

Statement of Basis

**Permit to Construct No. P-2012.0014
Project ID 61087**

**Diamond Creek Mill
Murphy, Idaho**

Facility ID 073-00011

Final

August 31, 2012
Kelli Wetzel *KW*
Permit Writer

The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01. et seq, Rules for the Control of Air Pollution in Idaho, for issuing air permits.

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ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AAC	acceptable ambient concentrations
AACC	acceptable ambient concentrations for carcinogens
acfm	actual cubic feet per minute
ASTM	American Society for Testing and Materials
Btu	British thermal units
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CAS No.	Chemical Abstracts Service registry number
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CI	compression ignition
CMS	continuous monitoring systems
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	CO ₂ equivalent emissions
COMS	continuous opacity monitoring systems
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
GHG	greenhouse gases
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
hp	horsepower
hr/yr	hours per consecutive 12 calendar month period
ICE	internal combustion engines
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pounds per hour
lb/qtr	pound per quarter
m	meters
MACT	Maximum Achievable Control Technology
MMBtu	million British thermal units
MMscf	million standard cubic feet
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NSPS	New Source Performance Standards
O&M	operation and maintenance
O ₂	oxygen
PAH	polyaromatic hydrocarbons
PC	permit condition
PM	particulate matter
PM _{2.5}	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
POM	polycyclic organic matter
ppm	parts per million
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
PTC	permit to construct

PTC/T2	permit to construct and Tier II operating permit
PTE	potential to emit
PW	process weight rate
RICE	reciprocating internal combustion engines
<i>Rules</i>	<i>Rules for the Control of Air Pollution in Idaho</i>
scf	standard cubic feet
SCL	significant contribution limits
SIP	State Implementation Plan
SM	synthetic minor
SM80	synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SO ₂	sulfur dioxide
SO _x	sulfur oxides
T/day	tons per calendar day
T/hr	tons per hour
T/yr	tons per consecutive 12 calendar month period
T2	Tier II operating permit
TAP	toxic air pollutants
ULSD	ultra-low sulfur diesel
U.S.C.	United States Code
VOC	volatile organic compounds
yd ³	cubic yards
µg/m ³	micrograms per cubic meter

FACILITY INFORMATION

Description

Silver Falcon Mining Inc. operates Diamond Creek Mill, an existing stationary rock crushing plant that crushes mine tailings to recover precious metals. The facility is located southwest of Murphy, ID. The facility is processing old dumps on top of War Eagle Mountain and milling the tailings to recover precious metals.

The ore is hauled down the mountain to Diamond Creek Mill. Once at the mill, the ore is processed through a series of crushers and conveyors. The ore is then brought into a fully enclosed, unvented ball mill. The concentrated ore is then transported in enclosed containers to the assay lab. The waste rock is sent to a waste rock area at the facility. The facility is powered by a primary 750 kW generator and a 100 kW backup generator that is run only when the primary generator and crushing cycle are not in operation.

Permitting History

The following information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

June 22, 2012 P-2012.0014, Initial PTC, Permit status (A, but will become S upon issuance of this permit)

Application Scope

This PTC is a revision of an existing PTC.

The applicant has proposed to:

- Install and operate a newer and smaller generator in place of the larger generator (Generator 1). This new generator shall be an EPA Tier II 550 kW or smaller engine.
- Increase the operating hours of the small generator (Generator 2) with the provision that Generator 1 and the crushing cycle are not in operation. In addition, Generator 2 will no longer be considered an emergency engine.

Application Chronology

July 19, 2012	DEQ received an application and an application fee.
August 13, 2012	DEQ determined that the application was complete.
August 17, 2012	DEQ made available the draft permit and statement of basis for applicant review.
August 27, 2012	DEQ received the permit processing fee.
August 31, 2012	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Source ID No.	Sources	Control Equipment
Primary Crusher	Manufacturer: Telesmith Manufacture Date: 1968 Max. production: 100 T/hr	Reasonable control methods/Water spray system
Secondary Crusher	Manufacturer: Telesmith Manufacture Date: 1962 Max. production: 25 T/hr	Reasonable control methods/Water spray system
Impact Crusher	Manufacturer: Shenyang Manufacture Date: 2008 Max. production: 12 T/hr	Reasonable control methods/Water spray system
Generator 1	Manufacturer: Caterpillar Model: 3412 Manufacture Date: 1999 Max. capacity: 750 bhp Fuel: ULS Diesel Stack Height: 7 meters	None
Generator 2	Manufacturer: Caterpillar Model: 3054C Manufacture Date: 2007 Max. capacity: 100 bhp Fuel: ULS Diesel	None
Assay Lab	(3) Propane fired furnaces 190,000 Btu/hr (3) electric cupel kilns (1) Vcella electric kiln	None
Materials transfer points (includes fugitives)	Screen plant (8) Conveyors (2) Loader transfers	Reasonable control methods/Water spray system

Emissions Inventories

Potential to Emit

An emission inventory was developed for the sources of emissions at the facility (see Appendix A) associated with this proposed project. Emissions estimates of criteria pollutant, greenhouse gases (GHG), hazardous air pollutants (HAP), and toxic air pollutants (TAP) PTE were based on emission factors from AP-42 and Tier II engine emission limits specified in 40 CFR 60 Subpart IIII, operation of 8,760 hours per year, and process information specific to the facility for this proposed project.

