at a minimum and peak load capacity in the normal operating range of the engine, based upon the past twelve months of operation.

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c. For emission inventory purposes, the Permittee shall establish a VOC emission factor for non-startup periods expressed in lb/MMBTU heat input using the results of the most recent VOC emissions test approved by PDEQ. The emission factor for each RICE shall be set as the maximum lb/MMBtu emission factor observed during testing of such RICE under any load conditions.

4. Carbon Monoxide (CO)

a. The permittee shall measure the emission rate of CO at the exhaust of the engines (RICE01 through RICE10) using US EPA Method 10.

b. Tests shall be performed at 25, 40, 70, and 100 percent of peak load or at a minimum and peak load capacity in the normal operating range of the engine, based upon the past twelve months of operation.

c. For emission inventory purposes, the Permittee shall establish a CO emission factor for non-startup periods expressed in lb/MMBTU heat input using the results of the most recent CO emissions test approved by PDEQ. The emission factor for each RICE shall be set as the maximum lb/MMBtu emission factor observed during testing of such RICE under any load conditions.

5. Particulate Matter (PM10/PM2.5)

a. The permittee shall measure the emission rate of filterable and condensable particulate matter at the exhaust of the engines (RICE01 through RICE10) using EPA Method 5 and US EPA Method 202.

b. Tests shall be performed at 25, 40, 70, and 100 percent of peak load or at a minimum and peak load capacity in the normal operating range of the engine, based upon the past twelve months of operation.

c. Each test run shall be a minimum of 120 minutes with a minimum sample volume of 90 dry standard cubic foot (dscf).

d. For emission inventory purposes, the Permittee shall establish a PM10/PM2.5 emission factor for non-startup periods expressed in lb/MMBTU heat input using the results of the most recent PM10/PM2.5 emissions test approved by PDEQ. The emission factor for each RICE shall be set as the maximum lb/MMBtu emission factor observed during testing of such RICE under any load conditions.

6. Alternative test methods may be used with prior written approval from the Department.

III. RECIPROCATING INTERNAL COMBUSTION ENGINES, UNITS RICE01-RICE10 – NSPS Subpart JJJJ Requirements

The conditions in this section apply to the reciprocating internal combustion engines – Units RICE01-RICE10 listed in Table VI, Attachment 2. The units are 18-cylinder, four-stroke, lean-burn spark ignition (SI) RICE fueled by pipeline natural gas, with a nominal mechanical output capacity of 26,820 horsepower (HP).

Proposed Permit

A. EMISSIONS LIMITS AND STANDARDS

The permittee shall comply with the applicable emission standards in Table 1 of subpart JJJJ. Pursuant to 40 CFR § 60.4234, these emission standards apply over the entire life of the RICE. Because each RICE to be installed at the IGS is a natural gas fueled, non emergency SI RICE with a maximum engine power ≥ 500 HP and with a manufacture date after July 1, 2010, the applicable standards in Subpart JJJJ, Table 1 are as follows:

1. The permittee must not cause to be discharged into the atmosphere from emissions units RICE01 through RICE10 any gases which contain NO_X in excess of 1.0 gram per horsepower-hour (g/HP-hr) brake work of the engine.

2. The permittee must not cause to be discharged into the atmosphere from emissions units RICE01 through RICE10 any gases which contain CO in excess of 2.0 g/HP-hr brake work of the engine.

3. The permittee must not cause to be discharged into the atmosphere from emissions units RICE01 through RICE10 any gases which contain VOC in excess of 0.7 g/HP-hr brake work of the engine, excluding formaldehyde.

[40 CFR § 60.4233(e)]

B. COMPLIANCE DEMONSTRATION REQUIREMENTS

The permittee shall comply with one of the following three options for demonstrating compliance with the emission standards in Specific Conditions III.A.1-3:

[40 CFR § 60.4243(b)]

1. Purchase an engine certified according to procedures specified in Subpart JJJJ, for the same model year; operate and maintain the engine and control device according to the manufacturer's emission-related written instructions; and keep records of conducted maintenance

[40 CFR § 60.4243(b)(1) and (a)(1)]

2. Purchase an engine certified according to procedures specified in Subpart JJJJ, for the same model year; keep a maintenance plan and records of conducted maintenance; to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions; conduct an initial performance test within 1 year of engine startup and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter.

[40 CFR § 60.4243(b)(1) and (a)(2)(iii)]

3. Purchase a non-certified engine; keep a maintenance plan and records of conducted maintenance; to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions; conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter.

[40 CFR § 60.4243(b)(2) and (b)(2)(ii)]

C. RECORDKEEPING AND REPORTING REQUIREMENTS

1. The permittee shall maintain records of all notifications submitted to comply with 40 CFR 60 Subpart JJJJ, records of all documentation supporting any such notification, and records of maintenance conducted on the engine.

[40 CFR § 60.4245(a)(1) and (a)(2)]

2. If the permittee elects to comply with the emission standards in this section by purchasing a certified engine, the permittee shall maintain records of documentation from the manufacturer that the engine is certified to meet the applicable emission standards.

Proposed Permit

[40 CFR § 60.4245(a)(3)]

3. If the permittee elects to comply with the emission standards in this section through performance testing, the permittee shall:

a. Maintain records of documentation that the engine meets the applicable emission standards in Table 1 of Subpart JJJJ

[40 CFR § 60.4245(a)(4)].

b. Submit written notification of the date construction of an affected facility is commenced postmarked no later than 30 days after such date.

c. Submit an initial notification that includes: the name and address of the owner or operator; the address of the affected source; engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement; emission control equipment; and fuel used

[40 CFR § 60.7(a)(1)].

d. Submit a copy of each performance test within 60 days after the test has been completed.

[40 CFR § 60.4244].

e. Provide performance testing facilities, conduct performance tests, and submit reports of the results of such performance tests in accordance with § 60.8(a) through (i).

[40 CFR§ 60.8(a) through (i)]

4. All required reports and other submittals under the NSPS program shall be submitted in duplicate to the Director, Region IX Air Division, US EPA, 75 Hawthorne Street, San Francisco, CA 94105. In addition, as required by 40 CFR 60.4(b), all reports and required submittals under the NSPS general provisions shall be submitted to PDEQ.

[40 CFR § 60.4(b)]

D. TESTING REQUIREMENTS

For each RICE that is not certified, each performance test must be conducted following the requirements of 40 CFR §60.4244(a) through (g) and according to the requirements in 40 CFR §60.8.

1. Each performance test shall be conducted within 10% of the 100% peak (or highest achievable) load and according to the requirements in Table 2 of 40 CFR 60, Subpart JJJJ.

2. Performance tests shall not be conducted during periods of startup, shutdown, or malfunction as specified in 40 CFR §60.8(c). If the RICE is non-operational, the engine need not be started solely to conduct a performance test, but the performance test shall be conducted immediately upon startup of the engine.

3. For each required performance test, three separate test runs shall be performed. Each test run shall be conducted within 10% of the 100% peak (or highest achievable) load and last at least 1 hour.

4. To determine compliance with the NO_X, CO, and VOC mass per unit output emission limitation, convert the concentration of each pollutant in the engine exhaust using Equationsof 40 CFR §60.4244.

Proposed Permit

IV. RECIPROCATING INTERNAL COMBUSTION ENGINES, UNITS RICE01-RICE10 – NESHAP Subpart ZZZZ Requirements

The conditions in this section apply to the reciprocating internal combustion engines – Units RICE01-RICE10 listed in Table VI, Attachment 2.

A. EMISSIONS LIMITS AND STANDARDS

1. As required by 40 CFR § 63.6600(b), the permittee shall comply with the applicable emission limitations in Table 2a and operating limitations of Table 2b of Subpart ZZZZ.

2. Compliance with the emission limitations is based on the average of three 1-hour runs using the testing requirements and procedures in 40 CFR § 63.6620 and Table 4 of subpart ZZZZ as detailed in IV.D. Because each RICE to be installed at the IGS is a new, four stroke, lean burn, stationary RICE with a site rating ≥ 500 brake horsepower and located at a major source of HAP emissions, the applicable emission limitations in Table 2a are as follows.

   a. Except during periods of startup, when operating plus or minus 10 percent of 100 percent load, the Permittee shall reduce the CO emissions by 93 percent or more, or,

   b. Except during periods of startup, when operating within plus or minus plus or minus 10 percent of 100 percent load, the Permittee shall limit the concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less, corrected to 15 percent O2.

[40 CFR § 63.6600(b)]

3. During periods of startup, the permittee shall minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitation applies.

[40 CFR § 63.6625(h)]

4. Except during periods of startup, the permittee shall maintain the oxidation catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test.

[40 CFR § 63.6600(b)]

5. Except during periods of startup, the permittee shall maintain the temperature of the stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.

[40 CFR § 63.6600(b)]

6. The permittee shall, at all times, operate and maintain each RICE, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required under subpart ZZZZ have been achieved.

[40 CFR § 63.6605]

B. MONITORING REQUIREMENTS [40 CFR § 63.6625 & Table 5]

1. The Permittee shall prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of 40 CFR §63.6625 and in §63.8(d). As specified in §63.8(f)(4), the Permittee may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of 40 CFR §63.6625 in the site-specific monitoring plan.

Proposed Permit

2. The Permittee shall install, operate, and maintain continuous parameter monitoring system (CPMS) for each RICE. The CPMS shall be in continuous operation according to the procedures in the site-specific monitoring plan. Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, the Permittee shall monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

3. The CPMS shall collect data at least once every 15 minutes.

4. For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.

5. The Permittee shall conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in the site-specific monitoring plan at least annually.

6. The Permittee shall conduct a performance evaluation of each CPMS in accordance with the site-specific monitoring plan.

7. The CPMS shall be installed and monitoring parameters shall be established during the initial performance test. The following parameters shall be monitored during the performance test and during operation:

   a. Catalyst inlet temperature

   b. Catalyst pressure drop

[40 CFR §63.6625(b) and 63.6635]

C. RECORDKEEPING AND REPORTING REQUIREMENTS

1. The Permittee shall submit semiannual compliance reports in accordance with the following provisions:

   a. The first compliance report shall cover the period beginning on the date of startup and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the date of startup. The first compliance report shall be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the date of startup.

   b. Each subsequent compliance report shall cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31 and shall be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

   c. Each compliance report shall contain the company name and address; a statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report; and the date of the report and the beginning and ending dates of the reporting period.

   d. If there are no deviations from any applicable emission limitations or operating limitations under subpart ZZZZ, the compliance report shall contain a statement that there were no deviations from the emission limitations or operating limitations during the reporting period.

   e. If there were no periods during which the CPMS required by subpart ZZZZ was out-of-control, as specified in 40 CFR § 63.8(c)(7), the compliance report shall contain a statement that there were no periods during which the CPMS was out-of-control during the reporting period.

Proposed Permit

f. If the permittee had a deviation from any applicable emission limitation or operating limitation under subpart ZZZZ and for which the permittee is not using a CPMS to demonstrate compliance with the emission or operating limitations, the report shall contain, for each such deviation during the reporting period, the total operating time of the stationary RICE at which the deviation occurred during the reporting period; information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable; and the corrective action taken.

g. If the permittee had a deviation from any applicable emission limitation or operating limitation under subpart ZZZZ and for which the Permittee is using a CPMS to demonstrate compliance with the emission or operating limitations, the report shall contain, for each such deviation during the reporting period, including any periods during which the CPMS required by subpart ZZZZ was out-of-control as specified in 40 CFR § 63.8(c)(7), the date and time that any malfunction started and stopped; the date, time, and duration that each CPMS was inoperative, except for zero (low-level) and high-level checks; the date, time, and duration that each CPMS was out-of-control, including the information in 40 CFR § 63.8(c)(8); the date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period; a summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period; a breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes; a summary of the total duration of CPMS downtime during the reporting period, and the total duration of CPMS downtime as a percent of the total operating time of the stationary RICE at which the CPMS downtime occurred during that reporting period; an identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE; a brief description of the stationary RICE; a brief description of the CPMS; the date of the latest CPMS certification or audit; and a description of any changes in CPMS, processes, or controls since the last reporting period.

h. If the permittee had a malfunction during the reporting period, the report shall include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report shall also include a description of actions taken by TEP during a malfunction of an affected source to minimize emissions in accordance with 40 CFR § 63.6605(b), including actions taken to correct a malfunction.

[40 CFR §63.6650]

i. The Permittee shall maintain records of each notification and report submitted to comply with 40 CFR§ 63 Subpart ZZZZ.

[40 CFR § 63.6655(a)(1)]

j. The Permittee shall maintain records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment required by 40 CFR§ 63 Subpart ZZZZ.

[40 CFR § 63.6655(a)(2)]

k. The Permittee shall maintain records of performance tests and performance evaluations as required by 40 CFR§ 63.10(b)(2)(viii).

[40 CFR § 63.6655(a)(3)]

l. The Permittee shall maintain records of all required maintenance performed on the air pollution control and monitoring equipment.

[40 CFR § 63.6655(a)4)]

Proposed Permit

m. The Permittee shall maintain records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR § 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

[40 CFR § 63.6655(a)(5)]

D. TESTING REQUIREMENTS

1. Within 180 days after startup, the permittee shall conduct the initial performance test on each RICE required by Table 4 of subpart ZZZZ according to the provisions in 40 CFR § 63.7(a)(2) and (a)(4).

[40 CFR §§ 63.6610(a) and 63.6620(a)-(b)]

2. The Permittee shall conduct subsequent performance tests on each RICE semiannually. After the Permittee has demonstrated compliance for two consecutive tests, the permittee may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the RICE is not in compliance with the applicable emission limitation, or the permittee deviates from any of the operating limitations required by 40 CFR § 63.6600(b), the permittee shall resume semiannual performance tests.

[40 CFR §§ 63.6615 and 63.6620(a)-(b)]

3. Formaldehyde

a. If the permittee elects to comply with the limit on formaldehyde concentration, the Permittee shall conduct a performance test for formaldehyde on each RICE consisting of three valid runs using either US EPA Method 320 or 323 of 40 CFR Part 63 or ASTM D6348–03.

b. Each test run shall be a minimum of 120 minutes with a minimum sample volume of 90 dscf.

c. Each engine shall be tested during in accordance with the schedule set forth in Table 3 and 4 of 40 CFR 63 Subpart ZZZZ.

[40 CFR §§ 63.6615]

4. Each initial and subsequent performance test shall be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[40 CFR § 63.6620(b)]

5. The engine percent load during a performance test shall be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination shall be included in the notification of compliance status required by 40 CFR §§ 63.9(h) and 63.6645(h). The following information shall be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test shall be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, strain gauges, etc. are used, the model number of the measurement device, and an estimate of its accuracy in percentage of true value shall be provided.

[40 CFR § 63.6620(i)]

6. Each initial and subsequent performance test shall comprise three separate test runs and each test run shall last at least 1 hour.

[40 CFR § 63.6620(d)]

7. For each initial and subsequent performance test, data shall be reduced in accordance with 40 CFR § 63.6620(e)(1)-(2), as applicable.

[40 CFR § 63.6620(e)]

Proposed Permit

V. ELECTRIC STEAM GENERATING UNITS 'EGU'S' , UNITS I1, I2, AND I3

The conditions in this section apply to the fossil fuel fired electric steam generating units 'EGU's' - Units I1, I2, and I3 listed in Table I, Attachment 2.

A. EMISSIONS LIMITS AND STANDARDS [PCC 17.12.180.A.2]

1. Particulate Matter Standard

The Permittee shall not allow or permit the emission of particulate matter from any fossil fuel-fired steam generator in excess of the amounts calculated by the following equation:

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

E = the maximum allowable particulate emissions rate in pounds-mass per hour.
Q = the heat input in million Btu per hour. [PCC 17.16.160.C.1]

[Locally Enforceable Condition]

2. Sulfur Dioxide Standard

The Permittee shall not cause, allow, or permit the emission of more than 1.0 pound of sulfur dioxide as a three hour average per million Btu heat input when firing liquid fuel.

[PCC 17.16.160.D.1]

[Locally Enforceable Condition]

3. Fuel Limitations

a. The Permittee shall only burn the following as fuel. [PCC 17.12.190 & PCC 17.12.350.a]

[Material Permit Conditions]

i. Natural gas;

ii. Fuel Oils #2 through #6 or equivalent;

iii. Co-firing Natural gas with Fuel Oils #2 through #6; or

iv. Co-firing any of the fuels listed above (II.A.3.a.i through ii of this Part) with Landfill Gas.

b. The Permittee shall not use high sulfur oil (fuel sulfur content > 0.90% by weight) as a fuel unless the Permittee demonstrates to the satisfaction of the Control Officer that sufficient quantities of low sulfur oil are not available for use by the source and that it has adequate facilities and contingency plans to insure that the sulfur dioxide ambient air quality standards set forth in PCC 17.08.020 will not be violated. [PCC 17.16.160.G]

[Locally Enforceable Condition]

B. MONITORING REQUIREMENTS [PCC 17.12.180.A.3]

1. Visible Emissions When Firing Liquid Fuel

a. If liquid fuel is combusted in the unit continuously for a time period greater than 48 hours but less than 168 hours, (equal to one week), at least one opacity reading will be observed at the exit of the unit's stack.

b. When continuously firing liquid fuel for a time period greater than 168 hours, the Permittee shall conduct at least one opacity reading during each 168-hour period at the exit of the unit's stack by an employee certified in Method 9.

