GENERAL AIR QUALITY OPERATING PERMIT FOR NSPS GENERATORS/ ENGINES

TECHNICAL SUPPORT DOCUMENT

March 2008

I. GENERAL COMMENTS:

The Pima County Department of Environmental Quality (PDEQ) has created this general permit and application for those sources that have at least one engine subject to the New Source Performance Standards (NSPS) for compression ignition internal combustion engines (CI-ICE) *A CI engine is one that is not a spark ignition engine (i.e. does not employ spark plugs or any other sparking element)*. This will streamline the permitting process for the large number of sources which would otherwise require substantially similar individual source permits. This action shall reduce PDEQ's workload and afford decreased permitting timeframes. To obtain coverage under this general permit, the applicant shall complete the general permit application form for NSPS generators/ engines in order to obtain an Authorization to Operate (ATO).

II. SOURCE DESCRIPTION

Sources covered by this general permit include those that either consist of piece(s) of stationary rotating machinery (compression ignition engine, internal combustion engines and generator sets) that are subject to NSPS **OR** consist of both NSPS and Non-NSPS units. These units are located at sources which do not otherwise require an air quality permit for other equipment or processes located or conducted on-site. Sources with other equipment or processes cannot obtain this general permit and are required to submit a complete permit application and obtain an individual source permit from PDEQ.

The primary pollutants emitted from generators are NOx, CO, SOx, PM_{10}, and VOC. Sources covered by this general permit shall emit less than major source thresholds on an individual basis for all criteria pollutants by operational design or via a non-federally enforceable limitation (i.e. voluntarily accepted limitation on hours of operation by the applicant).

No add-on air pollution control devices are required by this General Permit.

III. EMISSIONS ESTIMATES

Emission estimates will be calculated by PDEQ. Should the combined horsepower of all generators onsite exceed 1327 however, the applicant shall be required to propose an hourly limitation on each generator as indicated in the application instructions. The applicant may also submit test results performed on the generator. The sum of all emissions from any source operating under this general permit shall be less than the following rates:

Pollutant	Emissions (tons/yr)
NOx	< 100
CO	< 100[1]
SOx	< 100[1]
VOC	< 100[1]
PM_{10}	< 100[1]
HAPs (combined)	Negligible
HAP (individual)	Negligible

Based on these estimates, facilities covered by this General Permit shall be **Class II[1], Minor, Stationary Sources**[2]

IV. APPLICABLE REQUIREMENTS

A. NSPS – Sources are subject to:

40 CFR 60, Subpart IIII — Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. Standards applicable to such sources are contained in Attachments 3 through 7 and referenced in the ATO.

B. NESHAP – No NESHAP rules apply to applicable sources. If NESHAP applies to a source, that source shall be excluded from coverage under this general permit.

C. Pima County Code (PCC) – The following PCC rules apply:

17.16.010 Local Rules and Standards; Applicability of more than one Standard
17.16.040 Standards and Applicability (Includes NESHAP)
17.16.050 Visibility Limiting Standard
17.16.340 Standards of Performance for Stationary Rotating Machinery (For non-NSPS equipment)

V. PERMIT CONTENTS—Specific Conditions

A. Applicability – Stationary rotating machinery located at a source which is required to obtain a permit pursuant to Title 17 of the Pima County Code (PCC) 17.12.140.B.2.a or PCC 17.12.140.B.2.a and PCC 17.12.140.B.3.b.

B. Operational Limitation

Standard	Discussion	Authority
II.A	Prohibition from operating affected stationary rotating machinery in excess of the allowable hours of operation in any 12-consecutive month period as specified in the (ATO). This is an enforceable limitation pursuant to PCC 17.12.185.A.2.	PCC 17.12.185.A.2
II.B	Requirement to monitor and keep records of each engine's hours of operation in each 12-consecutive month period to ensure compliance with II.A of the Specific Conditions.	PCC 17.12.185.A3 & 4

C. Opacity Standard

Standard	Discussion	Authority
III.A	Prohibition from emitting smoke from NSPS generators in excess of 20% opacity. Cold engines exempt for the first 10 minutes.	PCC 17.16.040.A
III.B	Prohibition from emitting smoke from non-NSPS generators in excess of 40% opacity; first 10 minutes immediately after startup are exempt from this opacity limit.	PCC 17.16.340.E

[1] Class II sources are those subject to 40 CFR 60, Subpart IIII – compression ignition engines ordered, manufactured, modified, or reconstructed after 07/11/05.
[2] Minor status is by operational design or hourly limitation for emergency generators.

