

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

**33 North. Stone Avenue, Suite 700 • Tucson, AZ 85701 • Phone: (520) 742-7400**

**AIR QUALITY OPERATING PERMIT**

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

**ISSUED TO**

**TRES RIOS WATER RECLAMATION FACILITY  
7101 NORTH CASA GRANDE HIGHWAY  
TUCSON, AZ 85743**

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

THIS PERMIT ISSUED SUBJECT TO THE GENERAL PROVISIONS (PART A) AND SPECIFIC CONDITIONS (PART B) IDENTIFIED IN THIS PERMIT.

PERMIT NUMBER **1903**

PERMIT CLASS **II**

PERMIT ISSUED **XX, 2014**

EXPIRATION DATE **XX, 2019**

SIGNATURE

TITLE

***Rupesh Patel, Air Permit Manager, PDEO***

## Permit Summary

This operating permit is a renewal of the 5-year, individual air quality operating permit issued to Pima County Regional Wastewater Reclamation Department, for the Tres Rios Water Reclamation Facility (WRF) (formally known as the Ina Road Wastewater Reclamation Facility). The facility constitutes a Class II; True Minor Stationary Source.

The Tres Rios WRF facility provides preliminary, primary and secondary treatment of wastewaters collected from the Tucson Metropolitan Area. The facility is designed to provide treatment of up to 50 million gallons per day of wastewater collected from the Tucson Metropolitan Area.

The facility generates emissions primarily from fossil fuel fired generators and boilers. The emission units burn a combination of fuel types; natural gas, propane gas and digester gas.

The following Table shows the Potential to Emit (PTE) of the various regulated criteria pollutants from this facility. PTE is based on the maximum potential emissions for each emission unit operating 8760 hours per year (natural gas generator based on 500 hrs/year). The flares operate only on digester gas and the boilers can operate on natural gas, digester gas, or the combination of the two. A single natural gas generator operates exclusively on natural gas.

<b>Pollutant</b>	<b>Potential To Emit (Tons per Year)</b>
Nitrogen Oxides (NO <sub>x</sub> )	38.17
Carbon Monoxide (CO)	48.98
Particulate Matter (as PM <sub>10</sub> )	6.02
Hazardous Air Pollutants	9.71
Volatile Organic Compounds (VOC)	19.47
Sulfur Oxides (SO <sub>x</sub> )	2.94

The above emission rates are for reference purposes and are used to establish whether or not the source is a major source in terms of the Title V permit program. They are not intended to be enforced by direct measurement unless otherwise noted in the Specific Conditions of this permit.

All requirements of this permit that are Federally Enforceable or Material Permit Conditions are specifically indicated as such.

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## Specific Conditions

### Applicability

- I. The Specific Conditions in this air quality operating permit apply to the operations, equipment, and sources identified in the permit application and shall not relieve the Permittee or its subcontractors from compliance with all local, county, state, and federal laws, statutes, and codes or from obtaining permits for other operations or activities when required. [PCC 17.12.010.D & PCC 17.12.165]
  
- II. The Specific Conditions apply to the following affected facilities, equipment, sources and operations at the facility:
  - Section 1: Specific Conditions for NSPS (Subpart JJJJ) Spark Ignition Internal Combustion Engines
  - Section 2: Specific Conditions for NSPS (Subpart IIII) Compression Ignition Internal Combustion Engines
  - Section 3: Specific Conditions for Fossil-Fuel Fired Industrial and Commercial Equipment
  - Section 4 Local Stationary Source Performance Standards
  - Section 5. Facility Wide Operations
  
- III. If more than one emission limit or emission standard is applicable to the same source, the more stringent standard or emission limit shall apply. [PCC 17.16.10.B]

**Section 1**

**New Source Performance Standards (NSPS) for Stationary Spark Ignition Internal Combustion Engines (SI ICE) (40 CFR Part 60, Subpart JJJJ)**

**I. Applicability**

The provisions of this Section apply to rich burn LPG SI ICE between 25 and 500 horsepower, constructed after June 12, 2006 and manufactured on or after July 1, 2008. [60.4230(a)(4)(iii)]

For the purposes of Subpart JJJJ, the date that construction commences is the date the engine is ordered by the owner or operator. The applicable SI ICE is identified below and in Table 1, Attachment 2 of this permit.