Proposed Permit

c. All opacity readings shall be observed in accordance with EPA Reference Method 9. The Permittee shall log in ink or in an unchangeable electronic format and maintain a record of the opacity readings from above and the number of hours fuel oil is burned continuously.

C. RECORDKEEPING & REPORTING [PCC 17.12.180.A.4 & 5]

1. Particulate Matter

With regard to all liquid fuels, the Permittee shall keep on record, along with the fuel firing rate, the contractual agreement with the liquid fuel vendor indicating the following information concerning the liquid fuel being fired:

a. The heating value; and

b. The ash content.

2. Sulfur Dioxide

With regard to liquid fuel, the Permittee shall keep records of fuel supplier certifications including the following information:

a. The name of the fuel oil supplier;

b. The sulfur content of the oil from which the shipment came;

c. The heating content of the oil from which the shipment came;

d. The density of the fuel oil from which the shipment came; and

e. The method used to determine the sulfur content of the oil.

f. Engineering calculations demonstrating compliance with the standard shall be performed each time there is a change in conditions II.C.2.b, c, or d above. These calculations shall be performed according to the following equation and maintained in a record:

$$SO_2 = \frac{2.0 \times \%S \times D_f}{HV} \times \frac{1{,}000{,}000\,Btu}{1\,MMBtu}$$

where:

SO_2 = emissions of SO_2 in lb/MMBtu

%S = Percent Sulfur by weight (decimal; i.e. 1% = 0.01)

D_f = Density of fuel in lb/gal

HV = Heating value of fuel in Btu/gal

3. Fuel Limitations

Except for fuels fired during startup and/or flame stabilization, the Permittee shall log in ink or in an electronic format a record of any change in fuel type including the following information:

a. Type of fuel change; and

b. Date and time of fuel change.

Proposed Permit

4. Hours of Operation

Until the performance tests specified in II.D.1 of this Part are completed, the Permittee shall compute and record the following information in an individual log for each unit within 5 working days of the end of each month:

a. Date and time in which the unit began firing liquid fuel (exclusively or in combination); if liquid fuel combustion began in the previous month, the record shall state the fact;

b. The date and time in which the unit ceased to fire liquid fuel (exclusively or in combination); if liquid fuel combustion continues into the next month the record shall state that fact;

c. The hours of operation during which liquid fuel was fired (exclusively or in combination) in the previous month, including consecutive hours and total hours;

d. The hours of operation during which liquid fuel was fired (exclusively or in combination) in the previous 12-consecutive month period.

5. Special Reporting for the Affected Source or Process

The Permittee shall promptly notify and submit written reports to the Control Officer of any instances of excess emissions or deviation from permit requirements. (Refer to XI.A & B, of Part A).

D. TESTING REQUIREMENTS [PCC 17.12.180.A.5]

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.

The Permittee shall use the following EPA approved reference test methods to conduct performance tests for the specified pollutants when required:

1. Sulfur Dioxide

The Permittee shall perform an annual performance test in accordance with EPA Reference Method 6 or 6C when liquid fuel is fired greater than 1300 hours in a 12 consecutive month period.

E. SHUTDOWN OF UNIT I1 AND/OR I2

1. The permittee shall shutdown permanently either Unit I1 or Unit I2 within 180 days following initial startup of the first RICE unit.

2. The permittee shall have shutdown permanently both Unit I1 and Unit I2 within 180 days following initial startup of the sixth RICE unit.

[40 CFR 52.21(b)(4)]

Proposed Permit

VI. ELECTRIC STEAM GENERATING UNIT 'EGU' – UNIT I4

This section applies to the fossil fuel fired electric steam generating unit 'EGU' – Unit I4 listed in Table I, Attachment 2.

A. EMISSION LIMITS & STANDARDS (UNIT I4) [PCC 17.12.180.A.2]

1. Particulate Matter Standard [PCC 17.16.160.C.1]

[Locally Enforceable Condition]

The Permittee shall not cause, allow, or permit the emission of particulate matter from any fossil fuel-fired steam generator in excess of the amounts calculated by the following equation:

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

E = the maximum allowable particulate emissions rate in pounds-mass per hour.
Q = the heat input in million Btu per hour.

2. Nitrogen Oxides Standards

The Permittee shall not cause, allow, or permit the emission of more than 0.7 pounds of nitrogen oxides as a three hour average (calculated as nitrogen dioxide) per million BTU heat input.

[Installation Permit #1156, Condition 5]

[Material Permit Condition]

3. Fuel Limitations

a. The Permittee shall only burn the following as fuel: [PCC 17.12.190 & PCC 17.12.350.a]

[Material Permit Conditions]

i. Natural Gas;

ii. Co-Firing Natural Gas with Landfill Gas.

4. Regional Haze Requirements (See section IV.C and IV.D of Part B) [40 CFR 52.145(j)]

B. MONITORING REQUIREMENTS (UNIT I4) [PCC 17.12.180.A.3]

1. Nitrogen Oxides [40 CFR 75.10, PCC 17.12.060.E.1 & 6, & PCC 17.16.160.I]

[Material Permit Condition]

The Permittee shall install, certify, operate and maintain in accordance with the general operating requirements of 40 CFR Part 75.10 a NO_X – diluent continuous emission monitoring system with an automated data acquisition and handling system (DAHS) to determine, measure, and record NO_X concentration (in ppm), O_2 or CO_2 (in percent) and NO_X emission rate (in lb/MMBtu) discharged to the atmosphere except as otherwise approved by the Administrator of the EPA.

2. Opacity

a. The Permittee shall install, maintain, calibrate, and operate a continuous opacity monitoring system (COMS). [Installation Permit #1156, Condition #6]

[Material Permit Condition]

Proposed Permit

b. The COMS shall meet the following requirements:

i. 40 CFR 60, Appendix B, Performance Specification1, Specification and Test Procedures for Opacity Continuous Emission Monitoring Systems in Stationary Sources.

(a) What are the basic requirements of PS-1? [40 CFR 60, Appendix B, Section 1.0]

(b) What performance procedures are required to comply with PS-1? [40 CFR 60, Appendix B, Section 8.0]

(c) What quality control measures are required by PS-1? [40 CFR 60, Appendix B, Section 9.0]

(d) What calculations are needed? [40 CFR 60, Appendix B, Section 12.0]

(e) What specification does a COMS have to meet for certification? [40 CFR 60, Appendix B, Section 13.0]

ii. Calibration Checks

The Permittee shall record the zero and span drift in accordance with the method described by the manufacturer's recommended zero and span check at least once daily unless the manufacturer has recommended adjustments at shorter intervals, in which case such recommendations shall be followed. [PCC 17.12.060.D.6]

(a) Zero and Span Drift Adjustments [PCC 17.12.060.D & 40 CFR 60.13(d)(1)]

(i). Permittee shall adjust the zero or span whenever the 24-hour zero drift or 24-hour calibration drift limits of 2% opacity are exceeded.

(ii). The system shall allow for the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified.

(iii). The optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments except that for systems using automatic zero adjustments.

(iv). The optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4% opacity.

(b) System Checks [40 CFR 60.13(d)(1)]

Each analyzer shall include a calibration system for simulating a zero opacity (or no greater than 10%) condition and an upscale opacity condition for the purposes of performing periodic checks of the transmissometer calibration while on an operating stack or duct. This calibration will provide, as a minimum, a system check of the analyzer internal optics and all electronic circuitry including the lamp and photodetector assembly.

(c) Minimum Frequency of Operation [40 CFR 60.13(e)(1)]

Except during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments, the COMS shall be in continuous operation and shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(d) Data Reduction and Missing Data [40 CFR 60.13(h)(1)]

Proposed Permit

(i). Permittee shall reduce all data from the COMS to 6-minute averages. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period.

(ii). Data recorded during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under the previous paragraph. An arithmetic or integrated average of all data may be used. [40 CFR 60.13(h)(2)(vi)]

3. Regional Haze Requirements

(See section VII.D of Part B).

C. RECORDKEEPING & REPORTING (UNIT I4) [PCC 17.12.180.A.4 & 5]

1. Quarterly Reports for NO_X CEMS [PCC 17.12.060.E.1 and 6, 40 CFR 75.10]

a. Permittee shall submit a written report of all deviations to PDEQ on January 31st, April 30th, July 31st, and October 31st, covering October through December, January through March, April through June, and July through September, respectively. The reports shall include the following:

i. The magnitude of deviations computed in accordance with PCC 17.12.060, any conversion factor(s) used, and the date and time of commencement and completion of each time period of deviation.

ii. Specific identification of each period of deviation that occurs during startups, shutdowns, and malfunctions of the boiler. The nature and cause of any malfunction (if known) and the corrective action taken or preventative measures adopted shall also be reported.

iii. The date and time identifying each period during which the continuous monitoring system(s) were inoperative except for zero and span checks and the nature of the system repairs or adjustments. The Control Officer may require proof of continuous monitoring system performance whenever system repairs or adjustments have been made. [PCC 17.12.060.E.4]

iv. When no excess emissions have occurred and the continuous monitoring systems have not been inoperative, repaired, or adjusted, such information shall be clearly stated in the report. [PCC 17.16.060.E.5]

b. In addition to the requirements of the above paragraph (III.C.2.a. of this Part), the Permittee shall report all deviations in accordance with XI.B of Part A.

2. Regional Haze Requirements

(See section V.E through IV.G of Part B).

3. Special Reporting for the Affected Source or Process

The Permittee shall promptly notify and submit written reports to the Control Officer of any instances of excess emissions or deviation from permit requirements. (Refer to XI.A & B of Part A).

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D. TESTING REQUIREMENTS (UNIT I4) [PCC 17.12.180.A.3.a & PCC 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.

The Permittee shall use the following EPA approved reference test methods to conduct performance tests or relative accuracy test audits (RATA's) for the specified pollutants when required:

1. Testing shall be conducted in accordance with EPA Reference Method 7 for nitrogen oxides.

2. Regional Haze Test Requirements (See Section IV.C and IV.D of Part B).

VII. UNIT I4 – REGIONAL HAZE IMPLEMENTATION PLAN [40 CFR 52.145(j)]

This section applies to the fossil fuel fired electric steam generating unit 'EGU' - Unit I4 listed in Table I, Attachment 2. [40 CFR 52.145(j)(1)]

A. DEFINITIONS [40 CFR 52.145(j)(2)]

For the purpose of this section:

1. *Boiler operating day* means a 24-hour period between 12 midnight and the following midnight during which any fuel is combusted at any time in the unit.

2. *Continuous emission monitoring system or CEMS* means the equipment required by 40 CFR Part 75 and this section.

3. *MMBtu* means one million British thermal units.

4. *Natural gas* means a naturally occurring fluid mixture of hydrocarbons as defined in 40 CFR 72.2.

5. NO_X means oxides of nitrogen.

6. PM_{10} means total particulate matter less than 10 microns in diameter.

7. SO_2 means sulfur dioxide.

B. COMPLIANCE DATE

The Permittee shall comply with the NO_x, SO_2, and PM_{10} emission limitations of condition IV.C of this section no later than December 31, 2017. [40 CFR 52.145(j)(6)]

C. EMISSION LIMITATIONS [PCC 17.12.180.A.2]

1. The Permittee shall combust only natural gas or natural gas combined with landfill gas.

2. The Permittee shall not emit or cause to be emitted pollutants in excess of the following limitations, in pounds of pollutant per million British thermal units (lb/MMBtu): [40 CFR 52.145(j)(4)(ii)]

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a. NO_X – 0.25 lbs/MMBtu

b. SO_2 – 0.057 lbs/MMBtu

c. PM_{10} – 0.010 lbs/MMBtu

3. If the results of the initial performance test conducted in accordance with condition IV.D.4 of this section show PM_{10} emissions greater than the limit in condition IV.C.2.c of this section, the owner/operator may elect to comply with an emission limit equal to the result of the initial performance test, in lieu of the PM_{10} emission limit in condition IV.C.2.c of this section. [40 CFR 52.145(j)(4)(iii)]

D. COMPLIANCE DETERMINATION [PCC 17.12.180.A.3]

1. Continuous emission monitoring system (CEMS) [40 CFR 52.145(j)(8)(i)]

a. At all times after the compliance date specified in IV.B of this section, the Permittee of the unit shall maintain, calibrate, and operate CEMS, in full compliance with the requirements found at 40 CFR part 75. All valid CEMS hourly data shall be used to determine compliance with the emission limitation for NO_X in IV.C.2.a of this section. When the CEMS is out-of-control as defined by 40 CFR Part 75, the CEMS data shall be treated as missing data and not used to calculate the emission average. Each required CEMS must obtain valid data for at least ninety (90) percent of the unit operating hours, on an annual basis. [40 CFR 52.145(j)(8)(i)(A)]

b. The Permittee of the unit shall comply with the quality assurance procedures for CEMS found in 40 CFR Part 75. The CEMS monitoring data shall not be bias adjusted. [40 CFR 52.145(j)(8)(B)]

2. Compliance Determination for NO_X [40 CFR 52.145(j)(8)(ii)]

Compliance with the NO_X emission limit described in condition IV.C.2.a of this section shall be determined based on a rolling 30 boiler-operating-day basis. The rolling 30-boiler-operating-day NO_X emission rate for the unit shall be calculated for each boiler operating day in accordance with the following procedure:

a. Step one, sum the hourly pounds of NO_X emitted for the current boiler operating day and the preceding twenty-nine (29) boiler-operating-days to calculate the total pounds of NO_X emitted over the most recent thirty (30) boiler-operating-day period for that unit;

b. Step two, sum the total heat input, in MMBtu, during the current boiler operating day and the preceding twenty-nine (29) boiler-operating-days to calculate the total heat input over the most recent thirty (30) boiler-operating-day period for that unit;

c. Step three, divide the total amount of NO_X calculated from Step one by the total heat input calculated from Step two to calculate the rolling 30-boiler-operating-day NO_X emission rate, in pounds per MMBtu for that unit. Each rolling 30-boiler-operating-day NO_X emission rate shall include all emissions and all heat input that occur during all periods within any boiler operating day, including emissions from startup, shutdown, and malfunction. If a valid NO_X pounds per hour or heat input is not available for any hour for the unit, that heat input and NO_X pounds per hour shall not be used in the calculation of the rolling 30-boiler-operating-day emission rate.

3. Compliance Determination for SO_2 [40 CFR 52.145(j)(8)(iii)]

Compliance with the SO_2 emission limit shall be determined from fuel sulfur documentation demonstrating the use of either natural gas or natural gas combined with landfill gas.

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4. Compliance Determination for PM_{10} [40 CFR 52.145(j)(8)(iv)]

Compliance with the PM_{10} emission limit shall be determined from performance stack tests. Within sixty (60) days following the compliance deadline specified in Condition IV.B of this section, and at the request of the Regional Administrator thereafter, the Permittee shall conduct a stack test to measure PM_{10} using EPA Methods 1 through 4, 201A, and Method 202, per 40 CFR Part 51, Appendix M. Each test shall consist of three runs, with each run at least one hundred twenty (120) minutes in duration and each run collecting a minimum sample of sixty (60) dry standard cubic feet. Results shall be reported in lb/MMBtu using the calculation in 40 CFR Part 60, appendix A, Method 19.

E. RECORDKEEPING [PCC 17.12.180.A.4 & 40 CFR 52.145(j)(10)]

The Permittee shall maintain the following records for at least five years:

1. CEMS data measuring NO_X in lb/hr and heat input rate per hour.

2. Daily rolling 30-boiler operating day emission rates of NO_X calculated in accordance with Condition IV.D.2 of Part B of this permit.

3. Records of the relative accuracy test for NO_X lb/hr measurement and hourly heat input measurement.

4. Records of quality assurance and quality control activities for emissions systems including, but not limited to, any records required by 40 CFR Part 75.

5. Records of all major maintenance activities conducted on emission units, air pollution control equipment, and CEMS.

6. Any other records required by 40 CFR Part 75.

7. Records sufficient to demonstrate that the fuel for the unit is natural gas or natural gas combined with landfill gas.

8. All PM_{10} stack test results.

F. NOTIFICATIONS [PCC 17.12.180.A.5 & 40 CFR 52.145(j)(11)]

1. All notifications required under this section shall be submitted by the Permittee to the Director, Enforcement Division (Mail Code ENF-2-1), U.S. Environmental Protection Agency, Region 9, 75 Hawthorne Street, San Francisco, California 94105-3901.