III.C	Prohibition from emitting smoke from generators in excess of 60% opacity when engines are cold or are being accelerated under load.	PCC 17.16.040
III.D	Requirement to conduct quarterly checks of visible emissions and keep records of such inspections.	PCC 17.12.185.A.3.d
III.E	Provision for the Control Officer to require a Method 9 test conducted by the Permittee should it be necessary.	PCC 17.12.185.A.3.d

D. Fuel Limitation

Standard	Discussion	Authority
IV.A	Prohibition from firing fuels other than those allowed by the ATO. This is a SEL as firing alternate fuels may result in an increase in emissions above major source thresholds. There is also a prohibition from firing fuel with a sulfur content greater than 0.9% by weight. This requirement is the basis for not requiring measures to show compliance with 17.16.340.F for non-NSPS generators/ engines (see VI.A below).	PCC 17.12.190.B
IV.B	Requirement to maintain records of fuel specifications to demonstrate compliance with IV.A of the Specific Conditions.	PCC 17.12.185.A.4

E. Additional Permit Requirements

These additional permit requirements contain standard language which is by no means specific but broadly applicable and required to be included in each permit by Title 17 of the Pima County Code PCC 17.12.185.

VI. PERMIT CONTENTS—Attachments

A. General Attachments

1. Attachment 1: Applicable regulations. This is simply a listing of broadly applicable rules.

2. Attachment 2: ATO. The ATO has been expanded from the "norm" to meet the needs of the NSPS attachments. This includes:

   a. **Section II:** Model year/applicability date has been added. Alongside allowable fuels (a surrogate for ignition type), model year/applicability date is a primary gatekeeper for NSPS applicability. Therefore, it is imperative that each unit be identified with respect to both its fuel type and date.

   b. **Section III: Supplemental Requirements** has been added. Linked to Section II by the ATO #, this table identifies (i) units subject to 40 CFR Subpart IIII, (ii) the corresponding PDEQ attachment, (iii) the corresponding emission limitations for NOx, NMHC, NMHC+NOx, CO, and PM, and (iv) the term of applicability for these emissions limitations. Items under (iii) and (iv) above shall be determined by the Control Officer according to the guidance document: *PDEQ NSPS Engine Emission Rates tables*.

B. NSPS Attachments

1. Three initial comments are in order concerning the NSPS attachments:

   a The five attachment types were first made on the basis of operational function; namely, (i) fire pump engines, (ii) non-fire emergency units, and (iii) non-emergency units. Non-

fire emergency and non-emergency units were then subdivided into (A) pre-2007 and (B) 2007 and later model years. Accordingly, the five attachment types are:

i. Attachment 3: Fire pump engines;

ii. Attachment 4: Non-fire emergency units that are pre-2007 model year;

iii. Attachment 5: Non-fire emergency units that are 2007 model year and later;

iv. Attachment 6: Non-emergency units that are pre-2007 model year; and

v. Attachment 7: Non-emergency units that are 2007 model year and later.

Initially, it might seem as if Attachments 4 and 6 offer such a brief window that there might not be any sources in Pima County that meet the criteria (i.e. 04/01/06 to 01/01/07 or earlier). It should be noted, however, that Attachments 4 and 6 also cover any unit modified or reconstructed after 07/11/05. Therefore, there is a large pool of units with the potential of becoming subject to IIII and these Attachments upon their future reconstruction or modification.

b. There is a great deal of overlap in language between the five NSPS attachments. Despite the great similarity between them, it is preferable to so divide the attachments in order to provide each Permittee with the simplest, most straight-forward applicable permit possible.

c. Subpart IIII covers a larger range of sources than the general permit. The categories of equipment excluded from the general permit are non-fire pump individual units greater than or equal to 3,000 hp and those with cylinders greater than or equal to 10L apiece. Such sources are required to obtain an individual source permit.