Pre-Project Potential to Emit

Pre-project Potential to Emit is used to establish the change in emissions at a facility as a result of this project. The following table presents the pre-project potential to emit for all criteria and GHG pollutants from the units being modified as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 2 PRE-PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM ₁₀		PM _{2.5}		SO ₂		NO _x		CO		VOC		CO ₂ e	
	lb/hr ^(a)	T/yr ^(b)												
Existing Generator 1	0.40	1.77	0.39	1.71	0.011	0.05	7.24	31.71	5.98	26.21	0.63	2.78	1166.7	5115.9
Generator 2	0.29	0.07	0.29	0.07	0.27	0.07	4.14	1.03	0.89	0.22	0.34	0.08	8.8	38.6
Pre-Project Totals	0.69	1.84	0.68	1.78	0.28	0.12	11.38	32.74	6.87	26.43	0.97	2.86	1175.5	5154.5

- a) Controlled average emission rate in pounds per hour is a daily average, based on the proposed daily operating schedule and daily limits.
 b) Controlled average emission rate in tons per year is an annual average, based on the proposed annual operating schedule and annual limits.

Post Project Potential to Emit

The following table presents the post project Potential to Emit for criteria and GHG pollutants the units being modified as submitted by the Applicant and verified by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 3 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM ₁₀		PM _{2.5}		SO ₂		NO _x		CO		VOC		CO ₂ e	
	lb/hr ^(a)	T/yr ^(b)												
New Generator 1	0.13	0.56	0.12	0.54	0.007	0.03	7.05	30.88	3.86	16.90	0.42	1.85	778.7	3410.6
Generator 2	0.29	1.27	0.29	1.27	0.001	0.0004	4.14	18.13	0.89	3.91	0.34	1.48	0.89	3.9
Post Project Totals	0.42	1.83	0.41	1.81	0.01	0.03	11.19	49.01	4.75	20.81	0.76	3.33	779.59	3414.5

- a) Controlled average emission rate in pounds per hour is a daily average, based on the proposed daily operating schedule and daily limits.
 b) Controlled average emission rate in tons per year is an annual average, based on the proposed annual operating schedule and annual limits.

Change in Potential to Emit

The change in facility-wide potential to emit is used to determine if a public comment period may be required and to determine the processing fee per IDAPA 58.01.01.225. The following table presents the facility-wide change in the potential to emit for criteria pollutants.

Table 4 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM ₁₀		PM _{2.5}		SO ₂		NO _x		CO		VOC		CO ₂ e	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Pre-Project Potential to Emit	0.69	1.84	0.68	1.78	0.28	0.12	11.38	32.74	6.87	26.43	0.97	2.86	1175.5	5154.5
Post Project Potential to Emit	0.42	1.83	0.41	1.81	0.01	0.03	11.19	49.01	4.75	20.81	0.76	3.33	779.6	3414.5
Changes in Potential to Emit	-0.27	-0.01	-0.27	0.03	-0.27	-0.09	-0.19	16.27	-2.12	-5.62	-0.21	0.47	-395.9	-1740

Although there appears to be an increase in PM_{2.5}, NO_x, and VOC annual emissions, there is actually a decrease in emissions because Generator 1 and Generator 2 cannot be run simultaneously and therefore need to be compared individually. When existing Generator 1 is compared with new Generator 1 there is a decrease in emissions for every pollutant.

Table 5 CHANGE IN POTENTIAL TO EMIT FOR GENERATOR 1 FOR REGULATED AIR POLLUTANTS

Source	PM ₁₀		PM _{2.5}		SO ₂		NO _x		CO		VOC		CO ₂ e	
	lb/hr ^(a)	T/yr ^(b)												
Existing Generator 1	0.40	1.77	0.39	1.71	0.011	0.05	7.24	31.71	5.98	26.21	0.63	2.78	1166.7	5115.9
New Generator 1	0.13	0.56	0.12	0.54	0.007	0.03	7.05	30.88	3.86	16.90	0.42	1.85	778.7	3410.6
Post Project Totals	-0.27	-1.21	-0.27	-1.17	-0.004	-0.02	-0.19	-0.83	-2.12	-9.31	-0.21	-0.93	-338	-1705

Non-Carcinogenic TAP Emissions

A summary of the estimated PTE for emissions increase of non-carcinogenic toxic air pollutants (TAP) is provided in the following table.

Pre- and post-project, as well as the change in, non-carcinogenic TAP emissions are presented in the following table:

Table 6 PRE- AND POST PROJECT POTENTIAL TO EMIT FOR NON-CARCINOGENIC TOXIC AIR POLLUTANTS

Non-Carcinogenic Toxic Air Pollutants	Pre-Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Post Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Change in 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Non-Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Acrolein	1.42E-04	1.24E-04	-1.82E-05	0.017	No
Naphthalene	9.95E-04	7.96E-05	-9.15E-04	3.33	No
Toluene	2.36E-03	1.70E-03	-6.57E-04	25	No
Xylene	1.63E-03	1.17E-03	-4.57E-04	29	No

None of the PTEs for non-carcinogenic TAP were exceeded as a result of this project. Therefore, modeling is not required for any non-carcinogenic TAP because none of the 24-hour average carcinogenic screening ELs identified in IDAPA 58.01.01.586 were exceeded.