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

**II. Operational Limitations**

A. Emission Standards [40 CFR 60.4231(c)]

1. NO<sub>x</sub>, CO and VOC

The Permittee must comply with the emission standards in Table 1 of Subpart JJJJ (shown below) for their stationary SI ICE. [40 CFR 60.4233(d) & 40 CFR 60.4233(e), 40 CFR 1048]

**Emission Standards for SI ICE**  
**(Ref: Table 1 to 40 CFR Part 60, Subpart JJJJ)**

Engine Type	SI ICE Model & Serial Number	Maximum Engine Power	Manufacture Date	Emission Standards		
				g/HP-hr or [ppmvd at 15% O <sub>2</sub> ]		
				NO <sub>x</sub>	CO	VOC <sup>a</sup>
Emergency	250GFBC M12K482738	HP≥130	12/21/2012	1.0 [160]	2.0 [540]	0.7 [86]

<sup>a</sup> For purposes of 40 CFR 60, Subpart JJJJ, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

<sup>b</sup> The emission standards applicable to emergency engines between 25 HP and 130 HP are in terms of NO<sub>x</sub>+HC. The exhaust emission standards above do not exceed the Tier 1 or Tier 2 emission standards in 40 CFR 1048.

2. Opacity

The Permittee shall not cause, allow, or permit the effluent from any stationary SI ICE to have an average opacity density equal to or greater than 20 percent. [PCC 17.16.040.A]

B. Operational Condition

The Permittee must operate and maintain stationary SI ICE that achieves the emission standards as required in II.A.1 of this Section over the entire life of the engine. [40 CFR 60.4234]

C. Fuel Requirements

The Permittee shall burn only the specified fuel allowed for the stationary SI ICE in Table 1, Attachment 2 of this permit. [PCC 17.12.185.A.2]

**[Material Permit Condition]**

D. Installation Restrictions

[40 CFR 60.4236]

1. After July 1, 2010, the Permittee may not install stationary SI ICE with a maximum engine power of less than 500 HP that do not meet the applicable requirements in 40 CFR 60.4233. [40 CFR 60.4236(a)]
2. After July 1, 2009, the Permittee may not install stationary SI ICE with a maximum engine power of greater than or equal to 500 HP that do not meet the applicable requirements in 40 CFR 60.4233, except that lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP that do not meet the applicable requirements in 40 CFR 60.4233 may not be installed after January 1, 2010. [40 CFR 60.4236(b)]
3. For emergency stationary SI ICE with a maximum engine power of greater than 19 KW (25 HP), the Permittee may not install engines that do not meet the applicable requirements in 40 CFR 60.4233 after January 1, 2011. [40 CFR 60.4236(c)]
4. In addition to the requirements specified in 40 CFR 60.4231 and 40 CFR 60.4233, it is prohibited to import stationary SI ICE less than or equal to 19 KW (25 HP), stationary rich burn LPG SI ICE, and stationary gasoline SI ICE that do not meet the applicable requirements specified in paragraphs II.D.1, II.D.2 and II.D.3 of this Section, after the date specified in paragraph II.D.1, II.D.2 and II.D.3 of this Section. [40 CFR 60.4236(d)]
5. The requirements of section II.D of this Section do not apply to stationary SI ICE that have been modified or reconstructed, and they do not apply to engines that were removed from one existing location and reinstalled at a new location. [40 CFR 60.4236(e)]

E. Compliance Requirements

[40 CFR 60.4243]

1. The Permittee must demonstrate compliance with the emission standards specified in section II.A.1 of this Section according to one of the methods II.E.1.a and II.E.1.b of this Section: [40 CFR 60.4243(b)]
  - a. Purchasing an engine certified according to procedures specified in Subpart JJJJ, for the same model year and demonstrating compliance according to one of the methods specified below: [40 CFR 60.4243(b)(1)]

i. Certified stationary SI internal combustion engine and control device operated and maintained according to the manufacturer's emission-related written instructions, the Permittee must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required. [40 CFR 60.4243(a)(1)]

ii Certified stationary SI internal combustion engine and control device not operated and maintained according to the manufacturer's emission-related written instructions, is considered a non-certified engine, and the Permittee must demonstrate compliance according to II.E.1.a.ii.(A) through II.E.1.a.ii.(C) of this Section, as appropriate. [40 CFR 60.4243(a)(2)]

(A) Owner or operator of a stationary SI internal combustion engine less than 100 HP:

The Permittee must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions, but no performance testing is required if you are an owner or operator. [40 CFR 60.4243(a)(2)(i)]

(B) Owner or operator of a stationary SI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP:

The Permittee must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the Permittee must conduct an initial performance test within 1 year of engine startup to demonstrate compliance. [40 CFR 60.4243(a)(2)(ii)]