2. Attachment Contents

a. Attachment 3: Fire Pump Engines;

Standard	Discussion	Authority
I	Applicability—Certified Fire Pump Engines manufactured after 07/01/06	40 CFR 60.4200 (a)(2)(ii)
II	Operational Limitations—Standards consisting of (A) Emission Limitations, (B) Fuel Restrictions, (C), an Emergency Designation, and (D) Compliance.	40 CFR 60, Subpart IIII
II.A	Emission Limitations—Requirement to operate only units certified by the manufacturer to the applicable standards identified in the ATO. **Note:** reconstructed/modified units are subject to Attachment 4.	40 CFR 60.4205 (c), 4203, & Table 4 of Subpart IIII
II.B	Fuel Requirements—Graduated requirements by year and provisions for allowable diesel fuels.	40 CFR 60.4207
II.C	Emergency Designation—Limitations and provisions affecting the operation of emergency equipment including fire pump engines. **Note:** Units requiring greater operational flexibility will need to abide by Attachment 6 or 7, as applicable.	40 CFR 60.4211 (e)
II.D	Compliance—Standards consist of (1) a requirement to operate equipment according to manufacturer's specifications, (2) a graduated compliance schedule based on manufacture date with options for demonstrating compliance, and (3) a graduated compliance schedule based on engine size and model year that requires purchasing a fully certified unit.	40 CFR 60.4211 (a), (b), & (c)

III	Monitoring Requirements—Requirement to install a non-resettable engine hour.	40 CFR 60.4209 (a)
IV	Recordkeeping Requirements—Graduated schedule based on engine size and model year for recordkeeping of emergency and non-emergency use of engines. Requirement to maintain records verifying diesel fuel requirements.	40 CFR 60.4214 (b) PCC 17.12.185.A.4
V	Testing Requirements—Requirement to conduct testing according to 40 CFR 60.4212 should it be required or voluntarily conducted.	40 CFR 60.4212
VI	Additional Requirements—Requirement to comply with the General Provisions of 40 CFR 60 Subpart A except that an initial notification is not required	40 CFR 60.4218 & 4214(b)
VII	Facility-wide recordkeeping requirement to maintain records for five years.	PCC 17.12.185.A.4

b. Attachment 4: Non-fire emergency units that are pre-2007 model year;

Standard	Discussion	Authority
I	Applicability—Pre-2007 model year engines manufactured after 04/01/06 or modified/reconstructed after 07/11/05 that are **emergency** units but are not certified NFPA engines. **Note:** the rule states simply that applicability extends to units that "are not fire pump engines"—this has been interpreted to mean certified NFPA engines as "fire pump engine" is defined in 40 CFR 60.4219 as such.	40 CFR 60.4200 (a)(2)(i) & (a)(3)
II	Operational Limitations— Standards consisting of (A) Emission Limitations, (B) Fuel Requirements, (C), Installation Restrictions, (D) an Emergency Designation, and (E) Compliance.	40 CFR 60, Subpart IIII
II.A	Emission Limitations—Limits consist of (1) a requirement for new CI ICE to be certified to the applicable standards by the manufacturer for the useful life of the engine; (2) a requirement for modified/reconstructed CI ICE to meet the applicable standards and for the group or individual who conducts the modification/reconstruction to verify compliant emissions according to the appropriate test methods; and (3) an identification of the applicable emission limits and useful life via reference to the ATO.	40 CFR 60.4205 (a), 4203, & Table 1 of IIII
II.B	Fuel Requirements—Graduated requirements by year and provisions for allowable diesel fuels.	40 CFR 60.4207
II.C	Installation Restrictions—Graduated prohibitions by year from the installation of units that do not meet the applicable standards with certain allowances for certain categories of equipment. **Note:** prohibitions pertaining to non-emergency units have not been included in this Attachment as it is not concerned with such units.	40 CFR 60.4208
II.D	Emergency Designation—Limitations and provisions affecting the operation of emergency equipment. **Note:** Units requiring greater operational flexibility will need to abide by Attachment 6 or 7, as applicable.	40 CFR 60.4211 (e)
II.E	Compliance—Standards consist of (1) a requirement to operate equipment according to manufacturer's specifications and (2) five optional methods for demonstrating compliance of the CI ICE.	40 CFR 60.4211 (a) & (b)
III	Monitoring Requirements—Requirement to install a non-resettable hour meter on each CI ICE prior to startup of each engine. This standard provides a means for determining when the useful life of the engine expires.	40 CFR 60.4209 (a)
IV	Recordkeeping Requirements—Requirement to maintain records of engine operation toward the demonstration that unit is exclusively operated as an emergency unit—otherwise, it would be subject to Attachment 6 for non-emergency units and its increased recordkeeping and reporting requirements. Requirement to maintain records verifying diesel fuel requirements.	PCC 17.12.185.A.4