Carcinogenic TAP Emissions

A summary of the estimated PTE for emissions increase of carcinogenic toxic air pollutants (TAP) is provided in the following table.

Table 7 PRE- AND POST PROJECT POTENTIAL TO EMIT FOR CARCINOGENIC TOXIC AIR POLLUTANTS

Carcinogenic Toxic Air Pollutants	Pre-Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Post Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Change in Annual Average Emissions Rates for Units at the Facility (lb/hr)	Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Acetaldehyde	8.97E-04	8.38E-04	-5.87E-05	3.0E-03	No
Benzene	6.34E-03	4.52E-03	-1.82E-03	8.0E-04	No
Benzo(a)pyrene	1.99E-06	1.38E-06	-6.07E-07	2.0E-06	No
Formaldehyde	1.66E-03	1.48E-03	-1.82E-04	5.1E-04	No
POM	3.17E-05	2.11E-05	-1.06E-05	2.06E-06	No

a) Polycyclic Organic Matter (POM) is considered as one TAP comprised of: benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, indeno(1,2,3-cd)pyrene, benzo(a)pyrene. The total is compared to benzo(a)pyrene.

None of the PTEs for carcinogenic TAP were exceeded as a result of this project. Therefore, modeling is not required for any carcinogenic TAP because none of the annual average carcinogenic screening ELs identified in IDAPA 58.01.01.586 were exceeded.

Ambient Air Quality Impact Analyses

The estimated emission rates of PM₁₀, PM_{2.5}, SO₂, NO_x, CO, VOC, HAP, and TAP from this project were below applicable screening emission levels (EL) and published DEQ modeling thresholds established in IDAPA 58.01.01.585-586 and in the State of Idaho Air Quality Modeling Guideline¹. Refer to the Emissions Inventories section for additional information concerning the emission inventories.

The applicant has demonstrated pre-construction compliance to DEQ’s satisfaction that emissions from this facility will not cause or significantly contribute to a violation of any ambient air quality standard. The applicant has also demonstrated pre-construction compliance to DEQ’s satisfaction that the emissions increase due to this permitting action will not exceed any acceptable ambient concentration (AAC) or acceptable ambient concentration for carcinogens (AACC) for toxic air pollutants (TAP). No modeling was required for this PTC revision.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Owyhee County, which is designated as attainment or unclassifiable for PM_{2.5}, PM₁₀, SO₂, NO₂, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201Permit to Construct Required

The permittee has requested that a PTC be issued to the facility for the modified emissions source. Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

¹ Criteria pollutant thresholds in Table 1, State of Idaho Air Quality Modeling Guideline, Doc ID AQ-011, rev. 1, December 31, 2002.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401 Tier II Operating Permit

The application was submitted for a permit to construct (refer to the Permit to Construct section), and an optional Tier II operating permit has not been requested. Therefore, the procedures of IDAPA 58.01.01.400–410 were not applicable to this permitting action.

Rules for Control of Odors (IDAPA 58.01.01.775)

IDAPA 58.01.01.750.....Rules for Control of Odors

Section 776.01 states that no person shall allow, suffer, cause, or permit the emission of odorous gases, liquids, or solids into the atmosphere in such quantities as to cause air pollution. These requirements are assured by Permit Condition 2.5 and 2.7.

Visible Emissions (IDAPA 58.01.01.625)

IDAPA 58.01.01.625 Visible Emissions

The sources of PM₁₀ emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement is assured by Permit Condition 2.8, 3.4, and 3.9.

Standards for New Sources (IDAPA 58.01.01.676)

IDAPA 58.01.01.676Standards for New Sources

The fuel burning equipment located at this facility, with a maximum rated input of ten (10) million BTU per hour or more, are subject to a particulate matter limitation of 0.015 gr/dscf of effluent gas corrected to 3% oxygen by volume when combusting gaseous fuels. Fuel-Burning Equipment is defined as any furnace, boiler, apparatus, stack and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer. This requirement is assured by Permit Condition 4.3.

Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)

IDAPA 58.01.01.301Requirement to Obtain Tier I Operating Permit

Post project facility-wide emissions from this facility do not have a potential to emit greater than 100 tons per year for PM₁₀, PM_{2.5}, SO₂, NO_x, CO and VOC or 10 tons per year for any one HAP or 25 tons per year for all HAP combined as demonstrated previously in the Emissions Inventories Section of this analysis. Therefore, the facility is not a Tier I source in accordance with IDAPA 58.01.01.006 and the requirements of IDAPA 58.01.01.301 do not apply.

PSD Classification (40 CFR 52.21)

40 CFR 52.21Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change at a stationary source not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52. Therefore in accordance with 40 CFR 52.21(a)(2), PSD requirements are not applicable to this permitting action. The facility is/is not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a), and does not have facility-wide emissions of any criteria pollutant that exceed 250 T/yr.

NSPS Applicability (40 CFR 60)

The facility is subject to the requirements of 40 CFR 60 Subpart LL – Standards of Performance for Metallic Mineral Processing Plants, and 40 CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. Below is a breakdown of Subpart LL.