(C) Owner or operator of a stationary SI internal combustion engine greater than 500 HP:

The Permittee must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the Permittee must 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 to demonstrate compliance. [40 CFR 60.4243(a)(2)(iii)]

b. Purchasing a non-certified SI ICE greater than 25 HP and less than or equal to 500 HP, that is in compliance with the emission standards specified in II.A.1 of this Section and according to the requirements specified in IV.E of this Section, then the Permittee must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the Permittee must conduct an initial performance test to demonstrate compliance. [40 CFR 60.4243(b)(2) & 40 CFR 60.4243(b)(2)(i)]

2. Emergency stationary SI 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 SI 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 SI ICE beyond 100 hours per year. Emergency stationary SI ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited. [40 CFR 60.4243(d)]
3. The Permittee may operate their stationary SI natural gas fired engines using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, the Permittee is required to conduct a performance test to demonstrate compliance with the emission standards in II.A of this Section. [40 CFR 60.4243(e) and 40 CFR 60.4233]
4. Stationary SI internal combustion engines at the facility less than or equal to 500 HP, purchased non-certified or not operated and maintained certified stationary SI internal combustion engine and control device according to the manufacturer's written emission-related instructions, the Permittee is required to perform initial performance testing as indicated in this section, but the Permittee is not required to conduct subsequent performance testing unless the stationary engine is rebuilt or undergoes major repair or maintenance. A rebuilt stationary SI ICE means an engine that has been rebuilt as that term is defined in 40 CFR 94.11(a). (See Technical Support Document accompanying this permit for the definition of a rebuilt stationary SI ICE). [40 CFR 60.4243(f)]
5. It is expected that air-to-fuel ratio (AFR) controllers will be used with the operation of three-way catalysts/non-selective catalytic reduction. The AFR controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [40 CFR 60.4243(g)]

### III. Monitoring Requirements

#### A. Opacity

A demonstration to show compliance with the emission limitation for opacity in II.A.2 of this Section shall not be required since the percent of opacity of visible emissions from the stationary SI ICE while combusting natural gas fuel is inherently low. The Permittee shall operate and maintain the stationary SI ICE at all times - including periods of startup, shutdown, and malfunction - in a manner consistent with good air pollution control practices and consistent with manufacturer's guidelines. [PCC 17.12.185.A.3]

**B. Fuel Limitation**

The Permittee shall be considered in compliance with the fuel limitation in II.C of this Section by demonstrating that only commercially available pipeline quality natural gas was fired in the stationary SI ICE listed. 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, showing that only commercial natural gas was purchased for use in the equipment. [PCC 17.12.185.A.3]

**IV. Recordkeeping Requirements**

**A. Notifications, Reports and Records**

The Permittee must keep records of all stationary SI ICE, the information in paragraphs 1 through 4 of this section. [40 CFR 60.4245(a)]

1. All notifications submitted to comply with this subpart and all documentation supporting any notification.
2. Records of conducted maintenance to demonstrate compliance. [40 CFR 60.4245(a)(2)]
3. If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR 1048. [40 CFR 60.4245(a)(3)]
4. If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to II.E.1.a.ii of this permit, documentation that the engine meets the emission standards. [40 CFR 60.4245(a)(4) and [40 CFR 60.4243(a)(2)]

**V. Reporting Requirements**

For all SI ICE that are subject to performance testing, the Permittee must submit a copy of each performance test as conducted in 40 CFR 60.4244 within 60 days after the test has been completed. [40 CFR 60.4245(d)]

**VI. Facility Changes**

When applicable, the Permittee shall submit the proper notification and follow the required permit revision procedures pursuant to PCC 17.12.240, PCC 17.12.255.B or PCC 17.12.260.

**VII. Testing Requirements**

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 facility would have been in compliance with applicable federal requirements if the appropriate performance or compliance procedures or methods had been performed. [PCC 17.20.010]

## A. Opacity

When required by the Control Officer, the Permittee shall perform EPA Reference Method 9 visible emissions observations on the stationary SI ICE units identified in Table 5 to demonstrate compliance with the opacity standard in II.A.2 of this Section. [PCC 17.16.130.B]

## B. Fuel Limitation

When required by the Control Officer, the Permittee need only demonstrate that pipeline quality natural gas was fired exclusively since the sulfur content of pipeline quality natural gas is regulated by the Federal Energy Regulatory Commission. [PCC 17.12.185.A.3 & PCC 17.20.010]

## C. Alternative Test Method

The Permittee may submit an alternate and equivalent test method(s) that is listed in 40 CFR Subpart 60, Appendix A, to the Control Officer in a test plan, for approval by the Control Officer. [PCC 17.12.045.D]