V	Testing Requirements—Requirement to conduct testing according to 40 CFR 60.4212 should the Permittee elect to do so or be required to demonstrate compliance with applicable standards.	40 CFR 60.4212
VI	Additional Requirements—Requirement to comply with the General Provisions of 40 CFR 60 Subpart A except that an initial notification is not required	40 CFR 60.4218 & 4214(b)
VII	Facility-wide recordkeeping requirement to maintain records for five years.	PCC 17.12.185.A.4

c. Attachment 5: Non-fire emergency units that are 2007 model year and later;

Standard	Discussion	Authority
I	Applicability—2007 and later model year engines that are **emergency** units but are not certified NFPA engines. **Note:** the rule states simply that applicability extends to units that "are not fire pump engines"—this has been interpreted to mean certified NFPA engines as "fire pump engine" is defined in 40 CFR 60.4219 as such.	40 CFR 60.4200 (a)(2)(i) & (a)(3)
II	Operational Limitations—Standards consisting of (A) Emission Limits, (B) Fuel Requirements, (C) Installation Restrictions, (D) Emergency Designation, and (E) Compliance.	40 CFR 60, Subpart IIII
II.A	Emission Limitations—Standards including, (1) a three-part requirement to operate only units certified by the manufacturer (or that are certified by the party modifying/ reconstructing the engine) to the applicable standards identified in the ATO, and (2) opacity standards.	40 CFR 60.4202 (a), 4203, & 4205 (b)
II.B	Fuel Requirements—Graduated requirements by year and provisions for allowable diesel fuels.	40 CFR 60.4207
II.C	Installation Restrictions—Graduated prohibitions by year from the installation of units that do not meet the applicable standards with certain allowances for certain categories of equipment. **Note:** prohibitions pertaining to non-emergency units have not been included in this Attachment as it is not concerned with such units.	40 CFR 60.4208
II.D	Emergency Designation—Limitations and provisions affecting the operation of emergency equipment. **Note:** Units requiring greater operational flexibility will need to abide by Attachment 6 or 7, as applicable.	40 CFR 60.4211 (e)
II.E	Compliance—Standards consist of (1) a requirement to operate equipment according to manufacturer's specifications and (2) a requirement only to purchase units certified by the manufacturer.	40 CFR 60.4211 (a) & (c)
III.A	Monitoring Requirements—Requirement to install a non-resettable engine hour meter on each CI ICE prior to startup of each engine. This standard also provides a means for determining when the useful life of the engine expires.	40 CFR 60.4209 (a)
III.B	Requirement to perform opacity level measurement as directed.	40 CFR 89.113(b)
IV.A	Recordkeeping Requirements—Requirement to keep operational hour records if the unit does not meet the standards for a non-emergency unit.	40 CFR 60.4214 (b)
IV.B	Requirement to maintain records verifying diesel fuel requirements.	PCC 17.12.185.A.4
IV.C	Requirement to keep records of showing compliance with any opacity level measurements	PCC 17.12.185.A.4
V	Testing Requirements—Requirement to conduct testing according to 40 CFR 60.4212 should it be required or voluntarily conducted.	40 CFR 60.4212
VI	Additional Requirements—Requirement to comply with the General Provisions of Subpart A except that an initial notification is not required	40 CFR 60.4218 & 4214(b)