40 CFR 60 Subpart LL.....Standards of Performance for Metallic Mineral Processing Plants

§ 60.380 *Applicability and designation of affected facility.*

(a) The provisions of this subpart are applicable to the following affected facilities in metallic mineral processing plants: Each crusher and screen in open-pit mines; each crusher, screen, bucket elevator, conveyor belt transfer point, thermal dryer, product packaging station, storage bin, enclosed storage area, truck loading station, truck unloading station, railcar loading station, and railcar unloading station at the mill or concentrator with the following exceptions. All facilities located in underground mines are exempted from the provisions of this subpart. At uranium ore processing plants, all facilities subsequent to and including the beneficiation of uranium ore are exempted from the provisions of this subpart.

(b) An affected facility under paragraph (a) of this section that commences construction or modification after August 24, 1982, is subject to the requirements of this part.

The facility was constructed after 1982 and its crushers, screens, conveyors, and buckets elevators are subject to the subpart.

§ 60.382 *Standard for particulate matter.*

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from an affected facility any stack emissions that:

(1) Contain particulate matter in excess of 0.05 grams per dry standard cubic meter (0.02 g/dscm).

(2) Exhibit greater than 7 percent opacity, unless the stack emissions are discharged from an affected facility using a wet scrubbing emission control device.

(b) On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from an affected facility any process fugitive emissions that exhibit greater than 10 percent opacity.

The facility is subject to the above particulate matter and opacity limits.

§ 60.383 *Reconstruction.*

(a) The cost of replacement of ore-contact surfaces on processing equipment shall not be considered in calculating either the "fixed capital cost of the new components" or the "fixed capital cost that would be required to construct a comparable new facility" under §60.15. Ore-contact surfaces are: Crushing surfaces; screen meshes, bars, and plates; conveyor belts; elevator buckets; and pan feeders.

(b) Under §60.15, the "fixed capital cost of the new components" includes the fixed capital cost of all depreciable components (except components specified in paragraph (a) of this section) that are or will be replaced pursuant to all continuous programs of component replacement commenced within any 2-year period following August 24, 1982.

§ 60.384 *Monitoring of operations.*

(a) The owner or operator subject to the provisions of this subpart shall install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the change in pressure of the gas stream through the scrubber for any affected facility using a wet scrubbing emission control device. The monitoring device must be certified by the manufacturer to be accurate within ± 250 pascals (± 1 inch water) gauge pressure and must be calibrated on an annual basis in accordance with manufacturer's instructions.

(b) The owner or operator subject to the provisions of this subpart shall install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the scrubbing liquid flow rate to a wet scrubber for any affected facility using any type of wet scrubbing emission control device. The monitoring device must be certified by the manufacturer to be accurate within ± 5 percent of design scrubbing liquid flow rate and must be calibrated on at least an annual basis in accordance with manufacturer's instructions.

The facility is not using a wet scrubbing emission control device and therefore is not subject to this requirement.

(a) *The owner or operator subject to the provisions of this subpart shall conduct a performance test and submit to the Administrator a written report of the results of the test as specified in §60.8(a).*

(b) *During the initial performance test of a wet scrubber, and at least weekly thereafter, the owner or operator shall record the measurements of both the change in pressure of the gas stream across the scrubber and the scrubbing liquid flow rate.*

(c) *After the initial performance test of a wet scrubber, the owner or operator shall submit semiannual reports to the Administrator of occurrences when the measurements of the scrubber pressure loss (or gain) or liquid flow rate differ by more than ± 30 percent from the average obtained during the most recent performance test.*

(d) *The reports required under paragraph (c) shall be postmarked within 30 days following the end of the second and fourth calendar quarters.*

(e) *The requirements of this subsection remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such States. In that event, affected sources within the State will be relieved of the obligation to comply with this subsection, provided that they comply with requirements established by the State.*

The facility is not using a wet scrubbing emission control device and therefore is not subject to performance tests.

(a) *In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).*

(b) *The owner or operator shall determine compliance with the particulate matter standards §60.382 as follows:*

(1) *Method 5 or 17 shall be used to determine the particulate matter concentration. The sample volume for each run shall be at least 1.70 dscm (60 dscf). The sampling probe and filter holder of Method 5 may be operated without heaters if the gas stream being sampled is at ambient temperature. For gas streams above ambient temperature, the Method 5 sampling train shall be operated with a probe and filter temperature slightly above the effluent temperature (up to a maximum filter temperature of 121 °C (250 °F)) in order to prevent water condensation on the filter.*

(2) *Method 9 and the procedures in §60.11 shall be used to determine opacity from stack emissions and process fugitive emissions. The observer shall read opacity only when emissions are clearly identified as emanating solely from the affected facility being observed.*

(c) *To comply with §60.385(c), the owner or operator shall use the monitoring devices in §60.384(a) and (b) to determine the pressure loss of the gas stream through the scrubber and scrubbing liquid flow rate at any time during each particulate matter run, and the average of the three determinations shall be computed.*

The facility must comply with the particulate matter standards using Method 9 and the procedures in §60.11 to determine the opacity from process fugitive emissions.

The facility currently operates one IC engine which is subject to 40 CFR 60, Subpart III. Generator 2 is a 100 hp diesel CI engine manufactured in 2007. In addition, the Applicant has proposed to install a newer EPA certified Tier II 550 kW or smaller generator to replace existing Generator 1. At that time when existing Generator 1 is rendered inoperable, the requirements of 40 CFR 60, Subpart III shall apply to the new Generator 1. Below is a breakdown of Subpart III.