2. By March 31, 2017, the Permittee shall submit notification by letter that it will comply with the emission limits in Condition IV.C. of this section. [40 CFR 52.145(j)(11)(i)]

3. The Permittee shall submit notification of its intent to comply with the PM_{10} emission limit in Condition IV.C.2.c of this section within one hundred twenty (120) days following the compliance deadline specified in condition IV.B of this section. The notification shall include results of the initial performance test and the resulting applicable emission limit. [40 CFR 52.145(j)(11)(v)]

G. REPORTING [PCC 17.12.180.A.5 & 40 CFR 52.145(j)(13)]

1. All reports required under this condition shall be submitted by the Permittee to the Director, Enforcement Division (Mail Code ENF-2-1), U.S. Environmental Protection Agency, Region 9, 75 Hawthorne Street, San Francisco, California 94105-3901. All reports required under this Condition shall be submitted within 30 days after the applicable compliance date(s) in Condition IV.B of this section and at least semiannually thereafter, within 30 days after the end of a semiannual period. The

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Permittee may submit reports more frequently than semiannually for the purposes of synchronizing reports required under this section with other reporting requirements, such as the title V monitoring report required by 40 CFR 70.6(a)(3)(iii)(A), but at no point shall the duration of a semiannual period exceed six months.

2. The Permittee shall submit a report that lists the daily rolling 30-boiler operating day emission rates for NO_X. [40 CFR 52.145(j)(13)(i)]

3. The Permittee shall submit excess emissions reports for NO_X limits. Excess emissions means emissions that exceed the emission limit specified in Condition IV.C.2.a of this section. The reports shall include the magnitude, date(s), and duration of each period of excess emissions; specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the unit; the nature and cause of any malfunction (if known); and the corrective action taken or preventative measures adopted. [40 CFR 52.145(j)(13)(ii)]

4. The Permittee shall submit CEMS performance reports, to include dates and duration of each period during which the CEMS was inoperative (except for zero and span adjustments and calibration checks), reason(s) why the CEMS was inoperative and steps taken to prevent recurrence, and any CEMS repairs or adjustments. [40 CFR 52.145(j)(13)(iii)]

5. The Permittee shall submit the results of any relative accuracy test audits performed during the two preceding calendar quarters. [40 CFR 52.145(j)(13)(iv)]

6. When no excess emissions have occurred or the CEMS has not been inoperative, repaired, or adjusted during the reporting period, the Permittee shall state such information in the semiannual report. [40 CFR 52.145(j)(13)(iv)]

7. The Permittee shall submit results of any PM_{10} stack tests conducted for demonstrating compliance with the PM_{10} limit specified in condition IV.C.2.c of this section. [40 CFR 52.145(j)(13)(vi)]

H. EQUIPMENT OPERATIONS [PCC 17.12.180.A.2 & 40 CFR 52.145(j)(14)(i)]

At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the unit, in a manner consistent with good air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available, which may include, but is not limited to, monitoring results, review of operating and maintenance procedures, and inspection of the unit.

I. ENFORCEMENT [PCC 17.12.180.A.3.a, PCC 17.20.010, & 40 CFR 52.145(j)(15)]

Notwithstanding any other provision in this implementation plan, any credible evidence or information relevant as to whether the unit would have been in compliance with applicable requirements if the appropriate performance or compliance test had been performed can be used to establish whether or not the owner/operator has violated or is in violation of any standard or applicable emission limit in the plan

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VIII. COOLING TOWERS (I1E, I2D, I3D, & I4E)

This section applies to the industrial process cooling towers (I1E, I2D, I3D, & I4E) in Table III of Attachment 2.

A. EMISSION LIMITS & STANDARDS (I1E, I2D, I3D, & I4E) [PCC 17.12.185.A2]

1. Particulate Matter Standard [PCC 17.16.430.A.1.b]

[Locally Enforceable Condition]

The Permittee shall not cause or allow particulate emissions from the cooling towers to exceed:

$E = 17.31P^{0.16}$ where:

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

2. Industrial Process Cooling Tower Standard

The Permittee shall not use chromium-based water treatment chemicals in the cooling towers.
[40 CFR 63.402 & PCC 17.12.190.B]

[Material Permit Condition]

B. REPORTING REQUIREMENTS (I1E, I2D, I3D, & I4E) [PCC 17.12.180.A.5]

1. Special Reporting for the Affected Source or Process

The Permittee shall promptly notify and submit written reports to the Control Officer of any instances of excess emissions or deviation from permit requirements. (Refer to XI.A & B of Part A).

IX. STATIONARY ROTATING MACHINERY

This section applies to the gas turbines IGT1 and IGT2 listed in Table IV, Attachment 2.

A. EMISSION LIMITS AND STANDARDS (IGT1, IGT2) [PCC 17.12.180.A.2]

1. Particulate Matter Standard [PCC 17.16.340.C]

The Permittee shall cause, allow, or permit the emission of particulate matter, caused by combustion of fuel, from any of the stacks of stationary rotating machinery in excess of the amounts calculated by the following equation:

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

E = the maximum allowable particulate emissions rate in pounds-mass per hour.
Q = the heat input in million Btu per hour.

2. Sulfur Dioxide Standard

The Permittee shall not emit more than 1.0 pounds of sulfur per million Btu heat input when firing low sulfur oil. [PCC 17.16.340.F]

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3. Opacity Standard

The Permittee shall not cause, allow or permit to be emitted into the atmosphere from any stationary rotating machinery, 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. [PCC 17.16.040, PCC 17.16.130.B & PCC 17.16.340.E]

[Federally Enforceable when opacity is greater than 40%]

4. Fuel Limitations

a. The Permittee shall not use high sulfur oil (fuel sulfur content > 0.90% by weight) as a fuel unless the Permittee demonstrates to the satisfaction of the Control Officer that sufficient quantities of low sulfur oil are not available for use by the source and that it has adequate facilities and contingency plans to insure that the sulfur dioxide ambient air quality standards set forth in PCC 17.08.020 will not be violated. [PCC 17.16.340.H]

[Locally Enforceable Condition]

b. The Permittee shall only burn the following as fuel in UNITS IGT1 and IGT2: [PCC 17.12.190]

i. Natural gas;

ii. Fuel oil: #2 Distillate; or equivalent;

iii. Co-firing natural gas with Fuel oil #2 Distillate or equivalent.

c. The Permittee shall only burn diesel as fuel in UNITS IGT1A and IGT2A (stationary turbine starter engines). [PCC 17.12.190]

B. MONITORING REQUIREMENTS [PCC 17.12.180.A.3]

1. Visible Emissions

a. If liquid fuel is burned in a unit continuously for a time period greater than 48 hours but less than 168 hours, at least one six minute opacity reading will be observed at the exit of the unit's stack.

b. If liquid fuel is burned in a unit continuously for a time period greater than 168 hours, at least one six-minute opacity reading will be observed during each 168-hour period, at the exit of the unit's stack.

c. All opacity readings will be observed in accordance with EPA Reference Method 9. The Permittee shall log in ink or in an unchangeable electronic format and maintain a record of the opacity readings from above and the number of hours fuel oil is continuously burned.

2. Sulfur Dioxide

For units firing gaseous fuels, the Permittee shall monitor daily, the sulfur content of the fuel being combusted in these machines. This requirement may be complied with by maintaining a vendor-provided copy of that part of the Federal Energy Regulatory Commission (FERC)-approved Tariff agreement that limits transmission of pipeline quality natural gas of sulfur content to less than 0.9 percent by weight. [PCC 17.16.340.I]

3. Hours of Operation

The Permittee shall keep track of the hours of operation, computed as a twelve-month rolling total, until the performance tests specified in VI.E.1 & 2 of this Part are completed.

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C. RECORDKEEPING [PCC 17.12.180.A.4]

1. Particulate Matter

a. The Permittee shall keep on record, along with the fuel firing rate, the contractual agreement with the liquid fuel vendor indicating the following information concerning the liquid fuel fired in any stationary rotating machinery:

i. The heating value; and

ii. The ash content:

b. The Permittee shall calculate the particulate matter emissions based on the above values for each applicable unit. The Permittee shall perform this calculation each time there is a change related to VI.C.1.a.i or ii of Part B above in the contractual agreement. These calculations shall be maintained in a record.

2. Sulfur Dioxide

a. For units firing liquid fuels, the Permittee shall keep records of fuel supplier certifications including the following information:

i. The name of the oil supplier;

ii. The sulfur content and the heating content of the oil from which the shipment came; and

iii. The method used to determine the sulfur content of the oil.

iv. Engineering calculations demonstrating compliance with VI.A.2 of Part B shall be performed each time there is a change in VI.C.2.ii of Part B above). These calculations shall be maintained in a record.

b. Fuel analysis shall be used to determine the sulfur content of fuel used. The Permittee may also use fuel sulfur content certifications that employ the following test methods: ASTM D 129-91 shall be used to determine the sulfur content of liquid fuels and ASTM D-1702-90, D 1072-80, D3031-81, D 4084-82, or D 3246-81 shall be used for the sulfur content of gaseous fuels. The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the Control Officer.

D. REPORTING REQUIREMENTS [PCC 17.12.180.A.5]

1. Sulfur Content of Fuels

The Permittee shall report any daily period during which the sulfur content of fuels fired in any piece of stationary rotating machinery exceeds 0.8 percent by weight in the semiannual report of required monitoring in I.E of this Part. [PCC 17.16.340.J]

2. Special Reporting for the Affected Source or Process

The Permittee shall promptly notify and submit written reports to the Control Officer of any instances of excess emissions or deviation from permit requirements. (Refer to XI.A & B of Part A).

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E. TESTING REQUIREMENTS [PCC 17.12.180.A.3.a & PCC 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.

The Permittee shall use the following EPA approved reference test methods to conduct performance tests for the specified pollutants when required:

1. Sulfur Dioxide

The Permittee shall perform an annual performance test in accordance with EPA Reference Method 6 or 6C when liquid fuel is fired greater than 1300 hours in a 12 consecutive month period.

2. Carbon Monoxide [A.R.S. 49-422.A.3]

The Permittee shall perform a performance test to measure the emission rate of carbon monoxide. This performance test shall be conducted after the twelve month rolling total hours of operation exceeds 4500 hours. The performance test shall be performed in accordance with EPA Reference Method 10.

X. INTERNAL COMBUSTION ENGINES - LOCAL REQUIREMENTS

In addition to sections VIII or IX, as applicable, this section applies to EGEN1and the gas turbine starter engines identified in Table V of Attachment 2, regulated under NESHAP program.

A. EMISSION LIMITS AND COMPLIANCE DETERMINATION [PCC17.12.180.A.2, 3 &4]

1. Opacity Standard [PCC17.12.180.A.2, 3 & 4]

[Locally Enforceable Conditions]

a. The Permittee shall not cause, allow or permit to be emitted into the atmosphere from any stationary rotating machinery, 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.

[PCC 17.16.040, & PCC 17.16.340.E]

[Federally Enforceable when opacity is greater than 40%]

b. The Permittee shall not cause or permit the effluent from a single emission point, multiple emission point, or a fugitive emissions source to have an average optical density equal to or greater than 60 percent when a cold diesel engine is started or when a diesel engine is accelerated under load as measured in accordance with EPA Method 9.

[PCC 17.16.040]

c. The Permittee shall conduct a visible emissions check on the exhaust stack of each emergency generator (excluding starter engines) at least quarterly while the generator is operating. For the purposes of this permit, a visible emission check is verification that abnormal emissions are not present at the generator stack. The Permittee shall record the date and time of the check, the name of the person conducting the check, the results of the check, and the type of corrective action taken (if required). All records shall be maintained for five years. [PCC 17.12.180.A.3]

d. When requested by the Control Officer, the Permittee shall perform EPA Method 9 visible emissions observations on the RICE and the generator(s) to demonstrate compliance with

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the opacity standard. At any time that the permittee is burning natural gas in emissions units RICE01 through RICE10, the permittee is not required to conduct any visible emissions or particulate matter monitoring because it is extremely unlikely that these standards could be violated while burning natural gas.

2. Fuel Limitation [PCC 17.12.180.A.2, 3 & 4]

a. The Permittee shall burn only the specified fuel(s) allowed for each generator in the equipment list. The Permittee shall only fire fuel less than 0.90% by weight of sulfur. [PCC 17.12.190.B]

[Material Permit Condition]

b. In order to demonstrate compliance with the fuel limitation required in VII.A.3.a.of this Attachment, the Permittee shall maintain records of fuel supplier specifications which verify the sulfur content of the fuel, piped and/or as delivered. All records shall be maintained for five years.

XI. NESHAP SUBPART ZZZZ REQUIREMENTS FOR EMERGENCY GENERATORS – GT1A, GT2A, & EGEN1

This section applies to the starter engines GT1A and GT2A and the emergency generator identified as EGEN1 in Table V of Attachment 2.

A. APPLICABILITY

1. This section applies to existing stationary RICE with a site rating of more than 500 brake horsepower located at a major source of HAP emissions that commenced construction or reconstruction before December 19, 2002, or existing stationary RICE with a site rating less than or equal to 500 hp at a major source of HAP emissions that commenced construction or reconstruction before June 12, 2006 that are identified as such in Table V of Attachment 2. [40 CFR 63.6590(a)(1)(i and ii) and 6675]

2. The Permittee shall comply with the terms of this Section no later than May 3, 2013 for existing stationary RICE with a site rating less than or equal to 500 brake horsepower, and no later than June 15, 2007 for existing stationary RICE with a site rating more than 500 brake horsepower. [40 CFR 63.6595(a)(1)]

B. OPERATING REQUIREMENTS [PCC 17.12.180.2]

1. The Permittee must be in compliance with the applicable emissions/operating limitations at all times. [40 CFR 63.6605(a)]

2. At all times the Permittee shall operate and maintain the ICE, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Director which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.6605(a)]

3. The Permittee shall minimize the ICE's time at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63.6625(h)]

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4. Except during periods of startup, the Permittee shall meet the following requirements for each generator and gas turbine diesel starter engine:

   a. Change oil and filter every 500 hours of operation or annually, whichever comes first;

   b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and

   c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. [40 CFR 63.6602: Table 2c - Row 1 of Subpart ZZZZ]

5. The Permittee may opt to utilize an oil analysis program in order to extend the oil change requirement specified in Condition VIII.B.4 in this section. The oil analysis shall be performed at the same frequency specified in Condition IX.B.4. The analysis program shall at a minimum analyze the following three parameters: [40 CFR 63.6625(i)]

   a. Total base number;

   b. Viscosity; and

   c. Percent water content.

   The condemning limits for these parameters are as follows:

   a. Total base number is less than 30 percent of the total base number when oil is new;

   b. Viscosity of the oil has changed by more than 20 percent from the viscosity of oil when new; and

   c. Percent water content by volume is greater than 0.5.

6. The Permittee shall operate and maintain each generator subject to this section according to manufacturer's emission-related written instructions or develop its own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR 63.6625(e): Table 6, Item 9]

7. The Permittee must install a non-resettable hour meter on EGEN1 if one is not already installed. [40 CFR 63.6625(f)]

8. The Permittee shall operate the emergency stationary RICE under this section according to the requirements in paragraphs VIII.B.8.a through c below. In order for the engine to be considered an emergency stationary RICE, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs VIII.B.8.a through c below, is prohibited. If not operated according to the requirements in paragraphs VIII.B.8.a through c below, the engine will not be considered an emergency engine under this section and must meet all requirements for non-emergency engines. [40 CFR 63.6640(f)]

   a. The emergency stationary RICE under this section may be operated to provide electrical power or mechanical work during an emergency situation, such as its use to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted. There is no time limit on the use of the emergency stationary RICE in emergency situations. [40 CFR 63.6640(f)(1) and 6675]

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b. The emergency stationary RICE under this section may be operated for maintenance checks and readiness testing for a maximum of 100 hours per calendar year, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The Permittee may petition for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph VIII.B.8.c below counts as part of the 100 hours per calendar year allowed under this paragraph. [40 CFR 63.6640(f)(2)]

c. The emergency stationary RICE under this section may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and readiness testing provided in paragraph VIII.B.8.b above.

[40 CFR 63.6640(f)(3)]

C. REPORTING, RECORDKEEPING, AND NOTIFICATION REQUIREMENTS

[PCC 17.12.180.3, 4, & 5]

1. The Permittee shall keep records in a form suitable and readily available for expeditious review according to 40 CFR 63.10(b)(1). [40 CFR 63.6660(a)]

2. The Permittee shall keep each record for 5 years following the date of each occurrence, maintenance, corrective action, report, or record. [40 CFR 63.6660(b)]

3. The Permittee shall keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, maintenance, corrective action, report, or record. [40 CFR 63.6660(c)]

XII. NSPS SUBPART IIII EMERGENCY GENERATOR REQUIREMENTS

This section applies to the NSPS emergency generator identified as EGEN2 in the equipment list. All standards are federally enforceable unless indicated otherwise.