## D. Owners and operators of stationary SI ICE who conduct performance tests must follow the procedures in paragraphs (i) through (vi) of this section. [40 CFR 60.4244]

- i. Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in 40 CFR 60.8 and under the specific conditions that are specified by Table 2 to 40 CFR 60, Subpart JJJJ.
- ii. You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in 40 CFR 60.8(c). If your stationary SI internal combustion engine is non-operational, you do not need to startup the engine solely to conduct a performance test; however, you must conduct the performance test immediately upon startup of the engine.
- iii. You must conduct three separate test runs for each performance test required in this section, as specified in 40 CFR 60.8(f). Each test run must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour.
- iv. To determine compliance with the NO<sub>x</sub> mass per unit output emission limitation, convert the concentration of NO<sub>x</sub> in the engine exhaust using Equation 1 below:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Equation 1})$$

Where:

- |                        |   |  |
|------------------------|---|--|
| ER                     | = | Emission rate of NO <sub>x</sub> in g/HP-hr.   |
| C <sub>d</sub>         | = | Measured NO <sub>x</sub> concentration in parts per million by volume (ppmv).                        |
| 1.912×10 <sup>-3</sup> | = | Conversion constant for ppm NO <sub>x</sub> to grams per standard cubic meter at 20 degrees Celsius. |
| Q                      | = | Stack gas volumetric flow rate, in standard cubic meter per hour, dry basis.                         |
| T                      | = | Time of test run, in hours.  |
| HP-hr                  | = | Brake work of the engine, horsepower-hour (HP-hr).   |

- v. To determine compliance with the CO mass per unit output emission limitation, convert the concentration of CO in the engine exhaust using Equation 2 below:

$$ER = \frac{C_d \times 1.164 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Equation 2})$$

Where:

ER	=	Emission rate of CO in g/HP-hr.
$C_d$	=	Measured CO concentration in ppmv.
$1.164 \times 10^{-3}$	=	Conversion constant for ppm CO to grams per standard cubic meter at 20 degrees Celsius.
Q	=	Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.
T	=	Time of test run, in hours.
HP-hr	=	Brake work of the engine, in HP-hr.

- vi. For purposes of 40 CFR 60, Subpart JJJJ, when calculating emissions of VOC, emissions of formaldehyde should not be included. To determine compliance with the VOC mass per unit output emission limitation, convert the concentration of VOC in the engine exhaust using Equation 3 below:

$$ER = \frac{C_d \times 1.833 \times 10^{-3} \times Q \times T}{HP - hr} \quad (\text{Equation 3})$$

Where:

ER	=	Emission rate of VOC in g/HP-hr.
$C_d$	=	VOC concentration measured as propane in ppmv.
$1.833 \times 10^{-3}$	=	Conversion constant for ppm CO to grams per standard cubic meter at 20 degrees Celsius.
Q	=	Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.
T	=	Time of test run, in hours.
HP-hr	=	Brake work of the engine, in HP-hr.

- vii. If the Permittee chooses to measure VOC emissions using either Method 18 of 40 CFR part 60, Appendix A, or Method 320 of 40 CFR part 63, Appendix A, then the Permittee has the option of correcting the measured VOC emissions to account for the potential differences in measured values between these methods and Method 25A. The results from Method 18 and Method 320 can be corrected for response factor differences using Equations 4 and 5 of this section. The corrected VOC concentration can then be placed on a propane basis using Equation 6 of this section.

$$RF_i = \frac{C_{Mi}}{C_{Ai}} \quad (\text{Equation 4})$$

Where:

$RF_i$	=	Response factor of compound i when measured with EPA Method 25A.
$C_{Mi}$	=	Measured concentration of compound i in ppmv as carbon.
$C_{Ai}$	=	True concentration of compound i in ppmv as carbon.

$$C_{icorr} = RF_i \times C_{imeas} \quad (\text{Equation 5})$$

Where:

$C_{icorr}$  = Concentration of compound i corrected to the value that would have been measured by EPA Method 25A, ppmv as carbon.

$C_{imeas}$  = Concentration of compound i measured by EPA Method 320, ppmv as carbon.

$$C_{Peq} = 0.6098 \times C_{imeas} \quad (\text{Equation 6})$$

Where:

$C_{Peq}$  = Concentration of compound i in mg of propane equivalent per DSCM.