40 CFR 60 Subpart III..... Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

§ 60.4200 *Am I subject to this Subpart?*

(a) *The provisions of this Subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (3) of this section. For the purposes of this Subpart, the date that construction commences is the date the engine is ordered by the owner or operator.*

(2) *Owners and operators of stationary CI ICE that commence construction after July 11, 2005 where the stationary CI ICE are:*

(i) *Manufactured after April 1, 2006 and are not fire pump engines, or*

(ii) *Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.*

(3) *Owners and operators of stationary CI ICE that modify or reconstruct their stationary CI ICE after July 11, 2005.*

(b) *The provisions of this Subpart are not applicable to stationary CI ICE being tested at a stationary CI ICE test cell/stand.*

(c) *If you are an owner or operator of an area source subject to this Subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this Subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this Subpart applicable to area sources.*

(d) *Stationary CI ICE may be eligible for exemption from the requirements of this Subpart as described in 40 CFR part 1068, Subpart C (or the exemptions described in 40 CFR part 89, Subpart J and 40 CFR part 94, Subpart J, for engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.*

Generator 2 was constructed, modified or reconstructed in 2007, which is after July 11, 2005. Therefore the engine is subject to the Subpart. New Generator 1, when installed, will also be subject to the Subpart since it will be constructed after 2005.

§ 60.4201 *What emission standards must I meet for non-emergency engines if I am a stationary CI internal combustion engine manufacturer?*

The permittee is not the manufacturer of either generator and therefore this requirement is not applicable.

§ 60.4202 *What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?*

The permittee is not the manufacturer of either generator. Therefore, this requirement is not applicable.

§ 60.4203 *How long must my engines meet the emission standards if I am a stationary CI internal combustion engine manufacturer?*

The permittee is not the manufacturer of either generator and therefore this requirement is not applicable.

§ 60.4204 *What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?*

(a) *Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of less than 10 liters per cylinder must comply with the emission standards in table 1 to this subpart. Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder must comply with the emission standards in 40 CFR 94.8(a)(1).*

(b) *Owners and operators of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder must comply with the emission standards for new CI engines in §60.4201 for their 2007 model year and later stationary CI ICE, as applicable.*

The Subpart requires that the permittee comply with Table 1 if the engine is pre-2007 and has a displacement of less than 10 liters/cylinder. By installing a Tier certified 2007 or later model year IC engine, as proposed by the Applicant for new Generator 1, the emissions requirements of this section of the Subpart have been met.

§ 60.4205 *What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?*

(a) Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines must comply with the emission standards in Table 1 to this subpart. Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.

Generator 2 has been changed from an emergency engine to a non-emergency engine and therefore this requirement is not applicable.

§ 60.4206 *How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?*

Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§60.4204 and 60.4205 according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine.

The permittee must operate both generators for the life of the unit in accordance with manufacturer-approved methods.

§ 60.4207 *What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this Subpart?*

(a) Beginning October 1, 2007, owners and operators of stationary CI ICE subject to this Subpart that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a).

(b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this Subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for non-road diesel fuel.

The permittee has stated that they will operate Generator 2 and new Generator 1 in accordance with 40 CFR 80.510(b). The fuel sulfur content cannot exceed 15 ppm or 0.0015% by weight. All emissions calculations assume that percentage.

§ 60.4208 *What is the deadline for importing or installing stationary CI ICE produced in previous model years?*

(a) After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.

(b) After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 KW (25 HP) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.

(c) After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 KW (25 HP) and less than 56 KW (75 HP) that do not meet the applicable requirements for 2013 model year non-emergency engines.

(d) After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 KW (75 HP) and less than 130 KW (175 HP) that do not meet the applicable requirements for 2012 model year non-emergency engines.

(e) After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 KW (175 HP), including those above 560 KW (750 HP), that do not meet the applicable requirements for 2011 model year non-emergency engines.

(f) After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 KW (750 HP) that do not meet the applicable requirements for 2015 model year non-emergency engines.

(g) After December 31, 2018, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power greater than or equal to 600 KW (804 HP) and less than 2,000 KW (2,680 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that do not meet the applicable requirements for 2017 model year non-emergency engines.

(h) In addition to the requirements specified in §§60.4201, 60.4202, 60.4204, and 60.4205, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements specified in paragraphs (a) through (g) of this section after the dates specified in paragraphs (a) through (g) of this section.

(i) The requirements of this section do not apply to owners or operators of stationary CI ICE that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location.

For the new Generator 1, the Applicant has proposed to install a Tier certified 2 engine that meets the applicable requirements of this Section of the Subpart for that model year IC engine.

§ 60.4209 *What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?*

If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in §60.4211.

(a) *If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.*

The Applicant has proposed that Generator 2 shall be changed from an emergency IC engine to a non-emergency IC engine and there the hour meter is not required.

§ 60.4210 *What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?*

The permittee is not the manufacturer of either generator and therefore this requirement is not applicable.

§ 60.4211 *What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?*

(a) *If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under paragraph (g) of this section:*

(1) *Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;*

(2) *Change only those emission-related settings that are permitted by the manufacturer; and*

(3) *Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.*

(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this Subpart and must comply with the emission standards specified in §60.4205(c), you must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's specifications.