A. EMISSION LIMITS AND STANDARDS

[PCC 17.12.180.A.2 & 3]

1. Certified Emission Limits

[40 CFR 4205(b), 40 CFR 60.4202(a) & (2), 40 CFR 89.112(a)]

a. New Compression Ignition Internal Combustion Engines (CI ICE) subject to this Section shall be certified by the manufacturer at or below the applicable emission standards and shall continue to meet them for the useful life of the engine. [40 CFR 60.4206]

b. For 2007 model year and later stationary CI ICE subject to this Attachment, the Permittee shall comply with the emission standards by purchasing an engine certified to the emission standards of permit condition IX.A.1.b. (40 CFR 60.4205(b), for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications. Applicable emission standards are identified in the table below:

[40 CFR 60.4211(c)] [PCC 17.12.180.A.4]

Maximum Engine Power	Model Year	NMHC+ NO_X (g/kW-hr)	CO (g/kW-hr)	PM (g/kW-hr)
605 ≤ HP <750	≥2007	4.0	3.5	0.20

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c. The Permittee must operate and maintain applicable units according to the manufacturer's written instructions or procedures developed by the Permittee that are approved by the engine manufacturer, over the entire life of the engine. [40 CFR 60.4206]

2. Operational Limitation [40 CFR 60.4211(e)] [PCC 17.12.190.B.2]

a. Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. The Permittee may petition the Control Officer for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Any operation other than emergency operation, and maintenance and testing as permitted in this Attachment, is prohibited. [40 CFR 60.4211(e)]

b. The Permittee must operate and maintain the applicable stationary CI ICE and control device (if any) according to the manufacturer's written instructions or procedures developed by the Permittee that are approved by the engine manufacturer. In addition, the Permittee may only change those settings that are permitted by the manufacturer. The Permittee must also meet the requirements of 40 CFR Part 89, as they apply to the Permittee. [40 CFR 60.4211(a)]

3. Fuel Limitation [PCC 17.12.180.A.2]

Stationary CI ICE subject to this section that use diesel fuel must use diesel fuel that meets the following requirements on a per-gallon basis: [40 CFR 60.4207(b) & 80.510(b)]

a. Sulfur content: 15 ppm maximum;

b. Centane index or aromatic content, as follows:

i. A minimum Centane index of 40; or

ii. A maximum aromatic content of 35 volume percent.

4. Additional Requirements [40 CFR 60.4218 & 60.4214(b)]

The General Provisions of 40 CFR 60.1 through 19 apply to applicable sources as indicated in Table 8 of 40 CFR Subpart IIII except that the Permittee is not required to submit an initial notification.

B. MONITORING REQUIREMENTS [PCC 17.12.180.A.3]

The Permittee shall install and maintain a non-resettable hour meter on each applicable stationary CI ICE prior to startup of each engine. [40 CFR 60.4209(a)]

C. RECORDKEEPING REQUIREMENTS [PCC 17.12.180.A.4]

1. The Permittee shall show compliance with condition IX.A.1.b. in this section by maintaining manufacturer purchase records that show compliance with the emission rates. [40 CFR 60.4211(c) & PCC 17.12.180.A.4]

2. The Permittee shall record the monthly operating hours and recalculate a rolling twelve (12) month total within 10 calendar days following the end of the month. [PCC 17.12.180.A.3 & 4]

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3. The Permittee shall maintain records of fuel supplier certifications that show and verify compliance with all the diesel fuel requirements in IX.A.3.of this attachment.

4. All records required by, this section, shall be maintained for five years from the date of record.

D. TESTING REQUIREMENTS [40 CFR 60.4212 & PCC 17.12.180.A.3.a]

Should the Permittee elect to or be required to conduct performance testing to demonstrate compliance with the applicable standards of this Attachment, the Permittee shall do so in accordance with 40 CFR 60.4212.

XIII. NONPOINT FUGITIVE DUST SOURCES

A. EMISSION LIMITS AND STANDARDS [PCC 17.12.180.A.2 & 3]

1. The Permittee is authorized to conduct fugitive dust producing activities at the facility in accordance with PCC 17.16.060 and is responsible for controlling windblown dust, dust from haul roads, and dust emitted from land clearing, earthmoving, demolition, trenching, blasting, road construction, mining, racing event, and other activities, as applicable.

   a. Until the area becomes permanently stabilized by paving, landscaping or otherwise, dust emissions shall be controlled by applying adequate amounts of water, chemical stabilizer, or other effective dust suppressant. [PCC 17.16.060.A]

   b. The Permittee shall not leave land in such a state that fugitive dust emissions (including windblown dust or dust caused by vehicular traffic on the area) would violate conditions I.F or I.G of Part B of this permit. [PCC. 17.16.060.B]

2. Vacant Lots and Open Spaces

   a. The Permittee shall not cause, suffer, allow, or permit a building or its appurtenances, or a building site, or a driveway, or a parking area, or a vacant lot or other 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. [PCC 17.16.080.A & SIP Rule 318.A]

   b. The Permittee shall not leave any vacant lot, building site, parking area, or other open area in such a state after construction, alteration, clearing, leveling, or excavation that naturally induced wind blowing over the area causes a violation the standards in I.F or I.G of this Part B. Dust and other types of air contaminants shall be kept to a minimum by good modern practices such as landscaping, covering with gravel or vegetation, paving, or applying equivalently effective controls. [PCC 17.16.080.B & SIP Rule 318.B]

   c. No vacant lot, parking area, sales lot, or other open urban area shall be used by motor vehicles in such a manner that visible dust emissions induced by vehicular traffic on the area cause a violation of the standards in I.F or I.G of Part B. [PCC 17.16.080.C & SIP Rule 318.C]

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3. Roads and Streets

a. The Permittee shall not cause, suffer, allow or permit the use, repair, construction or reconstruction of a roadway or alley without taking reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne. Dust and other particulates shall be kept to a minimum by employing temporary paving, dust suppressants, wetting down, detouring or by other reasonable means. [PCC 17.16.090.A & SIP Rule 315 A & B]

b. The surfacing of roadways with asbestos tailings is prohibited. [PCC 17.16.090.F & SIP Rule 315.F]

c. No person shall cause, suffer, allow or permit transportation of materials likely to give rise to airborne dust without taking reasonable precautions, such as wetting, applying dust suppressants, or covering the load, to prevent particulate matter from becoming airborne. Earth or other material that is deposited by trucking or earth moving equipment shall be removed from paved streets by the person responsible for such deposits. [PCC 17.16.090.G.]

4. Particulate Materials

The Permittee shall not cause, suffer, allow, or permit crushing, screening, handling, transporting, or conveying of materials or other operations likely to result in significant amounts of airborne dust without taking reasonable precautions, such as the use of spray bars, wetting agents, dust suppressants, covering the load, and hoods to prevent excessive amounts of particulate matter from becoming airborne. [PCC 17.16.100.A & 316.A through C]

5. Storage Piles

The Permittee shall not cause, suffer, allow, or permit organic or inorganic dust producing material to be stacked, piled or otherwise stored without taking reasonable precautions such as chemical stabilization, wetting, or covering to prevent excessive amounts of particulate matter from becoming airborne. [PCC 17.16.110.A & SIP Rule 316.D]

B. RECORDKEEPING REQUIREMENTS [PCC 17.12.180.A.4]

The Permittee shall maintain records of dates and types of control measures adopted pursuant to X.A.1through 5 of this section.

XIV. USE OF PAINTS [Locally Enforceable Conditions]

A. EMISSION LIMITS AND STANDARDS [PCC 17.12.180.A.2]

1. Surface Coating Operations

a. Paint Booth Requirements (Enclosed surface coating operations)

The Permittee shall not conduct any spray paint operation without minimizing organic solvent emissions. Such operations, other than architectural coating and spot painting, shall be conducted in an enclosed area equipped with controls containing no less than ninety-six percent of overspray. [PCC 17.16.400.C.1]

b. Architectural Coatings

The Permittee (or contractor) shall not employ, evaporate or dry any architectural coating containing photochemically reactive solvents (PRS) for industrial or commercial purposes, or thin or dilute any architectural coating with a PRS. A PRS shall be any solvent with an aggregate of more than 20% of its total volume composed of the chemical compounds as classified below,

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or which exceeds any of the percentage composition limitations as stated below. Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the groups of organic compounds described below, it shall be considered to be a member of the group having the least allowable percent of the total volume of solvents: [PCC 17.16.400.C.2-4]

i. A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturation-hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones: ***5%***.

ii. A combination of aromatic compounds with eight or more carbon atoms to the molecule, except ethylbenzene: ***8%***.

iii. A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: ***20%***.

B. MONITORING REQUIREMENTS [PCC 17.12.180.A.3]

1. Surface Coating Operations

a. The Permittee shall monitor the amount of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) in each coating and solvent product used in all surface coating operations at the facility to include those surface coating operations contracted to vendors and used onsite.

b. The Permittee shall monitor the amount of each coating and solvent product used in surface coating operations at the facility during each calendar month. Onsite operations contracted to vendors, other than spot painting (e.g., touchup work), shall be included in the monthly totals.

C. RECORDKEEPING REQUIREMENTS

1. Surface Coating Operations [PCC 17.12.180.A.4]

a. The Permittee shall maintain documentation demonstrating that enclosed surface coating operations meet the overspray control requirements in condition XI.A.1.a in this section by using filters that have a minimum ASHRAE arrestance rating of at least 96%, or an equivalent system which can be shown to meet the over-spray control requirement, and that the enclosure and controls are operated and maintained consistent with manufacturer’s guidelines or good engineering practice.

b. The Permittee shall maintain a file of Material Safety Data Sheets (MSDS) or equivalent manufacturer's product data sheet for each coating and solvent product used at the facility to include coatings and solvents used by contracted vendors (for work other than spot painting).

c. Upon request of the control officer, the Permittee shall prepare a list of architectural coatings used at the facility. The list shall be made available to the control officer within 30 calendar days of the request and shall be accompanied by the Material Safety Data Sheets (MSDS) or equivalent manufacturer's product information and content sheet for each of the architectural coatings listed.

d. The Permittee shall maintain a record of the amounts of each coating and solvent product used during each calendar month (excluding spot painting conducted by vendors). Within 30 calendar days of the beginning of a new month, the Permittee shall sum the amounts of each coating and solvent products used during the previous month and record and clearly identify that entry in a log.

e. The files shall be retained for a minimum of five years and shall be made available to the control officer upon request.

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XV. ABRASIVE BLASTING

A. EMISSION LIMITS AND STANDARDS [PCC 17.12.180.A.2]

Emissions from a sandblasting or other abrasive blasting operation shall be effectively controlled by applying water to suppress visible emissions (wet blasting), enclosing the operation, or use of other equivalently effective controls. [PCC 17.16.100]

B. MONITORING REQUIREMENTS [PCC 17.12.180.A.3]

The Permittee shall monitor the type of control or control device used to minimize emissions from abrasive blasting operations. For the purpose of this condition, monitoring shall not be required for small commercial abrasive blasting cabinets which shall be considered insignificant activities, provided they are equipped with filtration control devices.

C. RECORDKEEPING REQUIREMENTS [PCC 17.12.180.A.4]

The Permittee shall record the type of control or control device used to minimize emissions from each abrasive blasting operation. Such records shall be retained on site for a minimum of five years and shall be made available to the control officer upon request.

D. TESTING REQUIREMENTS

1. A certified Method 9 observer shall conduct a visual survey of visible emissions during abrasive blasting operations. The Permittee shall record the location observed, the name of the observer, date on which the observation was made, and the results of the observation.

2. If the observer sees a plume from an emission point that appears to exceed 20% opacity on an instantaneous basis, the observer shall take a six-minute Method 9 observation of the plume if possible.

3. If the six-minute opacity of the plume exceeds 20%, the Permittee shall do the following:

   a. Adjust or repair the controls or equipment to reduce opacity to below 20%; and

   b. Report it as an excess emission in accordance with XII.A of Part A of this permit.

4. If the six-minute opacity of the plume is less than 20%, the observer shall make a record of the following:

   a. Date and time of the observation; and

   b. The results of the Method 9 observation.

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ATTACHMENT 1:
APPLICABLE REGULATIONS

Requirements Specifically Identified as Applicable:

Pima County State Implementation Plan (SIP):

Rule 301	Planning Construction, or Operating without a Permit
Rule 302	Non-Compliance with Applicable Standards
Rule 315	Roads and Streets
Rule 316	Particulate Materials
Rule 318	Vacant Lots and Open Spaces
Rule 321	Standards and Applicability & Table 321
Rule 343	Visibility Limiting Standard
Rule 344	Odor Limiting Standards

Code of Federal Regulations Title 40:

Part 60 Subpart	KKKK New Source Performance Standards for Stationary combustion Turbines
Part 60 Subpart	GG New Source Performance Standards for Stationary combustion Turbines
Part 60 Appendix A	Test Methods
Part 60 Appendix B	Performance Specifications
Part 63 Subpart ZZZZ	NESHAPS for Stationary Reciprocating Internal Combustion Engines
Part 63 Subpart Q	NESHAPS for Industrial Process Cooling Towers
Part 75	Continuous Emission Monitoring
Part 75 Appendix A	Specifications and Test Procedures
Part 75 Appendix B	Quality Assurance and Quality Control
Part 75 Appendix D	Optional SO_2 Emissions Data Protocol for Gas Fired and Oil-Fired Units
Part 75 Appendix F	Conversion Procedures
Part 75 Appendix G	Determination of CO_2 Emissions

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

17.12.060	Existing Source Emission Monitoring
17.16.020	Noncompliance with Applicable Standards
17.16.030	Odor Limiting Standards
17.16.040	Standards and Applicability (Includes NESHAP)
17.16.050	Visibility Limiting Standards
17.16.060	Fugitive Dust Producing Activities
17.16.080	Vacant Lots and Open Spaces
17.16.090	Roads and Streets
17.16.100	Particulate Materials
17.16.110	Storage Piles
17.16.130	Applicability
17.16.160	Standards of Performance for Fossil-Fuel Fired Steam Generators and General Fuel Burning Equipment
17.16.165	Standards of Performance for Fossil-Fuel Fired Industrial and Commercial Equipment
17.16.340	Standards of Performance for Stationary Rotating Machinery
17.16.400	Organic Solvents and other organic materials
17.16.430	Standards of Performance for Unclassified Sources

Installation Permit #1156 – October 14, 1981 by Arizona Department of Health Services

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ATTACHMENT 2:
EQUIPMENT LIST

I. Electric Utility Steam Generating Units – EGU's /Fossil Fuel Fired Steam Generators

Equipment Number	Description	MFR/Model Model	Serial Number/ Unique ID	Maximum Rated Capacity	Date of MFR Installation, or Reconstruction	Allowable Fuels			Applicability
						Gaseous Fuels	Liquid Fuels (%S wt. < 0.9)	Solid Fuels	Regional Haze Rule 40 CFR 52.145
I1	Electric Steam Generating Unit (EGU)	Combustion Engineering	18589	81 MW Net 803 MMBtu/hr	1957	Natural Gas & Landfill Gas	Fuel Oils No.2 through No. 6	N/A	No
I2	Electric Steam Generating Unit (EGU)	Combustion Engineering	19065	81 MW Net 803 MMBtu/hr	1959	Natural Gas & Landfill Gas	Fuel Oils No.2 through No. 6	N/A	No
I3	Electric Steam Generating Unit (EGU)	Combustion Engineering	19485	104 MW Net 1043 MMBtu/hr	1961	Natural Gas & Landfill Gas	Fuel Oils No.2 through No. 6	N/A	No
I4	Electric Steam Generating Unit (EGU)	Foster Wheeler	75-19487	156 MW Net 1701 MMBtu/hr	1964	Natural Gas & Landfill Gas	N/A	N/A	Yes

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II. EGU/ Fossil Fuel Fired Steam Generators – Installed and Certified Continuous Emissions/Opacity Monitoring Systems

Unit	Pollutant/ Parameter	Method	Range
I1	Oxygen	Paramagnetic	0-21%
	NO_X	Chemiluminesence	0-400 ppm
	Fuel Flow - Gas	Differential Pressure (DP)	0-9000 hscfh
	Fuel Flow - Oil	Positive Displacement (PDP)	0-50000 lb/hr
I2	Oxygen	Paramagnetic	0-21%
	NO_X	Chemiluminesence	0-400 ppm
	Fuel Flow - Gas	Differential Pressure (DP)	0-9000 hscfh
	Fuel Flow - Oil	Positive Displacement (PDP)	0-50000 lb/hr
I3	Oxygen	Paramagnetic	0-21%
	NO_X	Chemiluminesence	0-400 ppm
	Fuel Flow - Gas	Differential Pressure (DP)	0-12000 hscfh
	Fuel Flow - Oil	Positive Displacement (PDP)	0-75000 lb/hr
	Oxygen	Paramagnetic	0-21%
I4	Oxygen	Paramagnetic	0-21%
	NO_X	Chemiluminesence	0-400 ppm
	Fuel Flow – Gas	Differential Pressure (DP)	0-20,000 hscfh
	Mass Flow	Constant temperature anemometer thermal array	3.29 x 107 scfh
	Opacity	Electro-optical, double pass	0-100%