### VIII. Additional Requirements

The Permittee is subject to the general provisions in 40 CFR 60.1 through 60.19, identified in Table 3 of 40 CFR 60, Subpart JJJJ. [40 CFR 60.4246]

## Section 2

### New Source Performance Standards (NSPS) for Pre-2007 Model Year Emergency Compression Ignition Engines (40 CFR Part 60, Subpart III)

#### I. Applicability

[40 CFR 60.4200(a)(2)(i) &amp; (a)(3)]

The standards contained in this Attachment apply to owners/operators of emergency stationary compression ignition internal combustion engines (CI ICE) that are not certified National Fire Protection Association (NFPA) fire pump engines and that are manufactured after April 1, 2006 or have been modified or reconstructed after July 11, 2005 but are not 2007 model year or later. The specific applicable unit is identified in Table 2 and 3, Attachment 2 of this permit. These standards are required in addition to those in the Additional Permit Requirements. **All conditions in this Section are Federally Enforceable Conditions.**

#### II. Operational Limitations

[PCC 17.12.185.A.2]

##### A. Emission Limitations

[40 CFR 60.4205(a), 40 CFR 60.4203 &amp; Table 1 of Subpart III]

1. New CI ICE subject to this Section must be certified by the manufacturer at or below the applicable emission standards and must continue to meet them for the certified emissions life of the engine.
2. Modified or reconstructed CI ICE subject to this Section shall be certified by the entity that conducts the modification or reconstruction (via the appropriate testing according to 40 CFR 60.4212, if appropriate). This certification must state that emissions will be at or below the applicable emission standards and the unit shall continue to meet them for the useful life of the engine.
3. Applicable emission standards and the certified emissions life of the engine are identified in Table 2 and 3 in Attachment 2 of this permit.
4. 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]

##### B. Fuel Requirements

[40 CFR 60.4207]

Beginning October 1, 2010, stationary CI ICE subject to this Section that use diesel fuel must purchase diesel fuel that meets the following requirements on a per-gallon basis:

[40 CFR 60.4207(b) &amp; 40 CFR 80.510(b)]

1. Sulfur content: 15 ppm maximum;
2. Cetane index or aromatic content, as follows:
  - a. A minimum cetane index of 40; or
  - b. A maximum aromatic content of 35 volume percent.

## C. Installation Restrictions

[40 CFR 60.4208]

1. After December 31, 2008, the Permittee may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year. [40 CFR 60.4208(a)]
2. After December 31, 2009, the Permittee may not install stationary CI ICE with a maximum engine power of less than 25 HP (19 KW) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines. [40 CFR 60.4208(b)]
3. The requirements of II.C.1 and 2 of this Section do not apply to stationary CI ICE that have been modified or reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location. This provision does not extend to imported units which shall be treated as new sources. [40 CFR 60.4208 (i) & (h)]

## D. Emergency Designation

[40 CFR 60.4211(e)]

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. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section (II.D), is prohibited.

## E. Compliance

[40 CFR 60.4211]

1. The Permittee must operate and maintain applicable stationary CI ICE and control device (if applicable) according to the manufacturer's emission-related 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. [40 CFR 60.4211(a)]
2. With respect to pre-2007 model year stationary CI ICE subject to this Section, the Permittee must demonstrate compliance according to one of the following methods:
  - a. Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.
  - b. Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in 40 CFR 60.4212 and the methods must have been followed correctly. [40 CFR 4211(b)]

- c. Keeping records of engine manufacturer data indicating compliance with the standards.
- d. Keeping records of control device vendor data indicating compliance with the standards.
- e. Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in 40 CFR 60.4212, as applicable.

**III. Monitoring Requirements**

[PCC 17.12.185.A.3.d]

**A. Hour Meter Installation**

The Permittee of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines must install a non-resettable hour meter on each applicable stationary CI ICE prior to startup of each engine. [40 CFR 60.4209(a)]

**B. Diesel Particulate Filter Installation**

The Permittee of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in 40 CFR 60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached. [40 CFR 60.4209(b)]

**IV. Recordkeeping Requirements**

[PCC 17.12.185.A.4]

**A. Hourly Operational Records**

The Permittee shall keep records of the operation of the applicable engine(s) in emergency and non-emergency service that are recorded through the non-resettable hour meter. The Permittee must record the time of operation of the engine(s) and the reason the engine was in operation.

**B. Diesel Fuel Recordkeeping**

The Permittee shall maintain records that verify compliance with the diesel fuel requirements in II.B of the Specific Conditions.