The permittee is subject to 60.4205(b), therefore the engine must be installed and configured according to the manufacturer's specifications.

(g) If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

(1) If you are an owner or operator of a stationary CI internal combustion engine with maximum engine power less than 100 HP, you 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. In addition, if you do not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.

(2) If you are an owner or operator of a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you 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, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.

(3) If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you 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, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

By installing Tier certified 2007 or later model year IC engine, as proposed by the Applicant for new Generator 1, the emissions requirements of this section of the Subpart have been met.

§ 60.4212 *What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?*

The Applicant is not required to source test the IC engines proposed for this project because they are Tier certified.

§ 60.4213 *What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder?*

As discussed previously, the Applicant is not required to source test the IC engines proposed for this project because they are Tier certified.

§ 60.4214 *What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?*

(a) Owners and operators of non-emergency stationary CI ICE that are greater than 2,237 KW (3,000 HP), or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 130 KW (175 HP) and not certified, must meet the requirements of paragraphs (a)(1) and (2) of this section.

(1) Submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (a)(1)(i) through (v) of this section.

(i) Name and address of the owner or operator;

(ii) The address of the affected source;

(iii) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(iv) Emission control equipment; and

(v) Fuel used.

(2) Keep records of the information in paragraphs (a)(2)(i) through (iv) of this section.

(i) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(ii) Maintenance conducted on the engine.

(iii) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards.

(iv) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards.

(b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

New Generator 1 and Generator 2 are Tier certified. Therefore, the requirements of this section are not applicable.

NESHAP Applicability (40 CFR 61)

The facility is not subject to any NESHAP requirements in 40 CFR 61.

MACT Applicability (40 CFR 63)

The facility operates two IC engines, one of which is subject 40 CFR 63, Subpart ZZZZ. Generator 1 is a 750 hp diesel-fired IC engine used to provide electrical power to the facility. Generator 1 was installed in 1999. The Applicant has proposed to install a newer EPA certified Tier II 550 kW or smaller generator to replace existing Generator 1. At that time when existing Generator 1 is rendered inoperable, the requirements of 40 CFR 63, Subpart ZZZZ shall no longer apply as the new Generator 1 will be subject to 40 CFR 60, Subpart III.

40 CFR 63 Subpart ZZZZ.....NESHAP for Stationary Reciprocating Internal Combustion Engines

§ 63.6585 *Am I subject to this subpart?*

You are subject to this Subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

(c) An area source of HAP emissions is a source that is not a major source.

The facility does operate one non-emergency engine. In addition, the facility is an area source for HAPs as they are below the major source threshold of 10 T/yr for any one federally regulated HAP and 25 T/yr for all HAPs combined.

§ 63.6590 *What parts of my plant does this subpart cover?*

This subpart applies to each affected source.

(a) Affected source. An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(1) Existing stationary RICE.

(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

The engine located at the facility is considered existing as it was constructed prior to 2006.

§ 63.6595 *When do I have to comply with the subpart?*

(a)(1) If you have an existing stationary RICE, excluding existing non-emergency CI stationary RICE, with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than May 3, 2013. If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than October 19, 2013.

Generator 1 must be in compliance with the Subpart no later than May 3, 2013.

§ 63.6600 *What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?*

The applicable IC engine is not operating at a major source for HAP emissions. Therefore there are no applicable emission and operating limitations under this section.

§ 63.6601 *What emission limitations must I meet if I own or operate a 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than 500 brake HP located at a major source of HAP emissions?*

The applicable IC engine is not operating at a major source for HAP emissions and the engine is not 4-stroke lean burn spark ignition between 250 and 500 bhp. Therefore there are no applicable emission and operating limitations under this section.

§ 63.6602 *What emission limitations must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?*

The applicable IC engine is not operating at a major source for HAP emissions. Therefore there are no applicable emission and operating limitations under this section.

§ 63.6603 *What emission limitations and operating limitations must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?*

Compliance with the numerical emission limitations established in this Subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this Subpart.

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this Subpart and the operating limitations in Table 1b and Table 2b to this Subpart that apply to you.

Table 2b applies to Generator 1 as it refers only to CI non-emergency engines greater than 500 bhp at area source facilities. Table 2d identifies those limitations required by area sources to comply with the Subpart. The specifics of Table 2d require that the permittee perform regular maintenance on the generator. Generator 1 is subject to limiting the concentration of CO in the exhaust to 23 ppmvd at 15 percent O₂ or reducing CO emissions by 70 percent of more.

§ 63.6604 *What fuel requirements must I meet if I own or operate an existing stationary CI RICE?*

If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel. Existing non-emergency CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or at area sources in areas of Alaska not accessible by the FAHS are exempt from the requirements of this section.

This requirement is applicable to Generator 1.

§ 63.6605 *What are my general requirements for complying with this Subpart?*

(a) You must be in compliance with the emission limitations and operating limitations in this Subpart that apply to you at all times.

(b) At all times you must operate and maintain any affected source, 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 you 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 Administrator 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.

When operating the IC engine, it must be operated in a manner that is consistent with reducing emissions and compliance with appropriate limitations applies at all times.

§ 63.6610 *By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?*

The IC engine located at the facility is not operating at a major source of HAP emissions.

§ 63.6611 *By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?*

The IC engine located at the facility is not operating at a major source of HAP emissions.