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III. Cooling Towers

Equipment ID	Description	Serial Number	Make	Date of Manufacture, Installation, or Reconstruction
I1E	Steam Unit Cooling Tower	FD90980	Fluor Products	1957
I2D	Steam Unit Cooling Tower	FD92580	Fluor Products	1959
I3D	Steam Unit Cooling Tower	663-3-10	Marley Co.	1961
I4E	Steam Unit Cooling Tower	6645-12-36-3	Marley Co.	1964

IV. Stationary Rotating Machinery (Gas Turbines)

Equipment ID	Description	Capacity	Serial Number	Make	Fuels	Date of Manufacture, Installation, or
IGT1	Simple cycle gas turbine generating unit	24 MW Net	17A2088-1	Westinghouse	#2 Distillate Fuel Oil; or Natural Gas	1972
IGT2	Simple cycle gas turbine generating unit	24.5 MW Net	17A2086-1	Westinghouse	#2 Distillate Fuel Oil or Natural Gas	1972
IGT3	Simple cycle gas turbine generating unit	< 25 MW Net	To be submitted upon purchase	To be submitted upon purchase	Natural Gas Only	To be submitted upon purchase

V. Gas Turbine Starter ICE and Emergency Generators

Equipment ID	Description	Capacity	Serial Number	Make/ Model	Fuels	Date of Manufacture	Rule Applicability
EGEN1	**NESHAP** Emergency Generator	349 HP (260 kW)	9NR03701	Caterpillar/ 3306	Diesel	1999	NESHAP Subpart ZZZZ
EGEN2	**NSPS** Emergency Generator	636 HP (474 kW)	8CMAF6003ID	Kohler/ 400REOZDD	Diesel	2008	NSPS Subpart IIII
IGT1A	**NESHAP** Gas turbine starter engine	635 hp	772267-3	Cummings	Diesel	1972	NESHAP Subpart ZZZZ
IGT2A	**NESHAP** Gas turbine starter engine	635 hp	769853-3	Cummings	Diesel	1972	NESHAP Subpart ZZZZ

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VI. Reciprocating Internal Combustion Engines

Equipment ID	Description	Capacity	Serial Number	Make/ Model	Fuels	Date of Manufacture	Rule Applicability
RICE02	Reciprocating Internal Combustion Engine (RICE)	19 MW Net 154.5 MMBtu/hr	TBD[a]	TBD[a]	Natural Gas	est. 2017	NSPS Subpart JJJJ NESHAP Subpart ZZZZ
RICE03	Reciprocating Internal Combustion Engine (RICE)	19 MW Net 154.5 MMBtu/hr	TBD[a]	TBD[a]	Natural Gas	est. 2017	NSPS Subpart JJJJ NESHAP Subpart ZZZZ
RICE04	Reciprocating Internal Combustion Engine (RICE)	19 MW Net 154.5 MMBtu/hr	TBD[a]	TBD[a]	Natural Gas	est. 2017	NSPS Subpart JJJJ NESHAP Subpart ZZZZ
RICE05	Reciprocating Internal Combustion Engine (RICE)	19 MW Net 154.5 MMBtu/hr	TBD[a]	TBD[a]	Natural Gas	est. 2017	NSPS Subpart JJJJ NESHAP Subpart ZZZZ
RICE06	Reciprocating Internal Combustion Engine (RICE)	19 MW Net 154.5 MMBtu/hr	TBD[a]	TBD[a]	Natural Gas	est. 2017	NSPS Subpart JJJJ NESHAP Subpart ZZZZ
RICE07	Reciprocating Internal Combustion Engine (RICE)	19 MW Net 154.5 MMBtu/hr	TBD[a]	TBD[a]	Natural Gas	est. 2017	NSPS Subpart JJJJ NESHAP Subpart ZZZZ
RICE08	Reciprocating Internal Combustion Engine (RICE)	19 MW Net 154.5 MMBtu/hr	TBD[a]	TBD[a]	Natural Gas	est. 2017	NSPS Subpart JJJJ NESHAP Subpart ZZZZ
RICE09	Reciprocating Internal Combustion Engine (RICE)	19 MW Net 154.5 MMBtu/hr	TBD[a]	TBD[a]	Natural Gas	est. 2017	NSPS Subpart JJJJ NESHAP Subpart ZZZZ
RICE10	Reciprocating Internal Combustion Engine (RICE)	19 MW Net 154.5 MMBtu/hr	TBD[a]	TBD[a]	Natural Gas	est. 2017	NSPS Subpart JJJJ NESHAP Subpart ZZZZ

[a] Make and model of these units to be determined.

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ATTACHMENT 3:
INSIGNIFICANT ACTIVITIES

Equipment ID	Description	Capacity	Date of Manufacture, Installation, or Reconstruction
A6	Power Production - Flyash Latrine Vents	NA	NA
C21	Power Production - Rotary Car Dumper Latrine Vent/Septic System	NA	NA
C22	Power Production - Crusher Tower Latrine Vent/Septic System	NA	NA
CHEM1	Power Production - North 12,000 gal 93% Sulfuric Acid Storage Tank	NA	NA
CHEM2	Power Production - North 12,000 gal 50% Liquid NaOH Storage Tank	NA	NA
CHEM3	Power Production - North Water Treatment Chemical Storage Bins/Barrels	NA	NA
CHEM4	Power Production - North Cooling Tower Treatment Room	NA	NA
CHEM5	Power Production - North Boiler Water Treatment Area	NA	NA
CHEM6	Power Production - South 12,000 gal 93% Sulfuric Acid Storage Tank	NA	NA
CHEM7	Power Production - South Water Treatment Chemical Storage Bins/Barrels	NA	NA
CHEM8	Power Production - South Cooling Tower Treatment Room	NA	NA
CHEM9	Power Production - South Boiler Water Treatment Area	NA	NA
CHEM11	Power Production -Environmental Laboratory Latrine Vent/Septic System	NA	NA
CHEM12	Power Production - Environmental Laboratory Fume Hood	NA	NA
CHEM13	Power Production - Water Laboratory Fume Hood (2)	NA	NA
CHEM14	Power Production –Environmental Laboratory Heater	NA	NA
CHEM15	Power Production - Boiler Feedwater Storage Tanks (6)	NA	NA
FH1	Fuel Oil Storage Tank #1 – Vertical Fixed Roof AST	524,072 gal	1957
FH2	Fuel Oil Storage Tank #2 – Vertical Fixed Roof AST	524,072 gal	1958
FH3	Fuel Oil Storage Tank #3 – Vertical Fixed Cone Roof AST	756,084 gal	1961
FH5	Water Storage Tank #5 – Vertical Fixed Roof AST	3,034,858 gal	1971

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Equipment ID	Description	Capacity	Date of Manufacture, Installation, or Reconstruction
FH6	Fuel Oil Storage Tank #6 – Vertical Fixed Roof AST	3,034,858 gal	1971
FH7	Fuel Oil Storage Tank #7 – Vertical Fixed Roof AST	3,034,858 gal	1971
FH9	Power Production - Condensate Return Collection Sump Vents	NA	NA
FH11	Fuel Oil Storage Tank #11 – Vertical Fixed Roof AST	3,034,858 gal	1972
FH12	Fuel Oil Storage Tank #12 – Vertical Fixed Roof AST	3,034,858 gal	1972
FH13	Fuel Oil Storage Tank #13 – Vertical Fixed Roof AST	3,034,858 gal	1972
FH14	Power Production - Condensate Return Collection Sump Vents	NA	NA
FH15	Power Production - Fuel Oil Unloading/Transfer/Pumping and Piping Facilities	NA	NA
FH16	Power Production - Waste Oil Drums	NA	NA
GS9	General Shop - Furnace 75 kBTU	NA	NA
GS10	General Shop - Latrine Vents	NA	NA
GS11	General Shop Paint Booth	NA	NA
I5	Power Production - Power Block Latrine Vents	NA	NA
I6	Power Production - Engineering Building Latrine Vents	NA	NA
I7	Power Production - Power Block Used Oil Storage Drums	NA	NA
I8	Power Production - Power Block Battery Rooms	NA	NA
I9	Power Production - Common Facilities Battery Room	NA	NA
I11	Power Production - Mechanical Maintenance Flammable Storage cabinets	NA	NA
I12	Power Production - Switchyard Circuit Breakers/Transformers	NA	NA
I13	Lube Oil/Paint Storage Room	NA	NA
I14	Power Production - Maintenance Shop Welding Activities/Vents/ Solvent Tanks	NA	NA
I15	Electrical Shop Solvent Tank	NA	NA
I72	Power Production - #5 Fire/Dust Control Water Storage Tank 3,000,000 gal	NA	NA
I73	Power Production - Service Water Pressure/Storage Tank 150,000 gallons	NA	NA

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Equipment ID	Description	Capacity	Date of Manufacture, Installation, or Reconstruction
I16-21, WH1-2, GS1-8, TRAN4-12	Miscellaneous hot water and space heaters	Misc.	Misc.
I1A	Power Production - Unit #1 Boiler Blowdown Flashtank	NA	NA
I1B	Turbine lube oil vapor extractor	NA	NA
I1C	Generator bearing drain vapor extractor	NA	NA
I1D	Generator bearing drain vacuum pump	NA	NA
I1F	Power Production - North Turbine Lube Oil Storage Tank	NA	NA
I1G	Power Production - Unit #1 Fuel Gas Piping	NA	NA
I1H	Power Production - Unit #1 Fuel Gas Vents	NA	NA
I1I	Power Production - Unit #1 Boiler Safety Relief Valve Vents	NA	NA
I1J	Power Production - Unit #1 Steam/Drain Vents	NA	NA
I1K	Power Production - Unit #1 Main Transformer	NA	NA
I1L	Power Production - Unit #1 Auxiliary Transformer	NA	NA
I2A	Power Production - Unit #2 Boiler Blowdown Flashtank	NA	NA
I2B	Turbine lube oil vapor extractor	NA	NA
I2C	Generator bearing drain vapor extractor	NA	NA
I2E	Power Production - Unit #2 Fuel Gas Piping	NA	NA
I2F	Power Production - Unit #2 Fuel Gas Vents	NA	NA
I2G	Power Production - Unit #2 Boiler Safety Relief Valve Vents	NA	NA
I2H	Power Production - Unit #2 Steam/Drain Vents	NA	NA
I2I	Power Production - Unit #2 Main Transformer	NA	NA
I2J	Power Production - Unit #2 Auxiliary Transformer	NA	NA
I3A	Power Production - Unit #3 Boiler Blowdown Flashtank	NA	NA
I3B	Turbine lube oil vapor extractor	NA	NA
I3C	Generator bearing drain vapor extractor	NA	NA
I3E	Power Production - South Turbine Lube Oil Storage Tank	NA	NA
I3F	Power Production - Unit #3 Fuel Gas Piping	NA	NA
I3G	Power Production - Unit #3 Fuel Gas Vents	NA	NA
I3H	Power Production - Unit #3 Boiler Safety Relief Valve Vents	NA	NA
I3I	Power Production - Unit #3 Steam/Drain Vents	NA	NA

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Equipment ID	Description	Capacity	Date of Manufacture, Installation, or Reconstruction
I3J	Power Production - Unit #3 Main Transformer	NA	NA
I3K	Power Production - Unit #3 Auxiliary Transformer	NA	NA
I4A	Power Production - Unit #4 Boiler Blowdown Flashtank	NA	NA
I4B	Turbine lube oil vapor extractor	NA	NA
I4C	Generator bearing drain vapor extractor – 6508-G-13	NA	NA
I4D	Generator bearing drain vacuum pump	NA	NA
I4F	Power Production - Unit #4 Fuel Gas Piping	NA	NA
I4G	Power Production - Unit #4 Fuel Gas Vents	NA	NA
I4H	Power Production - Unit #4 Boiler Safety Relief Valve Vents	NA	NA
I4I	Power Production - Unit #4 Steam/Drain Vents	NA	NA
I4J	Power Production - Unit #4 Main Transformer	NA	NA
I4K	Power Production - Unit #4 Auxiliary Transformer	NA	NA
IGT1B	Turbine lube oil vapor extractor	0.5 hp/1A/230V	NA
IGT2B	Turbine lube oil vapor extractor	0.5 hp/1A/230V	NA
OH1	Operating Headquarters - HVAC Cooling Tower	NA	NA
OH1	ERTF Paint Booth	NA	NA
OH1	ERTF Weld Shop – welding operations	NA	NA
OH1	Fabrication Weld Shop Paint Booth	NA	NA
OH1	Glove Lab Paint Booth	NA	NA
OH4	Operating Headquarters - Latrine Vents	NA	NA
OH5	Operating Headquarters - Training Center Latrine Vents	NA	NA
OH6	Operating Headquarters - Trailer Latrine Vents	NA	NA
OH73	Operating Headquarters Tool Room Solvent Tank	NA	NA
SS1	Service Center - HVAC Cooling Tower	NA	NA
SS2	Service Center - Reproduction Equipment	NA	NA
SS4	Service Center - Latrine Vents	NA	NA
TRAN1	Transportation - New/Used Lubricating Oil Storage	NA	NA
TRAN13	Transportation - Latrine Vents	NA	NA
TRAN2	Transportation - Underground Diesel Storage Tank	15,000 gal	NA

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Equipment ID	Description	Capacity	Date of Manufacture, Installation, or Reconstruction
Tank 19	Transportation – Aboveground Diesel Storage Tank	10,000 gal	NA
Tank 1	Transportation - Underground Gasoline Storage Tank	15,000 gal	1989
TRAN16	Transportation Steam Cleaner	NA	NA
TRAN	Transportation Car Wash and three associated natural gas-fired water heaters	NA	NA
WH4	WH4 Warehouse - Latrine Vents	NA	NA
WW1	Power Production - North Collection Sump-Boiler Blowdown.	NA	NA
WW2	Power Production - South Collection Sump (2) - Rain Runoff, Ash/Coal Area Washdown	NA	NA
WW3	Power Production - Bottom Ash Runoff Collection Sump	NA	NA
WW4	Power Production Plant Waste Basin-Boiler Blowdown Demineralizer Regenerant	NA	NA
WW5	Power Production - Coal Pile Runoff Basin- Rain Runoff, Ash/Coal Area Washdown	NA	NA
WW6	Power Production - Evaporation Basin (3) - Treated Wastewater from Plant Waste/Coal Pile Runoff Basin	NA	NA
WW7	Power Production-Waste Water Treatment Latrine Vent/Septic System	NA	NA
WW8	WW8 Power Production - Waste Water Treatment 5,000 gal 93% Sulfuric Acid Tank	NA	NA
WW9	Power Production - Waste Water Treatment 5,000 gal 50% Liquid NaOH Tank	NA	NA
WW10	Power Production - Waste Water Treatment Clarifier Wastewater 140,000 gal	NA	NA
WW11	Power Production - Waste Water Treatment Scum Tank-Clarifier Scum for recycle 1170 gal	NA	NA
WW12	Power Production - Waste Water Treatment pH Adjustment Tank- Pretreated Wastewater 6768 gal	NA	NA
WW13	Power Production - Waste Water Treatment pH Adjustment Tank- Treated Wastewater 5000 gal	NA	NA
WW14	Power Production - Waste Water Treatment Chemical Mix Tank (2) - Alum 730 gal	NA	NA
WW15	Power Production - Waste Water Treatment Chemical Mix Tank (2) - Polymer 148 gal	NA	NA
N/A	Compact Linear Fresnel Reflector – Solar Steam Generator System	N/A	TBD

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ATTACHMENT 4:
EMISSIONS DISCHARGE OPACITY LIMITING STANDARDS

PCC 17.16.040

Type of Source	Instantaneous Opacity Measurements			Maximum Allowable Average Opacity, %
	Required No. (For a Set)	Excluded No. (Highest Values)	N. to Use For Averaging	
Cold Diesel Engines[1]	25	0	25	60
Loaded Diesel Engines[2]	26	1	25	60
Other Sources[3]	25	0	25	20

[1] Applicable to the first 10 consecutive minutes after starting up a diesel engine.

[2] Applicable to a diesel engine being accelerated under load.

[3] Any source not otherwise specifically covered within this table, unless otherwise specifically covered in this permit.