**V. Testing Requirements**

[40 CFR 60.4212] [PCC 17.12.185.A.3.a]

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

**VI. Additional Requirements**

[40 CFR 60.4218 & 40 CFR 60.4214(b)]

The General Provisions of 40 CFR 60.1 through 19 apply to applicable CI ICE as indicated in Table 8 of 40 CFR Subpart IIII except that the Permittee is not required to submit an initial notification unless required by Section V of this Section.

**VII Facility Recordkeeping**

[PCC 17.12.185.A.4]

All records required by, or generated to verify compliance with this Section shall be maintained for five years

## Section 3

### Fossil-Fuel Fired Industrial and Commercial Equipment

The provisions of this Section are applicable to the fossil-fuel fired industrial and commercial equipment (boilers/flares) identified in Table 4, Attachment 2 of this permit.

#### **I. Emission Limitations and Standards**

[PCC 17.12.185.A.2]

##### A. Opacity Standard

The Permittee shall not cause or permit the effluent from any boiler or flare to have an average optical density equal to or greater than twenty percent (20%) opacity.

[PCC 17.16.040.A]

##### B. Fuel Limitation

The Permittee shall burn only the specified fuel(s) allowed for each applicable emission unit identified in Table 4, Attachment 2 of this permit.

[PCC 17.12.190.B]

**[Material Permit Condition]**

#### **II. Monitoring Requirements**

[PCC 17.12.185.A.3]

##### A. Opacity Monitoring

1. The Permittee shall conduct a visible emissions check on the exhaust stack of each boiler at least quarterly while the boiler is operating. For the purposes of this permit, a visible emissions check is verification that abnormal emissions are not present at the boiler 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.
2. When required by the Control Officer, the Permittee shall perform visible emissions observations in accordance with EPA Method 9, Appendix A in 40 CFR 60, on the boiler to demonstrate compliance with the opacity standard.

[PCC 17.16.040 &amp; 17.20.010]

##### B. Fuel Verification

1. The Permittee shall be considered in compliance with the fuel limitation in I.B of this Section by demonstrating that each boiler/flare was fired only by the specified fuel allowed as listed in Table 4, of Attachment 2. Such a demonstration may be made by actual inspection of the equipment showing that the specified fuel is the only fuel supply plumbed to the equipment for firing.

#### **III. Reporting Requirements**

[PCC 17.12.185.A.5]

##### Excess Emissions

The Permittee shall report to the Control Officer any emissions in excess of the limits established by this permit in accordance with I.B of the Additional Permit Conditions.

[PCC 17.12.185.A.5 &amp; PCC 17.12.040]

#### IV. Testing Requirements

[PCC 17.12.045, PCC 17.12.050 & 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 facility would have been in compliance with applicable federal requirements if the appropriate performance or compliance procedures or methods had been performed.

##### A. Opacity

When required, the Permittee shall perform EPA Reference Method 9, Appendix A in 40 CFR 60 visible emissions observations on the boilers to demonstrate compliance with the opacity standard.

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## Section 4

### Facility Wide Operations

The provisions of this Section are applicable to facility wide operations, other equipment listed in Attachment 2 of this permit, and any other sources of air contaminants operating at the facility.

#### **I. Emission Limitations and Standards**

[PCC 17.12.185.A.2]

##### **A. Air Pollution Control**

1. 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 a performance standard in Title 17 of the Pima County Code. [PCC 17.16.020.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]
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]

##### **B. Odor Limiting Standard**

The Permittee shall not emit gaseous or odorous materials from equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution. [PCC 17.16.030]

##### **C. Opacity Limit**

Except as otherwise specified in this section, the opacity of all plumes and effluents from all point and non-point sources shall not exceed 20% as determined by EPA Reference Method 9, Appendix A 40 CFR 60. [PCC 17.16.050.B & PCC 17.16.130.B.1]

##### **D. Visibility Limiting Standard**

[PCC 17.16.050]

1. 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.
2. 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.
  - a. This provisions of this subsection do 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.

- b. This subsection shall not apply to the generation of airborne particulate matter from undisturbed land.

E. Concealment [PCC 17.20.040]

No person shall construct, install, erect, use, replace, modify, or operate an emission source so as to conceal an emission which would otherwise be a violation of a control standard established herein. Concealment shall include:

1. The use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere;
2. Operating in a piecemeal fashion to avoid compliance with a standard that would otherwise apply to the source on the basis of its size; and
3. Operating in a manner, under conditions, or during such times that emissions cannot be observed.

**II. Monitoring Requirements** [PCC 17.12.185.A.3]

A. Odor Limiting Standard

Monitoring for odors at the facility to determine compliance with the standard in I.B of this Section is not normally necessary as the use of good modern practices prevents the emission of odors in such quantities or concentrations as to cause air pollution. The Control Officer may ask the Permittee to monitor and control odor emissions if the Control Officer has reasonable cause to believe a violation of a standard has been committed.