§ 63.6612 *By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?*

(a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

Table 4 requires Generator 1 to reduce CO emissions by measuring the O₂ at the inlet and outlet of the control device using a portable CO and O₂ analyzer. Table 5 requires Generator 1 to comply with the requirement to limit the concentration of CO using an oxidation catalyst and using a CPMS or reduce CO emissions and not use an oxidation catalyst or reduce CO emissions and using a CEMS. All three scenarios are determined from the initial performance test.

§ 63.6615 *When must I conduct subsequent performance tests?*

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

According to Table 3, all subsequent tests are only necessary for engines greater than 500 bhp. Generator 1 will need subsequent tests every 3 years or 8,760 hours, whichever comes first.

§ 63.6620 *What performance tests and other procedures must I use?*

(a) *You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.*

(b) *Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again.*

(c) *[Reserved]*

(d) *You must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour.*

(e)(1) *You must use Equation 1 of this section to determine compliance with the percent reduction requirement:*

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (\text{Eq. 1})$$

Where:

C_i = concentration of CO or formaldehyde at the control device inlet,

C_o = concentration of CO or formaldehyde at the control device outlet, and

R = percent reduction of CO or formaldehyde emissions.

(2) *You must normalize the carbon monoxide (CO) or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO₂). If pollutant concentrations are to be corrected to 15 percent oxygen and CO₂ concentration is measured in lieu of oxygen concentration measurement, a CO₂ correction factor is needed. Calculate the CO₂ correction factor as described in paragraphs (e)(2)(i) through (iii) of this section.*

(i) *Calculate the fuel-specific F_o value for the fuel burned during the test using values obtained from Method 19, section 5.2, and the following equation:*

$$F_o = \frac{0.209 F_d}{F_c} \quad (\text{Eq. 2})$$

Where:

F_o = Fuel factor based on the ratio of oxygen volume to the ultimate CO_2 volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is oxygen, percent/100.

F_d = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm^3 / J ($\text{dscf}/10^6 \text{ Btu}$).

F_c = Ratio of the volume of CO_2 produced to the gross calorific value of the fuel from Method 19, dsm^3 / J ($\text{dscf}/10^6 \text{ Btu}$).

(ii) Calculate the CO_2 correction factor for correcting measurement data to 15 percent oxygen, as follows:

$$X_{\text{CO}_2} = \frac{5.9}{F_o} \quad (\text{Eq. 3})$$

Where:

X_{CO_2} = CO_2 correction factor, percent.

5.9 = 20.9 percent O_2 - 15 percent O_2 , the defined O_2 correction value, percent.

(iii) Calculate the NO_x and SO_2 gas concentrations adjusted to 15 percent O_2 using CO_2 as follows:

$$C_{\text{adj}} = C_d \frac{X_{\text{CO}_2}}{\% \text{CO}_2} \quad (\text{Eq. 4})$$

Where:

$\% \text{CO}_2$ = Measured CO_2 concentration measured, dry basis, percent.

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;

(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (e.g., operator adjustment, automatic controller adjustment, etc.) or unintentionally (e.g., wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must 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 must be included in the notification of compliance status. The following information must 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 must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

This section lays out the criteria under which each performance test must be conducted for Generator 1.

§ 63.6625 *What are my monitoring, installation, collection, operation, and maintenance requirements?*

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either oxygen or CO₂ at both the inlet and the outlet of the control device according to the requirements in paragraphs (a)(1) through (4) of this section.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in §63.8 and according to the applicable performance specifications of 40 CFR part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in §63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO₂ concentration.

(b) if you are required to install a continuous parameter monitoring system (CPMS) as specified in table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (5) of this section. for an affected source that is complying with the emission limitations and operating limitations on march 9, 2011, the requirements in paragraph (b) of this section are applicable september 6, 2011.

(1) you must 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 this section and in §63.8(d). as specified in §63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of this section in your site-specific monitoring plan.

(i) the performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(ii) sampling interface (e.g., thermocouple) location such that the monitoring system will provide representative measurements;

(iii) equipment performance evaluations, system accuracy audits, or other audit procedures;

(iv) ongoing operation and maintenance procedures in accordance with provisions in §63.8(c)(1) and (c)(3); and

(v) ongoing reporting and recordkeeping procedures in accordance with provisions in §63.10(c), (e)(1), and (e)(2)(i).

(2) you must install, operate, and maintain each cpms in continuous operation according to the procedures in your site-specific monitoring plan.

(3) the CPMS must collect data at least once every 15 minutes (see also §63.6635).

(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) you must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

(6) you must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

This section above outlines the requirements for Generator 1.

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent 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, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

Idle startup time may not exceed 30 minutes. Applicable emissions standards must be met following the allowable 30 minutes.

§ 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?

(a) You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 5 of this subpart.

(b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.

This requires the permittee to conduct an initial performance test or compliance demonstration and submit notification of compliance.

§ 63.6635 How do I monitor and collect data to demonstrate continuous compliance?

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must 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.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

The permittee must monitor and collect data continuously for Generator 1 except in instances included in § 63.6635 (b).

§ 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?

(a) You must demonstrate continuous compliance with each emission limitation and operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your

operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you.