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ATTACHMENT 5:
PHASE II ACID RAIN PERMIT

I. STATEMENT OF BASIS

Statutory and Regulatory Authorities: In accordance with Arizona Revised Statutes, Title 49, Chapter 3, Article 2, Section 426.N, and Titles IV and V of the Clean Air Act, the Pima County Department of Environmental Quality issues this Phase II Acid Rain Permit pursuant to Section 17.12.365 of Title 17 of the Pima County Code.

II. SO_2 ALLOWANCE[1] ALLOCATIONS AND NO_X REQUIREMENTS FOR EACH AFFECTED UNIT

[40 CFR Part 73 Table 2]

A. UNIT I1

Year:	2012	2013	2014	2015	2016	2017	2018
Annual SO_2 Allowances	14 tons	14 tons	14 tons	14 tons	14 tons	14 tons	14 tons
NO_X Limits:	This unit is not subject to a NO_X limit under 40 CFR Part 76.						

B. UNIT I2

Year:	2012	2013	2014	2015	2016	2017	2018
Annual SO_2 Allowances	40 tons	40 tons	40 tons	40 tons	40 tons	40 tons	40 tons
NO_X Limits:	This unit is not subject to a NO_X limit under 40 CFR Part 76.						

C. UNIT I3

Year:	2012	2013	2014	2015	2016	2017	2018
Annual SO_2 Allowances	2 tons	2 tons	2 tons	2 tons	2 tons	2 tons	2 tons
NO_X Limits:	This unit is not subject to a NO_X limit under 40 CFR Part 76.						

D. UNIT I4

Year:	2012	2013	2014	2015	2016	2017	2018
Annual SO_2 Allowances	2805 tons	2805 tons	2805 tons	2805 tons	2805 tons	2805 tons	2805 tons
NO_X Limits:	Pursuant to 40 CFR Part 76, the Pima County Department of Environmental Quality approves a NO_X emission limitation for UNIT I4. This unit's annual average NO_X emission rate for each year, determined in accordance with 40 CFR Part 75, shall not exceed the applicable emission limitation, under 40 CFR Part 76.7(a)(2), of 0.46 lb/MMBTU for wall-fired boilers. In addition, this unit shall comply with all other applicable requirements of 40 CFR Part 76, including the duty to reapply for a NO_X compliance plan and requirements covering excess emissions.						

As defined under 40 CFR §72.2, "Allowance" means an authorization by the Administrator under the Acid Rain Program to emit up to one ton of sulfur dioxide during or after a specified calendar year. The number of allowances actually held by an affected source in a unit account may differ from the number allocated by U.S. EPA. Neither of the aforementioned conditions necessitate a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84).

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III. ACID RAIN PERMIT APPLICATION

The Permittee, and any other owners or operators of the units at this facility, shall comply with the requirements contained in the two attached acid rain permit applications. These applications are:

A. Phase II Permit Application (OMB No. 2060-0258) signed by the Designated Representative on 12/12/95.

B. Phase II NO_X Compliance Plan (OMB No. 2060-0258) signed by the Designated Representative on 12/15/97.

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ATTACHMENT 6:
ALTERNATE OPERATING SCENARIO #1

I. APPLICABILITY – 40 CFR 60 Subpart KKKK

This alternate operating scenario #1 shall only apply to the turbine that will be identified as IGT3 upon purchase should the applicability date of IGT3 be subject to 40 CFR 60 Subpart KKKK. TEP-IGS shall notify PDEQ upon purchasing the turbine. The notification shall include all reporting requirements that are identified in this attachment.

II. GENERAL PROVISIONS

The following requirements apply to the operation, maintenance, recordkeeping and testing of Unit IGT3 and its associated monitoring systems in accordance with 40 CFR Part 60, Subpart A – General Provisions. These requirements are in addition to any applicable requirements in the General Provisions in Part A of this permit, unless Attachment 6 is more stringent.

A. Mailing Address

All requests, reports, applications, submittals, and other communications to the Administrator and Control Officer pursuant to 40 CFR Part 60 shall be submitted in duplicate to the Administrator and Control Officer at the following addresses: [40 CFR §60.4(a)]

Director
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

Director
Pima County Department of Environmental Quality
33 North Stone Avenue, Suite 700
Tucson, AZ 85701

B. Notification and Recordkeeping

1. The Permittee shall furnish the Control Officer written notification as follows: [40 CFR 60.7(a)]

   a. A notification of the date of construction of Unit IGT3 is commenced postmarked no later than 30 days after such date (date of construction). [40 CFR 60.7(a)(1)]

   b. A notification of the actual date of initial startup of Unit IGT3 postmarked within 15 days of after such date (date of initial startup). [40 CFR 60.7(a)(3)]

   c. A 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 Control Officer may request additional relevant information subsequent to this notice. [40 CFR 60.7(a)(4)]

   d. A notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with 40 CFR 60.13(c) postmarked not less than 30 days prior to such date. [40 CFR 60.7(a)(5)]

   e. A notification of the anticipated date for conducting the opacity observations required by 40 CFR 60.11(e)(1). The notification shall also include, if appropriate, a request for the Administrator to Provide a visible emissions reader during a performance test. The notification shall be postmarked not less than 30 days prior to such date. [40 CFR 60.7(a)(6)]

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f. A notification that continuous opacity monitoring system data results will be used to determine compliance with the applicable opacity standard during a performance test required by 40 CFR 60.8 in lieu of Method 9 observation data as allowed by 40 CFR 60.11(e)(5). This notification shall be postmarked not less than 30 days prior to the date of the performance test.
[40 CFR 60.7(a)(7)]

2. The Permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b)]

3. The Permittee shall submit excess emissions and monitoring systems performance reports and/or summary report form to the Control Officer semi-annually, except when: more frequent reporting is specifically required by an applicable subpart; 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:
[40 CFR 60.7(c), 40 CFR 60.4375(a), 40 CFR 60.4395 & PCC 17.12.040.B]

a. 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 and the process operating time during the reporting period.
[40 CFR 60.7(c)(1)]

b. 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.
[40 CFR 60.7(c)(2)]

c. 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.
[40 CFR 60.7(c)(3)]

d. 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.
[40 CFR 60.7(c)(4)]

4. The summary report form submitted by the Permittee shall contain the information and be in the format shown in 40 CFR 60.7(d) Figure 1 unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at IGT3. [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 II.B.3 of Attachment 6 need not be submitted unless requested by the Administrator.
[40 CFR 60.7(d)(1)]

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 II.B.3 of Attachment 6 shall both be submitted.
[40 CFR 60.7(d)(2)]

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5. The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, 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 in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records, except as follows: [40 CFR 60.7(f)]

   a. If the Permittee is required to install a continuous emissions monitoring system (CEMS) where the CEMS installed is automated, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. An automated CEMS records and reduces the measured data to the form of the pollutant emission standard through the use of a computerized data acquisition system. In lieu of maintaining a file of all CEMS sub-hourly measurements as required in II.B.5 of Attachment 6, the Permittee shall retain the most recent consecutive three averaging periods of sub-hourly measurements and a file that contains a hard copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard. [40 CFR 60.7(f)(1)]

   b. If the Permittee is required to install a CEMS where the measured data is manually reduced to obtain the reportable form of the standard, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. In lieu of maintaining a file of all CEMS sub-hourly measurements as required under II.B.5 of Attachment 6 the Permittee shall retain all sub-hourly measurements for the most recent reporting period. The sub-hourly measurements shall be retained for 120 days from the date of the most recent summary or excess emission report submitted to the Administrator. [40 CFR 60.7(f)(2)]

   c. The Administrator or Control Officer, upon notification to the source, may require the Permittee to maintain all measurements as required by II.B.5 of Attachment 6, if the Administrator or Control Officer determines these records are required to more accurately assess the compliance status of the affected source. [40 CFR 60.7(f)(3)]

C. Performance Tests

Within 60 days after achieving the maximum production rate at which IGT3 will be operated, but not later than 180 days after initial startup of IGT3 and at such other times as may be required by the Control Officer under section 114 of the Act, the Permittee shall conduct emissions performance test(s) for NO_X and SO_2 , and furnish the Control Officer a written report of the results of such performance test(s). [40 CFR 60.8(a)]

D. Compliance with Standards and Maintenance Requirements

1. At all times, including periods of startup, shutdown, and malfunction, the Permittee shall to the extent practicable, maintain and operate IGT3 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 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)]

2. For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any standard in 40 CFR Part 60, nothing 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. [40 CFR 60.11(g)]

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E. Circumvention

The Permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission, which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with opacity standard or with a standard, which is based on the concentration of a pollutant in the gases discharged to the atmosphere. [40 CFR 60.12]

F. General Notification and Reporting Requirements

The Permittee shall comply with the "General Notification and Reporting Requirements" found in 40 CFR 60.19. [40 CFR 60.19]

III SPECIFIC CONDITIONS

A. Operational Limitations

The Permittee shall not cause or allow the combustion of any fuel in Unit IGT3 other than pipeline quality natural gas. [PCC 17.12.190.B]

B. Nitrogen Oxide

1. Emission Limitations/Standards [PCC 17.12.180.A.2]

   a. The Permittee shall not allow the NO_X concentration to exceed 25 ppm at 15 percent O2 or 1.2 pound per megawatt-hour as determined by the NO_X and diluent CEMS based on a 4-hour rolling average. [40 CFR 60.4320 Table 1, 60.4325 & 60.4380(b)(1)]

   b. The Permittee shall not allow the total combined emissions of NO_X from Unit IGT3 to equal or exceed 40 tons per year, calculated as a 12-month rolling total. [PCC 17.12.190.B]

   [Material Permit Condition]

2. Air Pollution Control Equipment

   The Permittee must operate and maintain the stationary combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing NO_X emissions at all times including during startup, shutdown, and malfunction. [40 CFR 60.4333(a)]

   [Material Permit Condition]

3. Monitoring, Recordkeeping and Reporting Requirements [PCC 17.12.180A.3, A.4 & A5]

   a. The Permittee must install and certify each NO_X diluent CEMS according to 40 CFR 60 Appendix B, Performance Specification 2 (PS 2), except the 7-day calibration drift is based on unit operating days, not calendar days and the relative accuracy test audit (RATA) shall be performed in lb/MMBtu basis. [40 CFR 60.4345(a)]

   [Material Permit Condition]

   b. The Permittee shall demonstrate compliance with the NO_X emission limitation in III.B.1.a of Attachment 3 as follows:

      i. Install, calibrate, maintain, and operate a continuous monitoring system (CMS) to monitor and record the fuel consumption and the ratio of water to fuel being fired in Unit IGT3 when burning a fuel that requires water injection for compliance; or

      [40 CFR 60.4335(a)]

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ii. Alternatively, the Permittee shall in accordance with III.E.1 of Attachment 3. install, certify, maintain and operate a continuous emission monitoring system (CEMS) consisting of a NO_X monitor, and a diluent gas (CO_2 or O_2) monitor; to determine the hourly NO_X emission rate in parts per million (ppm) or pounds per million British thermal units (lb/MMBtu); and [40 CFR 60.4335(b)(1)]

iii. If complying with the output-based standard, the Permittee shall install, calibrate, maintain, and operate a fuel flow meter (or flow meters) to continuously measure the heat input to IGT3; and [40 CFR 60.4335(b)(2)]

iv. If complying with the output-based standard, the Permittee shall install, calibrate, maintain, and operate a watt meter (or meters) to continuously measure the gross electrical output of IGT3 in megawatt hours. [40 CFR 60.4335(b)(3)]

c. The Permittee shall install, calibrate, maintain and operate each watt meter, steam flow meter and each pressure or temperature measurement device according to manufacturer's instructions. [40 CFR 60.4345(d)]

d. Annual NO_X Emission Limit

To demonstrate compliance with the annual NO_X emission limit in III.B.1.b of Attachment 3, the Permittee shall comply with the continuous emission system monitoring, recordkeeping and reporting provisions in III.E.2 of Attachment 6.

4. Performance Testing [PCC 17.12.180.A.3]

a. The Permittee shall perform the initial performance test as required by 40 CFR 60.8: [40 CFR 60.4405]

b. The Permittee shall conduct annual performance tests (no more than 14 calendar months following the previous performance test). [40 CFR 60.4400(a)]

c. The Permittee shall use EPA Method 7E or EPA Method 20 for III.B.1.a of Attachment 3. For units complying with the output based standard, the Permittee shall concurrently measure the stack gas flow rate using EPA Methods 1 and 2, and measure and record the electrical and thermal output from IGT3. Then, use the following equation to calculate the NO_X emission rate:

$$E = \frac{1.194 \times 10^{-7} \times (NO_X)_c \times Q_{std}}{P}$$

where

E = NO_X emission rate, in lb/MWh

1.194×10^{-7}= conversion constant, in lb/ dscf-ppm

$(NO_X)_c$ = average NO_X concentration for the run, in ppm

Q_{std} = stack gas volumetric flow rate, in dscf/ hr

P = gross electrical and mechanical energy output of the combustion turbine, in MW (for simple-cycle operation), for combined-cycle operation, the sum of all electrical and mechanical output from the combustion and steam turbines, or, for combined heat and power operation, the sum of all electrical and mechanical output from the combustion and steam turbines plus all useful recovered thermal output not used for additional electric or mechanical generation, in MW, calculated according to 40 CFR 60.4350(f)(2).

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d. The Permittee shall conduct NO_X emission performance test in accordance with 40 CFR 60.4400 or 40 CFR 60.4405.

C. Sulfur Dioxide

1. Emission Limitations/Standards

a. The Permittee shall not burn in Unit IGT3, any fuel that contains sulfur in excess of 0.060 pounds SO_2 per million British thermal unit (lb of SO_2/MMBtu) heat input.
[40 CFR 60.4365][PCC 17.12.190.B]
[Material Permit Condition]

b. The Permittee shall not allow the total combined emissions of SO_2 from Unit IGT3 to equal or exceed 40 tons per year, calculated as a 12-month rolling total. [PCC 17.12.190.B]
[Material Permit Condition]

2. Monitoring, Recordkeeping and Reporting Requirements [PCC 17.12.180A.3, A.4 & A5]

a. The Permittee shall be exempted from monitoring the total sulfur content of fuel combusted in IGT3, by keeping readily available for inspection, a paper or electronic record of a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying that the maximum total sulfur content for natural gas use is 20 grains of sulfur or less per 100 standard cubic feet and has potential sulfur emissions of less than less than 26 ng SO_2 /J (0.060 lb SO_2 /MMBtu) heat input. [40 CFR §60.4365(a)]

b. To demonstrate compliance with III.C.1.b of Attachment 6, the Permittee shall comply with the continuous emission monitoring, recordkeeping, and reporting requirements in III.E.2 of Attachment 6.

D. Carbon Monoxide

1. Emission Limitations/Standards

The Permittee shall not allow the total combined emissions of carbon monoxide (CO) from IGT3 to equal or exceed 100 tons per year, calculated as a 12-month rolling total. [PCC 17.12.190.B]
[Material Permit Condition]

2. Monitoring, Recordkeeping and Reporting Requirements [PCC 17.12.180.A.3, A.4 & A.5]

a. The Permittee shall install, calibrate, maintain and operate and quality assure a Continuous Emission Monitoring System (CEMS) consisting of CO and O_2 or CO_2 monitors for measuring CO emissions and diluent from IGT3. **[Material Permit Condition]**

b. The Permittee shall install, calibrate, maintain and operate the in-line fuel flowmeter monitoring systems for determining the natural gas input rate to IGT3 for each operating hour according to the manufacturer's instructions. [40 CFR 60.4345(c)]
[Material Permit Condition]

c. To demonstrate compliance with the annual CO emission limit in III.D.1 of Attachment 6, the Permittee shall comply with the CEMS monitoring, recordkeeping, and reporting requirements in Condition III.E.2 of Attachment 3.

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E. Continuous Emissions Monitoring Systems (CEMS) [40 CFR §60.13, PCC 17.12.050.H.3]

1. New Source Performance Standards for Continuous Emission Monitoring Systems

To demonstrate compliance with III.B.1.a of Attachment 6 the Permittee shall install, calibrate, maintain, and operate a continuous emission monitoring system (CEMS) and data acquisition handling system (DAHS) to calculate a four hour rolling average NO_X emission rate.

a. The Permittee shall comply with the following requirements in the General Provisions of 40 CFR 60 for each CEMS unit installed:

i. The CEMS and DAHS monitoring and recording devices shall be installed and operational prior to conducting initial performance test. 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)]

ii. The Permittee shall automatically 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)(1)]

iii. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under II.B.5 of Attachment 6, 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)]

iv. The CEMS devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of appendix B of 40 CFR 60 (III.E.1.b of Attachment 3) shall be used. [40 CFR 60.13 (f)]

v. The Permittee shall reduce all data to 1-hour averages as defined in 40 CFR 60.2. 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 computed under III.E.1.a.v of Attachment 6. The data may be recorded in reduced or non-reduced 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 Permittee shall meet the notification and recordkeeping requirements in II.B.1.d and II.B.5 of Attachment 6.

b. The Permittee shall comply with the following requirements in the Performance Specifications of 40 CFR 60 Appendix B, for each CEMS unit installed:

i. 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, Sections 2 & 8.1.