B. Weekly Fugitive Emissions Check

To assure compliance with I.C and I.D of this Section, the Permittee shall observe all facility wide point and nonpoint sources at least once a week while the facility is in operation. If the observer sees a plume that, on an instantaneous basis, appears to exceed 20 percent, or the plume is crossing property boundaries, the Permittee shall, if practicable, conduct a visible emissions observation in accordance with EPA Reference Method 9. If the results exceed the applicable opacity limit, or the emissions cross the property boundary, this shall be recorded and reported as an excess emission.

**III. Recordkeeping Requirements**

[PCC 17.12.185.A.3 &amp; 4]

**A. Weekly Fugitive Emissions Check**

The Permittee shall record all facility wide visible emissions checks in II.B of this Section. Records of the checks shall include at a minimum:

- a. The date and time of the check,
- b. The name of the person conducting the check,
- c. The particular piece of equipment or area being observed; and,
- d. The results of the check to include whether excessive emissions were observed. If excessive emissions were observed, the record shall include corrective action taken and the results of the required follow-up opacity test.

**B. Record Retention**

The Permittee shall retain records of all required monitoring records and support information for at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes copies of all reports required by the permit. [PCC 17.12.185.4.b]

**C. Recordkeeping for Compliance Determinations**

The Permittee shall retain a copy of the permit onsite including all required monitoring records and support information. In addition, all equipment identified in the permit equipment list shall be marked with a unique, clearly visible, and accessible ID to identify the piece of equipment. The Permittee shall be considered in compliance by demonstrating that sufficient information on the equipment and facility operations is periodically collected, recorded, and maintained to assure that the compliance status of any specific condition of this permit can be readily ascertained at any time. [PCC 17.12.080 & PCC 17.24.020.A]

**IV. Reporting Requirements**

[PCC 17.12.185.A.5]

**Excess Emissions**

The Permittee shall report to the Control Officer any emissions in excess of the limits established by this permit in accordance with I.B of the Additional Permit Conditions. [PCC 17.12.185.A.5 & PCC 17.12.040]

**V. Facility Changes****Revision Notification**

When applicable, the Permittee shall submit the proper notification and follow the required permit revision procedures pursuant to PCC 17.12.240, PCC 17.12.255.B or PCC 17.12.260.

**VI. Testing Requirements**

[PCC 17.12.045, PCC 17.12.050 & 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.

**Opacity**

When required, the Permittee shall perform EPA Reference Method 9, Appendix A in 40 CFR 60 visible emissions observations to demonstrate compliance with the opacity standard.

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## Additional Permit Requirements

### I. Compliance with Permit Conditions

[PCC 17.12.185.A.7.a & b]

- A. The Permittee shall comply with all conditions of this permit including all applicable requirements of Arizona air quality statutes and the air quality rules. Any permit noncompliance constitutes a violation of the Arizona Revised Statutes and is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. In addition, noncompliance with any federally enforceable requirement constitutes a violation of the Clean Air Act.
- B. The Permittee shall report to the Control Officer any emissions in excess of the limits established by this permit. The report shall be in 2 parts as specified below: [PCC 17.12.185.A.5 & PCC 17.12.040]
1. Notification by telephone or facsimile within 24 hours of the time the Permittee first learned of the occurrence of excess emission that includes all available information from 17.12.040.B. The number to report excess emissions is **520-724-7400**. The facsimile number is **520-838-7432**.
  2. Detailed written notification by submission of an excess emissions report within 72 hours of the notification under I.B.1 above. **Send to PDEQ 33 N. Stone Avenue, Suite 700, Tucson, Arizona 85701.**
- C. 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.
- D. The permit does not convey any property rights of any sort, or any exclusive privilege to the permit holder.
- E. The Permittee shall pay fees to the Control Officer pursuant to PCC 17.12.520. [PCC 17.12.185.A.9 & PCC 17.12.520]

### II. Permit Revision, Reopening, Revocation and Reissuance, or Termination for Cause

[PCC 17.12.185.A.7.c]

The permit may be revised, reopened, revoked and reissued, or terminated for cause pursuant to PCC 17.12.270. The filing of a request by the Permittee for a permit revision, revocation and reissuance, or termination; or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

### III. Duty to Provide Information

[PCC 17.12.165.G & PCC 17.12.185.A.7.e]