Standard	Discussion	Authority
VII	Facility-wide recordkeeping requirement to maintain records for five years.	PCC 17.12.185.A.4

d. Attachment 6: Non-emergency units that are pre-2007 model year; and

Standard	Discussion	Authority
I	Applicability— Pre-2007 model year engines manufactured after 04/01/06 or modified/reconstructed after 07/11/05 that are **non-emergency** units.	40 CFR 60.4200 (a)(2)(i) & (a)(3)
II	Operational Limitations—Standards consisting of (A) Emission Limits, (B) Fuel Requirements, (C) Installation Restrictions, and (D) Compliance.	40 CFR 60, Subpart IIII
II.A	Emission Limitations—Limits consist of (1) a requirement for new CI ICE to be certified to the applicable standards by the manufacturer for the useful life of the engine; (2) a requirement for modified/reconstructed CI ICE to meet the applicable standards and for the group or individual who conducts the modification/reconstruction to verify compliant emissions according to the appropriate test methods; and (3) an identification of the applicable emission limits and useful life via reference to the *ATO*.	40 CFR 60.4204 (a), 4203, & Table 1 of IIII
II.B	Fuel Requirements—Graduated requirements by year and provisions for allowable diesel fuels.	40 CFR 60.4207
II.C	Installation Restrictions—Graduated prohibitions by year from the installation of units that do not meet the applicable standards with certain allowances for certain categories of equipment.	40 CFR 60.4208
II.D	Compliance—Standards consist of (1) a requirement to operate equipment according to manufacturer's specifications and (2) five optional methods for demonstrating compliance.	40 CFR 60.4211 (a) & (b)
III	Monitoring Requirements—Requirement to install a non-resettable engine hour meter on each CI ICE prior to startup of each engine. This standard provides a means for determining when the useful life of the engine expires.	PCC 17.12.190
IV.A	Recordkeeping Requirements—For units greater than 175 HP the following records shall be maintained: (A) all notifications and supporting documents submitted pursuant to Subpart IIII, (B) maintenance, (C) documentation of engine certification, and (D) for uncertified engines, documentation that the unit meets the emission standards. **Note:** certification in (D) refers to manufacturer certification, not certification by the entity that modifies or reconstructs. Such units would fall under this requirement. Thus, there is no conflict or contradiction with the requirement to operate certified units in II.A.1 & 2 of Attachment 6.	40 CFR 60.4214 (a)
IV.B	Requirement to maintain records verifying diesel fuel requirements.	PCC 17.12.185.A.4
V	Reporting Requirements—For units greater than 175 HP and are not manufacturer-certified (see **Note** above) an initial notification as specified is required.	40 CFR 60.4214 (a)
VI	Testing Requirements—Requirement to conduct testing according to 40 CFR 60.4212 should it be required or voluntarily conducted.	40 CFR 60.4212
VII	Additional Requirements—Requirement to comply with the General Provisions of Subpart A except that an initial notification is not necessary unless required by section V above.	40 CFR 60.4218 & 4214(b)
VIII	Facility-wide recordkeeping requirement to maintain records for five years.	PCC 17.12.185.A.4

e. Attachment 7: Non-emergency units that are 2007 model year and later.