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ii. Pretest preparation shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2, Sections 2 & 8.2.

iii. Calibration drift test procedure shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2, Sections 2 & 8.3.

iv. Relative accuracy test procedure shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2, Sections 2 & 8.4.

v. Reporting requirements shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2, Sections 2 & 8.5.

vi. Analytical procedures shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2, Sections 2 & 11.0.

vii. Calculation and data analysis shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2, Sections 2 & 12.0.

viii. Method performance shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2, Sections 2 & 13.0.

ix. Alternative Procedures shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2, Sections 2 & 16.0.

x. References are located in 40 CFR Part 60, Appendix B, Specification 2, Sections 2 & 17.0.

xi. Tables, Diagrams, Flowcharts, and Validation data necessary for NO_X CEMS testing are located in 40 CFR Part 60, Appendix B, Specification 2, Sections 2 & 18.0.

xii. Specifications and test procedures for O_2 and CO_2 CEMS in Stationary Systems shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 3.

xiii. Specifications and Test Procedures for CO CEMS in Stationary Sources shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 4.

c. The Permittee shall maintain and operate each CEMS unit in accordance with the following:

i. As specified in III.E.1.a.iii of Attachment 3, during each full unit operating hour, both the NO_X monitor and the diluent monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hours, at least one valid data point shall be obtained with each monitor for each quadrant of the hour in which a unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required for each monitor to validate the NO_X emission rate for the hour. [40 CFR 60.4345(b)]

ii. All CEMS data must be reduced to hourly averages as specified III.E.1.a.v of Attachment 3. [40 CFR 60.4350(a)]

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iii. For each unit operating hour in which a valid hourly average, as described in III.E.1.c.i of Attachment 6, is obtained for both NO_X and diluent monitors, the DAHS must calculate and record the hourly NO_X emission rate in units of ppm or lb/MMBtu, using the appropriate equation from method 19 in Appendix A of 40 CFR Part 60. For any hour in which the hourly average O_2 concentration exceeds 19.0 percent O_2 (or the hourly average CO_2 concentration is less than 1.0 percent CO_2), a diluent cap value of 19.0 percent O_2 or 1.0 percent CO_2 (as applicable) may be used in the emission calculations.
[40 CFR 60.4350(b)]

iv. Correction of measured NO_X concentrations to 15 percent O_2 is not allowed.
[40 CFR 60.4350(c)]

v. The Permittee shall reduce all required fuel flow rate, steam flow rate, temperature, pressure, and megawatt data to hourly averages. [40 CFR 60.4350(e)]

vi. The Permittee shall calculate the hourly average NO_X emission rates, in units of either ppm (parts per million) for units complying with the concentration limit or in pounds per megawatt hour (lb/MWh) for units complying with the output based standard by using the simple cycle operation equation below: [40 CFR 60.4350(f)]

$$E = \frac{(NO_X)_h \times (HI)_h}{P} \qquad \text{(Equation 1)}$$

E = hourly NO_X emission rate, in lb/MWh.

$(NO_X)_h$ = hourly NO_X emission rate, in lb/MMBtu.

$(HI)_h$ = hourly heat input rate to the unit, in MMBtu/h, measured using the Fuel flow meter(s), e.g., calculated using Equation D-15a in Appendix D to 40 CFR Part 75.

P = gross energy output of the combustion turbine in MW.

vii. The Permittee shall develop and keep on-site a quality assurance (QA) plan for all of the continuous monitoring equipment described in III.B.3.a, III.D.2.b and III.B.3.c.
[40 CFR 60.4345(e)]

2. Monitoring, Recordkeeping, and Reporting Requirements for Annual NO_X, SO_2 and CO Emission Limits. [PCC 17.12.180.A.3, A.4 & A.5]

a. For the purpose of compliance demonstration with annual NO_X, and CO emission limits, the Permittee shall utilize the NO_X, CO, diluent CEMS on Unit IGT3 in conjunction with the Data Acquisition and Handling System (DAHS) and fuel flow rate monitoring systems. A default value for SO_2 concentration will be calculated using equation 3 below. The DAHS will calculate emissions of NO_X, SO_2 and CO in pounds per hour (lb/hr), tons per month, and tons per year, calculated monthly as a 12-month rolling total. The Permittee shall use the procedures in Method 19 of 40 CFR 60 Appendix A as applicable to calculate NO_X, and CO mass emission rates.

b. The Permittee shall calculate SO_2 mass emission rates for Unit IGT3 using Equation 3 and 3A below:

$$ER = \left[\frac{2.0}{7000}\right] \times 10^6 \times \left[\frac{S_{total}}{GCV}\right] \quad \text{(Equation 3)}$$

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ER	=	Default SO_2 emission rate for natural gas combustion, lb/mmBtu
S_{total}	=	Total sulfur content of the natural gas from a valid purchase agreement, tariff agreement, or sampling, gr/100 scf
GCV	=	Gross calorific value of the natural gas from a valid purchase agreement, tariff agreement, or sampling, Btu/100 scf
7,000	=	Conversion of grains/100 scf to lb/100 scf
10^6	=	Conversion factor (Btu/MMBtu)
$SO_{2\ rate}$	=	ER x HI_{rate} where: (Equation 3A)
$SO_{2\ rate}$	=	Hourly mass emission rate of SO_2, lb/hr
ER	=	SO_2 default emission rate of 0.06 lbs/MMBtu
HI rate	=	Hourly heat input rate, MMBtu/hr

c. A period of monitor downtime shall be any unit operating hour in which sufficient data are not obtained to validate the hour, for NO_X, CO, and diluent concentration or heat input rate.

d. During CEMS system downtime, the Permittee shall implement the missing data procedures for NO_X and CO shown in 40 CFR Part 75 Subpart D – Missing Data Substitution Procedures

e. Each calendar month during which the combined 12-month rolling total for the NO_X, emission rate from Unit IGT3 exceeds 40 tons shall constitute an exceedance. Exceedances shall be reported to the Control Officer in accordance with XI.A of Part A.

f. Each calendar month during which the combined 12-month rolling total for the SO_2 , emission rate from Unit IGT3, exceeds 40 tons shall constitute an exceedance. Exceedances shall be reported to the Control Officer in accordance with XI.A of Part A.

g. Each calendar month during which the combined 12-month rolling total for the CO emission rate from Unit IGT3, exceeds 100 tons shall constitute an exceedance. Exceedances shall be reported to the Control Officer in accordance with XI.A of Part A.

h. Each individual day and 12-month rolling total for NO_X, SO_2, and CO emission rates in the reporting period shall be included in the semiannual compliance certification required by VII of Part A.

i. Quality Assurance Requirements for Natural Gas Fuel Flow meters

(A). Each transmitter or transducer shall be calibrated by equipment that has a current certificate of traceability to NIST standards at least once every four calendar quarters in which a unit operated on natural gas for 168 hours or more during each quarter but not less than once every three years. The Permittee shall check the calibration of each transmitter or transducer by comparing its readings to that of the NIST traceable equipment at least once at the following levels: the zero-level, and at least two other upscale levels (e.g., “mid” and “high”), such that the full range of transmitter or transducer readings corresponding to normal unit operation is represented.

(B). The Permittee shall calculate the accuracy of each transmitter or transducer at each level tested, using the following equation:

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$$ACC = \frac{|R-T|}{FS} \times 100 \text{ Equation 4}$$

Where:

C = Accuracy of the transmitter or transducer as a percentage of full-scale.

R = Reading of the NIST traceable reference value (in milliamperes, inches of water, psi, or degrees).

T = Reading of the transmitter or transducer being tested (in milliamperes, inches of water, psi, or degrees, consistent with the units of measure of the NIST traceable reference value).

FS = Full-scale range of the transmitter or transducer being tested (in milliamperes, inches of water, psi, or degrees, consistent with the units of measure of the NIST traceable reference value).

(C). If each transmitter or transducer meets an accuracy of ± 1.0 percent of its full-scale range at each level tested, the fuel flow meter accuracy of 2.0 percent is considered to be met at all levels. If however, one or more of the transmitters or transducers does not meet an accuracy of ± 1.0 percent of full-scale at a particular level, then the Permittee may demonstrate that the fuel flow meter meets the total accuracy specification of 2.0 percent at that level by using one of the following alternative methods. If, at a particular level, the sum of the individual accuracies of the three transducers is less than or equal to 4.0 percent, the fuel flow meter accuracy specification of 2.0 percent is considered to be met for that level. Or, if at a particular level, the total fuel flow meter accuracy is 2.0 percent or less, when calculated in accordance with Part 1 of American Gas Association Report No. 3, General Equations and Uncertainty Guidelines, the flow meter accuracy requirement is considered to be met for that level.

(D). If during a transmitter or transducer accuracy test the flow meter accuracy specification of 2.0 percent is not met at any of the levels tested, the Permittee shall repair or replace the transmitter(s) or transducer(s) as necessary until the flow meter accuracy specification has been achieved at all levels. (Note that only transmitters or transducers which are repaired or replaced need to be re-tested; however, the re-testing is required at all three measurement levels to ensure that the flow meter accuracy specification is met at each level).

(E). For orifice, nozzles, and venturi type flow meters, the Permittee shall perform a primary element inspection for damage and corrosion at least once every 12 calendar quarters in which a unit operated on natural gas for 168 hours or more during each quarter but not less than once during the term of this permit. If damage and/or corrosion are found, the Permittee shall replace the flow meter or restore the damaged or corroded flow meter to "as new" condition.

(F). The Permittee shall log in ink, or in an electronic format the date that the calibration and inspection was conducted, the results of the calibration or inspection, and corrective action taken if needed.

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ATTACHMENT 7:
ALTERNATE OPERATING SCENARIO #2

I. APPLICABILITY – 40 CFR 60 Subpart GG

This alternate operating scenario #2 shall only apply to the turbine that will be identified as IGT3 upon purchase should the applicability date of IGT3 be subject to 40 CFR 60 Subpart GG. TEP-IGS shall notify PDEQ upon purchasing the turbine. The notification shall include all reporting requirements that are identified in this attachment.

II. GENERAL PROVISIONS

The following requirements apply to the operation, maintenance, recordkeeping and testing of Unit IGT3 and its associated monitoring systems in accordance with 40 CFR Part 60, Subpart A – General Provisions. These requirements are in addition to any applicable requirements in the General Provisions in Part A of this permit, unless Attachment 7 is more stringent.

A. Mailing Address

All requests, reports, applications, submittals, and other communications to the Administrator and Control Officer pursuant to 40 CFR Part 60 shall be submitted in duplicate to the Administrator and Control Officer at the following addresses: [40 CFR 60.4(a)]

Director
U.S. EPA Region IX
75 Hawthorne Street
San Francisco, CA 94105

Air Division Director
Pima County Department of Environmental Quality
33 North Stone Avenue, Suite 700
Tucson, AZ 85701

B. Notification and Recordkeeping

1. The Permittee shall furnish the Control Officer written notification as follows: [40 CFR 60.7(a)]

   a. A notification of the date of construction of Unit IGT3 is commenced postmarked no later than 30 days after such date (date of construction). [40 CFR 60.7(a)(1)]

   b. A notification of the actual date of initial startup of Unit IGT3 postmarked within 15 days of after such date (date of initial startup). [40 CFR 60.7(a)(3)]

   c. A 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 Control Officer may request additional relevant information subsequent to this notice. [40 CFR 60.7(a)(4)]

   d. A notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with 40 CFR 60.13(c) postmarked not less than 30 days prior to such date. [40 CFR 60.7(a)(5)]

   e. A notification of the anticipated date for conducting the opacity observations required by 40 CFR 60.11(e)(1). The notification shall also include, if appropriate, a request for the Administrator to provide a visible emissions reader during a performance test. The notification shall be postmarked not less than 30 days prior to such date. [40 CFR 60.7(a)(6)]

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f. A notification that continuous opacity monitoring system data results will be used to determine compliance with the applicable opacity standard during a performance test required by 40 CFR 60.8 in lieu of Method 9 observation data as allowed by 40 CFR 60.11(e)(5). This notification shall be postmarked not less than 30 days prior to the date of the performance test. [40 CFR 60.7(a)(7)]

2. The Permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b)]

3. The Permittee shall submit excess emissions and monitoring systems performance reports and/or summary report form to the Control Officer semi-annually, except when: more frequent reporting is specifically required by an applicable subpart; 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: [40 CFR 60.7(c) & PCC 17.12.040.B]

a. 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 and the process operating time during the reporting period. [40 CFR 60.7(c)(1)]

b. 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. [40 CFR 60.7(c)(2)]

c. 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. [40 CFR 60.7(c)(3)]

d. 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. [40 CFR 60.7(c)(4)]

4. The summary report form submitted by the Permittee shall contain the information and be in the format shown in 40 CFR 60.7(d) Figure 1 unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at IGT3. [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 II.B.3 of Attachment 4 need not be submitted unless requested by the Administrator. [40 CFR 60.7(d)(1)]

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 II.B.3 of Attachment 7 shall both be submitted. [40 CFR 60.7(d)(2)]

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5. The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, 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 in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records, except as follows: [40CFR 60.7(f)]

   a. If the Permittee is required to install a continuous emissions monitoring system (CEMS) where the CEMS installed is automated, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. An automated CEMS records and reduces the measured data to the form of the pollutant emission standard through the use of a computerized data acquisition system. In lieu of maintaining a file of all CEMS subhourly measurements as required in II.B.5 of Attachment 7, the Permittee shall retain the most recent consecutive three averaging periods of subhourly measurements and a file that contains a hard copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard. [40 CFR 60.7(f)(1)]

   b. If the Permittee is required to install a CEMS where the measured data is manually reduced to obtain the reportable form of the standard, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. In lieu of maintaining a file of all CEMS subhourly measurements as required under II.B.5 of Attachment 7 the Permittee shall retain all subhourly measurements for the most recent reporting period. The subhourly measurements shall be retained for 120 days from the date of the most recent summary or excess emission report submitted to the Administrator. [40 CFR 60.7(f)(2)]

   c. The Administrator or Control Officer, upon notification to the source, may require the Permittee to maintain all measurements as required by II.B.5 of Attachment 7, if the Administrator or Control Officer determines these records are required to more accurately assess the compliance status of the affected source. [40 CFR 60.7(f)(3)]

C. Performance Tests

Within 60 days after achieving the maximum production rate at which IGT3 will be operated, but not later than 180 days after initial startup of IGT3 and at such other times as may be required by the Control Officer under section 114 of the Act, the Permittee shall conduct emissions performance test(s) for NO_X and SO_2 , and furnish the Control Officer a written report of the results of such performance test(s). [40 CFR 60.8(a)]

D. Compliance with Standards and Maintenance Requirements

At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate IGT3 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 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.