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

### IV. Severability Clause

[PCC 17.12.185.A.6]

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

**Attachment 1**  
**Applicable Regulations**

**Requirements Specifically Identified as Applicable**

Compliance with the terms contained in this permit shall be deemed compliance with the following federally applicable requirements in effect on the date of permit issuance:

**Code of Federal regulations (CFR):**

40 CFR 60 Subpart Dc      Standards of Performance for Industrial Commercial-Institutional Steam  
Generating Units

EPA Determination Detail Control Number 0300118

40 CFR 60 Subpart JJJJ      New Source Performance Standards (NSPS) for Stationary Spark Ignition  
Internal Combustion Engines (SI ICE) (40 CFR Part 60, Subpart JJJJ)

40 CFR 60 Subpart IIII      Compression Ignition Internal Combustion Engines

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

- 17.12.010      Statutory authority
- 17.12.020      Planning, constructing, or operating without a permit
- 17.12.035      Affirmative defenses for excess emissions due to malfunctions, startup, and shutdown
- 17.12.040      Reporting requirements
- 17.12.045      Test methods and procedures
- 17.12.050      Performance tests
- 17.12.080      Permit display or posting
- 17.12.165      Permit application processing procedures for Class II and Class III permits
- 17.12.185      Permit contents for Class II and Class III permits
- 17.12.520      Fees related to Class II and Class III permits
  
- 17.16.010      Local rules and standards - Applicability of more than one standard
- 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 standard
- 17.16.165      Standards of performance for fossil-fuel fired industrial and commercial equipment
- 17.16.430      Standards of performance for unclassified sources

**Attachment 2**  
**Permitted Equipment List**

**TABLE 1 NSPS Spark Ignition Internal Combustion Engines (40 CFR 60, Subpart JJJJ)**

Type of Equipment	Primary Fuel	Manufacture	Model	Serial Number	Maximum Rated Capacity (hp)	Date of Manufacturer
Emergency Generator	Natural Gas	Cummins	250GFBC	M12K482738	225	Dec 21, 2012

**TABLE 2: NSPS Compression Ignition Internal Combustion Engines)40 CFR 60, Subpart IIII)**

Type of Equipment	Primary Fuel	Manufacture	Model	Serial Number	Maximum Rated Capacity (hp)	Displacement (Liters / Cylinder)	Engine Category <sup>1</sup>	Model year/ Applicability Date <sup>2</sup>
Emergency Generator	Diesel	Generac	97A003025	2032626	135	2.3	1	1996

- 1 Category 1 Engines (Power >37 kW and Displacement <5.0 liters /cylinder)
- 2 The most recent date of order, manufacture, reconstruction, or modification

**TABLE 3: Supplemental NSPS Compression Ignition Internal Combustion Engines Requirements**

Emergency Generator (hp)	Serial Number	NO <sub>x</sub> (g/kW-hr)	NMHC (g/kW-hr)	NMHC+NO <sub>x</sub> (g/hp-hr)	CO (g/hp-hr)	PM (g/hp-hr)	Useful Life Period
135	2032626	6.9	1.0		8.5	0.4	10 yrs or 8,000 hrs of operation, whichever comes first

Exhaust emission standards taken from 40 CFR 89.112 (a) Table 1 of Subpart IIII.

Useful life period pursuant to 40 CFR 60.4219 'Definition of useful life'. Specifically 40 CFR 1039.101(g) and 40 CFR 94.9(a).

**TABLE 4: Standards of Performance for Fuel Fired Equipment**

Type of Equipment	Manufacturer	Model	Equipment ID Or Serial #	Rated Capacity (MMBtu/hr)*	Allowable Fuel(s)	Date of Manufacturer	Date of Installation
Boiler	Cleaver Brooks	3WG-700-250125	T3421-1-1	8.368	NG/DG	2013	TBD
Boiler	Cleaver Brooks	3WG-700-250125	T3421-1-2	8.368	NG/DG	2013	TBD
Boiler	Sellers Eng Co	15 SR.150 HP	6201	6.278	NG/DG	TBD	TBD
Boiler	Parker	105-150	61192	6.3	NG/DG	2013	03-13-2013
Boiler	Parker	105-150	61204	6.3	NG/DG	2013	03-13-2013
Enclosed Flare	John Zink	ZTOF	TBD	1000 SCFM	NG/DG	TBD	TBD
Open Flare	Shand and Jurs	97301	TBD	720 ACFM	DG	TBD	TBD

- Maximum rated capacity in Btu/hr, unless otherwise specifically stated.
- NG – Natural Gas
- DG – Digester Gas