Standard	Discussion	Authority
I.	Applicability— 2007 and later model year engines that are **non-emergency** units.	40 CFR 60.4200 (a)(2)(i) & (a)(3)
II.	Operational Limitations—Standards consisting of (A) Emission Limits, (B) Fuel Requirements, (C) Installation Restrictions, and (D) Compliance.	40 CFR 60, Subpart IIII
II.A	Emission Limitations—Standards including, (1) a three-part requirement to operate only units certified by the manufacturer or modifying/reconstructing entity to the applicable standards identified in the ATO, and (2) opacity standards.	40 CFR 60.4201 (a), 4203, & 4204(b)
II.B	Fuel Requirements—Graduated requirements by year and provisions for allowable diesel fuels.	40 CFR 60.4207
II.C	Installation Restrictions—Graduated prohibitions by year from the installation of units that do not meet the applicable standards with certain allowances for certain categories of equipment.	40 CFR 60.4208
II.D	Compliance—Standards consist of (1) a requirement to operate equipment according to manufacturer's specifications and (2) a requirement only to purchase units certified by the manufacturer.	40 CFR 60.4211 (a) & (b)
III.A	Monitoring Requirements—Requirement to install a non-resettable engine hour meter on each CI ICE prior to startup of each engine. This standard provides a means for determining when the useful life of the engine expires.	PCC 17.12.185.A.2
III.B	Requirement to perform opacity level measurement as directed.	40 CFR 89.113(b)
IV.	Recordkeeping Requirements—Requirement to maintain records of manufacturer certifications for applicable units that identify the applicable standards to which the unit is certified.	PCC 17.12.180. A.4
IV.B	Requirement to maintain records verifying diesel fuel requirements.	PCC 17.12.185.A.4
IV.C	Requirement to keep records of showing compliance with any opacity level measurements	PCC 17.12.185.A.4
V.	Reporting Requirements—An initial notification is required pursuant to 40 CFR 60.7.	40 CFR 60.7
VI.	Testing Requirements—Requirement to conduct testing according to 40 CFR 60.4212 should it be required or voluntarily conducted.	40 CFR 60.4212
VII.	Additional Requirements—Requirement to comply with the General Provisions of Subpart A.	40 CFR 60.4218 & 4214(b)
VIII	Facility-wide recordkeeping requirement to maintain records for five years.	PCC 17.12.185.A.4

V. Alternate Operating Scenarios – There are no alternate operating scenarios for this General Permit. Should an applicant desire alternate operating scenarios, an individual source application will be required to allow for any operational flexibility.

VI. Miscellaneous Comments

The comments in this section only affect NSPS sources that also operate Non-NSPS generators (Generators not subject to 40 CFR 60 Subpart IIII).

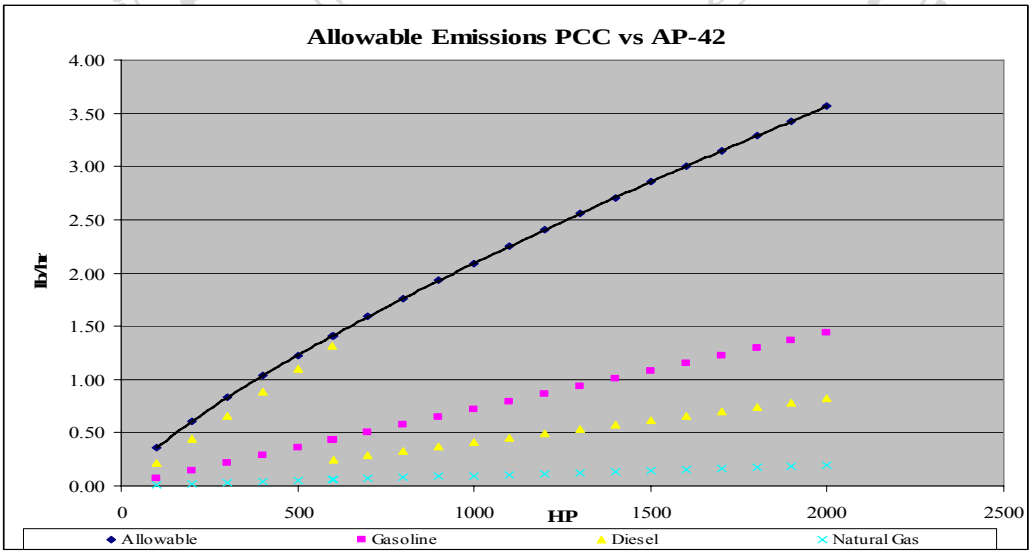
A. Sulfur Dioxide:

Compliance with the fuel limitation requirement of PCC 17.16.340.H (IV.A of the Specific Conditions) shall ensure compliance with the Sulfur Dioxide Standard of 17.16.340.F which limits the emission of SO_2 to 1.0 pound per million BTU heat input, when burning low sulfur fuel. The definition of low sulfur fuel (17.04.340.A. "Low Sulfur Fuel") is fuel oil containing less than 0.9 percent sulfur by weight. AP-42 Appendix A, page A-5 states the heating value of diesel fuel is 137,000 BTU per gallon. Thus, 1 million BTU of heat input is equivalent to 7.3 gallons of diesel. At 7.05 lbs per gallon, 51.47 lbs of diesel will produce 1 million BTU. At 0.9%, 51.47 lbs of diesel contains 0.46 lbs of sulfur. Combined with oxygen to form SO_2 and assuming 100% of the sulfur in the fuel forms SO_2 this would yield 0.92 lb SO_2 per 1MMBtu.[3] Thus, low sulfur fuel oil will produce 0.92 lbs of SO_2 per million BTU of heat input. This is roughly 8% less than the prescribed 1.0 pound SO_2 per million BTU (PCC 17.16.340.F). Likewise, distillate, residual, and other such fuel oils range from 0.84 to 0.94 lbs of SO_2 per million BTU. Thus, it is not necessary to include the standard in the permit explicitly except by reference in the applicable regulations (Attachment 1).

B. The requirement in PCC 17.16.340.J to report daily periods when the fuel sulfur content of the fuel being fired exceeds 0.8% by weight has not been included in the permit as all fuel that is delivered to Pima County has an enforceable limit of 0.9% by weight. Any fuel over 0.8% but below 0.9% would not be an exceedance of any standard or limitation and so it would be burdensome for sources to report every time the fuel had a sulfur content above 0.8%. An excess emission report would be submitted should the fuel exceed the 0.9% sulfur content standard. This general permit will not allow the use of high sulfur diesel. Moreover, even though the sulfur content limit is 0.9% by weight, jet fuel, natural gas, gasoline, and low sulfur diesel #2 delivered to Pima County consistently shows sulfur levels below this limit as shown in past records of fuel supplier specifications (bill of lading) which verify sulfur content of the fuel fired.

C. Particulate Matter:

PCC 17.16.340.C.1 limits the emissions of particulate matter from stationary rotating machinery. This rule has not been included in the permit as allowable emissions are well above potential emissions. The following Chart illustrates the fact:



[3] The atomic weight of SO_2 = 64; the atomic weight of S = 32. SO_2 = (S) x (SO_2/S); (0.46 lb/MMBtu) x (64/32) = 0.92 lb SO_2

AP-42 estimated emissions are demonstrably less than allowable emissions, and with the exception of small diesel engines, AP-42 estimated emissions are significantly less than the allowable emissions.[4] Therefore, it is not necessary to include the standard in the permit explicitly except by reference in the applicable regulations (Attachment 1).

VII. IMPACTS TO AMBIENT AIR QUALITY

Only major sources are required to conduct impacts to ambient air quality and major sources are excluded from this general permit.

VIII. CONTROL TECHNOLOGY DETERMINATION

Control Technologies are not required for applicable sources.

IX. APPLICATION PACKAGE

An application package has been prepared to assist applicants with obtaining this general permit. This will further expedite the process. This user-friendly package should help lower the rate of incomplete applications as well as provide the permit engineer with a less intensive, standardized approach to processing this type of source.

A. Instructions

Step 1 – Applicability Determination. The basis of this determination is PCC 17.12.140.B.2.a and PCC 17.12.140.B.3.b. If there are no generators/ engines that are subject to a New Source Performance Standard then the source is not eligible to apply for a permit using this application package.

The applicant is responsible for determining if other activities or equipment conducted or located on-site exclude the source from coverage under this permit. Broadly stated, exclusions from applicability include other equipment or activities co-located onsite that are subject to another permitting applicability under PCC 17.12.140 by either being subject to a particular standard or by the potential emissions exceeding the permitting thresholds.

Finally, as this general permit does not cover Class I sources, the applicant must be willing to accept a SEL for non-emergency generators/ engines if necessary.

Step 2 – STANDARD PERMIT APPLICATION FORM. This form has been prepared for the general permit and has minor differences from the form that is used for other Class II and III sources obtaining an individual permit.