1. For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any standard in 40 CFR Part 60, nothing 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. [40 CFR 60.11(g)]

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E. Circumvention

The Permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission, which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with opacity standard or with a standard, which is based on the concentration of a pollutant in the gases discharged to the atmosphere. [40 CFR 60.12]

F. General Notification and Reporting Requirements

The Permittee shall comply with the "General Notification and Reporting Requirements" found in 40 CFR 60.19. [40 CFR 60.19]

III SPECIFIC CONDITIONS

A. Operational Limitations

The Permittee shall not cause or allow the combustion of any fuel in Unit IGT3 other than pipeline quality natural gas. [PCC 17.12.190.B]

B. Nitrogen Oxide

1. Emission Limitations/Standards [PCC 17.12.180.A.2]

a. On and after the date of the performance test required by II.C of Attachment 7 is completed, the Permittee shall not cause to be discharged into the atmosphere from Unit IGT3) any gases which contain nitrogen oxides (NO_X) in excess of: [40 CFR 60.332(a)(1) & 60.332(b)]

[Material Permit Condition]

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

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, and

F = NO_X emission allowance for fuel-bound nitrogen = 0. For Gas Turbine Units IGT3, STD = 75 ppmv at 15% oxygen

b. The Permittee shall not allow the total combined emissions of nitrogen oxides from Unit IGT3 to equal or exceed 40 tons per year, calculated as a 12-month rolling total. [PCC 17.12.190.B]

[Material Permit Condition]

2. Air Pollution Control Equipment

At all times, including during startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate Unit IGT3 including associated air pollution control equipment and monitoring equipment in a manner consistent with good air pollution control practices for minimizing NO_X emissions. [40 CFR 60.11(d)][PCC 17.12.180.A.2]

[Material Permit Condition]

Proposed Permit

3. Monitoring, Recordkeeping and Reporting Requirements [PCC 17.12.180A.3, A.4 & A5]

a. The Permittee shall install, certify, maintain, operate and quality-assure Continuous Emission Monitoring Systems (CEMS) consisting of NO_X and O_2 (or CO_2) monitors for measuring NO_X emissions from Gas Turbine Unit IGT3. [PCC 17.12.180.A.2]

[Material Permit Condition]

b. The Permittee shall install, calibrate, maintain, and operate fuel flow rate monitoring systems for determining the natural gas input rate to gas turbine unit IGT3 for each operating hour. The fuel flow rate monitoring system shall be calibrated and quality-assured in accordance with III.E.2.i of Attachment 4. [PCC 17.12.180.A.2]

[Material Permit Condition]

c. New Source Performance Standards (NSPS) Provisions

The Permittee shall comply with the following requirements contained in 40 CFR Part 60 Subpart GG as amended on July 8, 2004.

i. The Permittee shall comply with the NO_X emission limitation in III.B.1.a.of Attachment 7 by using one of the following methods:

(A) Install, calibrate, maintain and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water to fuel being fired in Unit IGT3. [40 CFR 60.334(a)]

(B) Utilize the CEMS required by III.B.3.a of Attachment 4 and demonstrate compliance in accordance with III.B.3.c.iii of Attachment 4. [40 CFR 60.334(d)]

ii. If the Permittee elects to demonstrate compliance with III.B.1.a. of Attachment 4 by continuously monitoring the water to fuel ratio as provided by III.B.3.c.i.(A) of Attachment 4, the following requirements shall apply:

(A) The water to fuel ratio in III.B.3.c.i.(A) of Attachment 4 shall be monitored during the performance test required under 40 CFR 60.8 to establish acceptable values and ranges. The Permittee may supplement the performance test data with engineering analyses, design specifications, manufacturer's recommendations and other relevant information to define the acceptable parametric ranges more precisely. The Permittee shall develop and keep on-site a parameter monitoring plan which explains the procedures used to document proper operation of the NO_X emission controls. The plan shall include the parameter(s) monitored and the acceptable range(s). Any supplemental data such as engineering analyses, design specifications, manufacturer's recommendations and other relevant information shall be included in the monitoring plan. [40 CFR 60.334(g)]

(B) The Permittee shall submit reports of excess emissions and monitor downtime, in accordance with 40 CFR 60.7(c). Excess emissions shall be reported for all periods of Unit IGT3 operation, including startup, shutdown and malfunction. Excess emissions and monitor downtime that shall be reported are defined as follows: [40 CFR 60.334(j) & (j)(1)(i)]

(1) An excess emission shall be any unit operating hour for which the average water to fuel ratio, as measured by the continuous monitoring system, falls below the acceptable water to fuel ratio needed to demonstrate compliance with III.B.1.a. of Attachment 7, as established during the performance test required in 40 CFR 60.8. Any unit operating hour in which no water is injected into the turbine shall also be considered an excess emission.

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(2) A period of monitor downtime shall be any unit operating hour in which water is injected into the turbine, but the essential parametric data needed to determine the water to fuel ratio are unavailable or invalid.

(3) Each report shall include the average water to fuel ratio, average fuel consumption, ambient conditions (temperature, pressure, and humidity) and gas turbine load. The Permittee is not required to report ambient conditions if opting to use the worst case ISO correction factor as specified in 40 CFR60.334(b)(3)(ii).

iii. If the Permittee elects to demonstrate compliance with III.B.1.a. of Attachment 7 using CEMS as provided by III.B.3.c.(i)(B) of Attachment 4, the following requirements shall apply:

(A) The NO_X and diluent CEMS shall be installed, certified, maintained and operated as follows:

(1) Each CEMS must be installed and certified according to Performance Specification 2 and 3 (for diluent) of 40 CFR Part 60, Appendix B, except the 7-day calibration drift is based on unit operating days, not calendar days. [40 CFR 60.334(b)(1)]

(2) The NO_X and diluent CEMS on Unit IGT3 shall be installed and operational prior to conducting performance tests as required by III.B.4 of Attachment 4. [40 CFR 60.13(b)]

(3) During each full unit operating hour, each monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hours, at least one valid data point must be obtained for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required to validate the hour. [40 CFR 60.334(b)(2)]

(4) For the purpose of identifying excess emissions, CEMS data must be reduced to hourly averages as specified in 40 CFR 60.13(h). [40 CFR 60.334(b)(3)]

(5) For each unit operating hour in which a valid hourly average is obtained for both NO_X and diluent, the data acquisition and handling system must calculate and record the hourly NO_X emissions in the units of the applicable NO_X emission standard under III.B.1.a. of Attachment 4 of this Attachment. For any hour in which the hourly average O_2 concentration exceeds 19.0 percent O_2 a diluent cap value of 19.0 percent O_2 may be used in the emission calculations. [40 CFR 60.334(b)(3)(i)]

(6) A worst case ISO correction factor may be calculated and applied using historical ambient data in accordance with the procedures in 40 CFR 60.334(b)(3)(ii). [40 CFR 60.334(b)(3)(ii)]

Proposed Permit

(B) The Permittee shall submit reports of excess emissions and monitor downtime in accordance with 40 CFR 60.7(c). The reports shall be postmarked by the 30th day following the end of each calendar quarter. Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction. Periods of excess emissions and monitor downtime that shall be reported are defined as follows: [40 CFR 60.334(j)(1)(iii)]

(1) An hour of excess emissions shall be any unit operating hour in which the 4-hour rolling average NO_X concentration exceeds the applicable emission limit in Condition III.B.1.a of Attachment 4. A 4-hour rolling average NO_X concentration is the arithmetic average of the average NO_X concentration measured by the CEMS for a given hour (corrected to 15 percent O_2 and, to ISO standard conditions) and the three unit operating hour average NO_X concentrations immediately preceding that unit operating hour.

(2) A period of monitor downtime shall be any unit operating hour in which sufficient data are not obtained to validate the hour, for either NO_X concentration or diluent (or both).

(3) Each report shall include the ambient conditions (temperature, pressure, and humidity) at the time of the excess emission period. The Permittee is not required to report ambient conditions if opting to use the worst case ISO correction factor as specified in 40 CFR 60.334(b)(3)(ii).

d. Annual NO_X Emission Limit

To demonstrate compliance with the annual NO_X emission limit in III.B.1.b of Attachment 4, the Permittee shall comply with the continuous emission system monitoring, recordkeeping and reporting provisions in III.E.2 of Attachment 4.

4. Performance Testing

The Permittee shall conduct a NO_X emissions performance test on Unit IGT3, in accordance with 40 CFR 60.8 and the test methods and procedures in 40 CFR 60.335. The performance test shall be used to demonstrate compliance with the emission limit contained in III.B.1.a of Attachment 4.
[40 CFR 60.335]

C. Sulfur Dioxide

1. Emission Limitations/ Standards

a. The Permittee shall not burn in Unit IGT3, any fuel that contains total sulfur in excess of 0.8 percent by weight (8000 ppmw). [40 CFR 60.333(b)] & [PCC 17.12.190.B]
[Material Permit Condition]

b. The Permittee shall not allow the total combined emissions of SO_2 from Unit IGT3 to equal or exceed 40 tons per year, calculated as a 12-month rolling total. [PCC 17.12.190.B]

2. Monitoring, Recordkeeping and Reporting Requirements [PCC 17.12.180A.3, A.4 & A5]

a. The Permittee may elect not to monitor the total sulfur content of the gaseous fuel combusted in the turbine, if the gaseous fuel is demonstrated to meet the definition of natural gas in 40 CFR 60.331(u). The Permittee shall use one of the following sources of information to make the required demonstration: [40 CFR 60.334(h)(3)]

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i. The gas quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20 grains / 100 scf or less; or

ii. Representative fuel sampling data which shows that the sulfur content of the gaseous fuel does not exceed 20 grains / 100 scf. At a minimum, the amount of fuel sampling data specified in section 2.3.1.1 or 2.3.2.4 of appendix D to 40 CFR Part 75 is required.

b. To demonstrate compliance with III.C.1.b of Attachment 7, the Permittee shall comply with the continuous emission monitoring, recordkeeping, and reporting requirements in III.E.2 of Attachment 4.

D. Carbon Monoxide

1. Emission Limitations/Standards

The Permittee shall not allow the total combined emissions of carbon monoxide (CO) from IGT3 to equal or exceed 100 tons per year, calculated as a 12-month rolling total. [PCC 17.12.190.B]

[Material Permit Condition]

2. Monitoring, Recordkeeping and Reporting Requirements [PCC 17.12.180.A.3, A.4 & A.5]

a. The Permittee shall install, calibrate, maintain and operate and quality-assure a Continuous Emission Monitoring System (CEMS) consisting of CO and O2 or CO2 monitors for measuring CO emissions and diluent from IGT3. [PCC 17.12.180.A.2]

[Material Permit Condition]

b. The Permittee shall install, calibrate, maintain and operate the in-line fuel flowmeter monitoring systems for determining the natural gas input rate to IGT3 for each operating hour according to the manufacturer's instructions. [PCC 17.12.180.A.2]

[Material Permit Condition]

c. To demonstrate compliance with the annual CO emission limit in III.D.1 of Attachment 7, the Permittee shall comply with the CEMS monitoring, recordkeeping, and reporting requirements in Condition III.E.2 of Attachment 4.

E. Continuous Emissions Monitoring Systems (CEMS) [40 CFR §60.13, PCC 17.12.050.H.3]

1. New Source Performance Standards for Continuous Emission Monitoring Systems

To demonstrate compliance with III.B.1.a of Attachment 7 the Permittee shall install, calibrate, maintain, and operate a continuous emission monitoring system (CEMS) and data acquisition handling system (DAHS) to calculate a four hour rolling average NO_X emission rate.

a. The Permittee shall comply with the following requirements in the General Provisions of 40 CFR 60 for each CEMS unit installed:

i. The CEMS and DAHS monitoring and recording devices shall be installed and operational prior to conducting initial performance test. 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)]

Proposed Permit

ii. The Permittee shall automatically 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)(1)]

iii. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under V.B.4.a (ii), 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)]

iv. The CEMS devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of appendix B of 40 CFR 60 (III.E.1.b of Attachment 4) shall be used. [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 O_2 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 Permittee shall meet the notification and recordkeeping requirements in II.B.1.d and II.B.5 of Attachment 4.

b. The Permittee shall comply with the following requirements in the Performance Specifications of 40 CFR 60 Appendix B, for each CEMS unit installed:

i. 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, Sections 2 & 8.1.

ii. Pretest preparation shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2, Sections 2 & 8.2.

iii. Calibration drift test procedure shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2, Sections 2 & 8.3.

iv. Relative accuracy test procedure shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2, Sections 2 & 8.4.

v. Reporting requirements shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2, Sections 2 & 8.5.

vi. Analytical procedures shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2, Sections 2 & 11.0.

vii. Calculation and data analysis shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2, Sections 2 & 12.0.

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viii. Method performance shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2, Sections 2 & 13.0.

ix. Alternative Procedures shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 2, Sections 2 & 16.0.

x. References are located in 40 CFR Part 60, Appendix B, Specification 2, Sections 2 & 17.0.

xi. Tables, Diagrams, Flowcharts, and Validation data necessary for NO_X CEMS testing are located in 40 CFR Part 60, Appendix B, Specification 2, Sections 2 & 18.0.

xii. Specifications and test procedures for O_2 and CO_2 CEMS in Stationary Systems shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 3.

xiii. Specifications and Test Procedures for CO CEMS in Stationary Sources shall be in accordance with the methods and procedures in 40 CFR Part 60, Appendix B, Specification 4.

2. Monitoring, Recordkeeping, and Reporting Requirements for Annual NO_X, SO_2 , and CO Emission Limits [PCC 17.12.180.A.3, A.4 & A.5]

a. For the purpose of compliance demonstration with annual NO_X, and CO emission limits, the Permittee shall utilize the NO_X, CO, diluent CEMS on Unit IGT3 in conjunction with the Data Acquisition and Handling System (DAHS) and fuel flow rate monitoring systems. A default value for SO_2 concentration will be calculated using equation 3 below. The DAHS will calculate emissions of NO_X, SO_2 and CO in pounds per hour (lb/hr), tons per month, and tons per year, calculated monthly as a 12-month rolling total. The Permittee shall use the procedures in Method 19 of 40 CFR 60 Appendix A as applicable to calculate NO_X, and CO mass emission rates.

b. The Permittee shall calculate SO_2 mass emission rates for Unit IGT3 using Equation 3 and 3A below:

ER = $(2.0 / 7000) \times 10^6 \times (S_{total} / GCV)$ where: (Equation 3)

ER = Default SO_2 emission rate for natural gas combustion, lb/MMBtu

S_{total} = Total sulfur content of the natural gas from a valid purchase agreement, tariff agreement, or sampling, gr/100 scf GCV = Gross calorific value of the natural gas from a valid purchase agreement, tariff agreement, or sampling, Btu/100 scf 7,000 = Conversion of grains/100 scf to lb/100 scf.

10^6 = Conversion factor (Btu/MMBtu)

SO_2 rate = ER x HI rate; where: (Equation 3A)

SO_2 rate = Hourly mass emission rate of SO_2 , lb/hr

ER = SO2 default emission rate of 0.06 lbs/MMBtu

HI rate = Hourly heat input rate, MMBtu/hr

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c. A period of monitor downtime shall be any unit operating hour in which sufficient data are not obtained to validate the hour, for NO_X, CO, and diluent concentration or heat input rate.

d. During CEMS system downtime, the Permittee shall implement the missing data procedures for NO_X and CO shown in 40 CFR Part 75 Subpart D – Missing Data Substitution Procedures.

e. Each calendar month during which the combined 12-month rolling total for the NO_X, emission rate from Unit IGT3 exceeds 40 tons shall constitute an exceedance. Exceedances shall be reported to the Control Officer in accordance with XI.A of Part A.

f. Each calendar month during which the combined 12-month rolling total for the SO2, emission rate from Unit IGT3, exceeds 40 tons shall constitute an exceedance. Exceedances shall be reported to the Control Officer in accordance with XI.A of Part A.

g. Each calendar month during which the combined 12-month rolling total for the CO emission rate from Unit IGT3, exceeds 100 tons shall constitute an exceedance. Exceedances shall be reported to the Control Officer in accordance with XI.A of Part A.

h. Each individual day and 12-month rolling total for NO_X, SO_2 , and CO emission rates in the reporting period shall be included in the semiannual compliance certification required by VII of Part A.

i. Quality Assurance Requirements for Natural Gas Fuel Flow meters

   i. Each transmitter or transducer shall be calibrated by equipment that has a current certificate of traceability to NIST standards at least once every four calendar quarters in which a unit operated on natural gas for 168 hours or more during each quarter but not less than once every three years. The Permittee shall check the calibration of each transmitter or transducer by comparing its readings to that of the NIST traceable equipment at least once at the following levels: the zero-level, and at least two other upscale levels (e.g., “mid” and “high”), such that the full range of transmitter or transducer readings corresponding to normal unit operation is represented.

   ii. The Permittee shall calculate the accuracy of each transmitter or transducer at each level tested, using the following equation:

$$ACC = \frac{|R-T|}{FS} \times 100 \text{ Equation 4}$$

Where:

C = Accuracy of the transmitter or transducer as a percentage of full-scale.

R = Reading of the NIST traceable reference value (in milliamperes, inches of water, psi, or degrees).

T = Reading of the transmitter or transducer being tested (in milliamperes, inches of water, psi, or degrees, consistent with the units of measure of the NIST traceable reference value).

FS = Full-scale range of the transmitter or transducer being tested (in milliamperes, inches of water, psi, or degrees, consistent with the units of measure of the NIST traceable reference value).

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iii. If each transmitter or transducer meets an accuracy of ± 1.0 percent of its full-scale range at each level tested, the fuel flow meter accuracy of 2.0 percent is considered to be met at all levels. If however, one or more of the transmitters or transducers does not meet an accuracy of ± 1.0 percent of full-scale at a particular level, then the Permittee may demonstrate that the fuel flow meter meets the total accuracy specification of 2.0 percent at that level by using one of the following alternative methods. If, at a particular level, the sum of the individual accuracies of the three transducers is less than or equal to 4.0 percent, the fuel flow meter accuracy specification of 2.0 percent is considered to be met for that level. Or, if at a particular level, the total fuel flow meter accuracy is 2.0 percent or less, when calculated in accordance with Part 1 of American Gas Association Report No.3, General Equations and Uncertainty Guidelines, the flow meter accuracy requirement is considered to be met for that level.

iv. If during a transmitter or transducer accuracy test the flow meter accuracy specification of 2.0 percent is not met at any of the levels tested, the Permittee shall repair or replace the transmitter(s) or transducer(s) as necessary until the flow meter accuracy specification has been achieved at all levels. (Note that only transmitters or transducers which are repaired or replaced need to be re-tested; however, the re-testing is required at all three measurement levels to ensure that the flow meter accuracy specification is met at each level).

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