Step 3 – Equipment List. The equipment list form has been altered from previous PDEQ forms included with the standard individual permit application package. This form has an additional column for fuel(s) and ignition type (i.e. spark or compression) which will assist in providing the necessary information for determining applicability, appropriate SELs, and any other information needed for generating a valid ATO and monitoring compliance after issuance.

[4] At 599 hp the allowable emissions rate is 1.41 lb/hr while AP-42 estimates 1.32 lb/hr.

Capacity should be listed as maximum rated horsepower. Standard AP-42 conversion factors were used in arriving at the values listed.[5]

Step 4

PDEQ will always review applications to determine if the location where the generator/ engine(s) is/are located has been re-designated non-attainment and inform the source if additional restrictions on any suggested hours will be required.

1. – Generator Hourly Limitation (Emissions calculations). If necessary, PDEQ will perform potential to emit (PTE) calculations using a default 500 hours per year value for all generators/ engines classified as *emergency*. As such, applicants do not need to submit proposed hours or PTE calculations for emergency generators. However, for non-emergency generators/ engines, should the horsepower exceed 1327 HP, the applicant shall be required to propose hours for each generator which will then be used by PDEQ to calculate PTE. For non-emergency generators/ engines, at 1327 HP, the PTE for NOx could exceed 100 tons per year. In both cases (emergency and non-emergency generators/ engines), PDEQ will perform the PTE calculations. If familiar with the PTE calculation process, the applicant may elect to submit PTE calculations which will be reviewed by PDEQ for approval.

NOx, NMHC, PM_{10} and CO alone are considered in the calculations as SOx and HAPs emissions do not meet permitting thresholds for generators that are minor sources of NOx & CO as well as those which have accepted SELs to avoid designation as major sources of NOx and/or CO.

2. – Non-NSPS Generators/ Engines

For sources that have a combination of NSPS and non-NSPS generators/ engines, applicants may use emission factors for non-NSPS generators/ engines from AP-42 Tables 3.3-1 for gasoline and, small (less than 600 hp) diesel fired engines. Applicants may use AP-42 Table 3.4-1 for large (greater than 600 hp) diesel fired engines. For natural gas fired engines, applicants should use the most conservative values from AP-42 Tables 3.2-1, 3.2-2, and 3.2-3.

Step 5 – NSPS Applicability. Form 4 and the flowchart were designed to help the applicant identify whether Subpart IIII of 40 CFR 60 applies to any pieces of equipment to be operated by the applicant and, if so, which supplemental attachment applies to each particular unit. **Note:** This NSPS only applies to CI-ICE. Furthermore, units larger than 3000 HP and/or those that have cylinders 10L/cyl in size or greater are required to obtain an individual source permit rather than receive coverage under this general permit.

Step 7 – Other Activities Declaration. This form serves as a measure to help prevent applicants who might otherwise require an individual source permit from applying for and/or obtaining coverage under this general permit. In theory, such a source would declare as other equipment or activities those that would trigger an applicability requirement. Other equipment and activities declared on this form that do not otherwise require a permit shall not be specifically listed in the permit or ATO.

[5] The following equations were used in formulating the conversion factors used in the application package: kW: hp = (kW) x (1.341 hp/kW). Factor = 1.341 hp/kW.
Gal/hr Diesel: hp = (gal/hr) x (137,000 Btu/gal) / (2543.5 Btu/hp-hr). Factor = 53.86 hp-hr/gal_D.
Gal/hr Gasoline: hp = (gal/hr) x (137,000 Btu/gal) / (2543.5 Btu/hp-hr). Factor = 383 hp-hr/gal_G.
SCF/hr Natural Gas: hp = (SCF) x (1050 Btu/SCF) / (2543.5 Btu/hp-hr). Factor = 0.413 hp-hr/SCF.
Btu/hr Natural Gas: hp = (Btu/hr) / 2543.5 hp-hr/Btu. Factor = 0.000393 hp-hr/Btu.

Step 8 – Truth, Accuracy, & Completeness. This form contains a statement of compliance, standard truth, accuracy, and completeness language, and a requirement for the applicant to supplement this application when necessary/appropriate.