Table 6 of the subpart lays out the testing schedules and maintenance requirements discussed in previous sections of the subpart. Reporting is also included in the permit under 40 CFR 63.6650.

§ 63.6645 *What notifications must I submit and when?*

(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified if you own or operate any of the following:

(2) An existing stationary RICE located at an area source of HAP emissions.

(g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).

(h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).

A Notification of Intent and a Notification of Compliance Status must be submitted for Generator 1.

§ 63.6650 *What reports must I submit and when?*

(a) You must submit each report in Table 7 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 7 of this Subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section.

(1) For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

(2) For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.

(3) For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) For semiannual Compliance reports, each subsequent Compliance report must 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.

(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6 (a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (b)(4) of this section.

(6) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on December 31.

(7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in §63.6595.

(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.

(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a startup, shutdown, or malfunction during the reporting period, the compliance report must include the information in §63.10(d)(5)(i).

(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

The reports that must be maintained in accordance with the Subpart are stated in this section. The permittee is required to submit both semi-annual and annual Compliance reports if the engine is greater than 300 bhp (see Table 7 of the subpart for further details). Specific due dates are stated and the contents of each reports is included.

§ 63.6655

What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section.

(1) A copy of each notification and report that you submitted to comply with this Subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted.

(2) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.

(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with §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.

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Previous (i.e., superseded) versions of the performance evaluation plan as required in §63.8(d)(3).

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

(3) An existing stationary CI RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this Subpart.

The permittee is required to maintain records of all required notifications, each malfunction, all performance tests and results, any required maintenance, and any corrective action that was taken.

§ 63.6660

In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).

All records must be kept by the permittee for a minimum of five (5) years for each record.

Permit Conditions Review

This section describes the permit conditions for this initial permit or only those permit conditions that have been added, revised, modified or deleted as a result of this permitting action.

Existing Permit Condition 15

The facility is powered by a primary 750 kW diesel-fired engine (Generator 1) with a 100 kW diesel-fired backup engine (Generator 2) for emergency purposes. Electric power is not supplied to the facility from a local power grid.

Generator 1 was manufactured in 1999 and is subject to 40 CFR 63, Subpart ZZZZ. Generator 2 was manufactured in 2007 and is subject to 40 CFR 60, Subpart IIII.

Revised Permit Condition 3.1

The facility is powered by a primary 750 kW diesel-fired engine (existing Generator 1) and a 100 kW diesel-fired backup engine (Generator 2) that can only be run when Generator 1 and the crushing cycle are not in operation. Electric power is not supplied to the facility from a local power grid.

Existing Generator 1 was manufactured in 1999 and is subject to 40 CFR 63, Subpart ZZZZ. Generator 2 was manufactured in 2007 and is subject to 40 CFR 60, Subpart IIII. This permit allows for the replacement of Generator 1 with an EPA certified Tier II 550 kW or smaller generator which will be subject to 40 CFR 60, Subpart IIII at the time of installation.

This permit condition has been revised to allow the replacement of Generator 1 with an EPA certified Tier II 550 kW or small generator and specify that Generator 2 can only be in operation when Generator 1 and the crushing cycle are not. The permittee has requested this change.

Added Permit Condition 3.5

Upon installation of a new generator, existing Generator 1 shall be rendered inoperable. The replacement generator shall be a 550 kW or smaller EPA Tier II certified engine. Written notice of the replacement of Generator 1 shall be provided to DEQ within 14 days of the replacement.

This permit condition has been added to allow for the replacement of Generator 1. The permittee has requested this change.

Existing Permit Condition 21

Non-emergency operation of Generator 2 shall not exceed 3 hours per week.

Revised Permit Condition 3.7

Generator 2 shall be in operation only when Generator 1 and the three crushers are not in operation.

This permit condition has been revised to remove an hourly limit and limit operation when the crushing cycle is not in operation. The emissions for Generator 2 are based on 8,760 hours per year.

Existing Permit Condition 24

The permittee shall monitor and record once per day the voltage and amperage to determine the load at which Generator 1 is operating in kW to demonstrate compliance with the Generator 1 Operating Limit permit condition.

Revised Permit Condition 3.11

The permittee shall monitor and record once per day the voltage and amperage to determine the load at which existing Generator 1 is operating in kW to demonstrate compliance with the Existing Generator 1 Operating Limit permit condition. This requirement shall become obsolete when existing Generator 1 is replaced with an EPA Tier II certified engine.

This permit condition has been revised to state that the permit condition will no longer apply when Generator 1 is replaced.

Deleted Permit Condition 25

The permittee shall monitor and record Generator 2's operation in hours per week to demonstrate compliance with the Generator 2 Operating Limit permit condition.

This permit condition was deleted because there is no longer an hourly limit on Generator 2's operation.

Existing Permit Condition 56

In accordance with 40 CFR 60.4200(a)(2)(i), Generator 2 is subject to the provisions of the subpart. It is applicable to owners or operators of stationary CI ICE that commence construction after July 11, 2005 and are manufactured after April 1, 2006 and are not fire pump engines.

Revised Permit Condition 3.42

In accordance with 40 CFR 60.4200(a)(2)(i), Generator 2 and new Generator 1 (upon installation) are subject to the provisions of the subpart. It is applicable to owners or operators of stationary CI ICE that commence construction after July 11, 2005 and are manufactured after April 1, 2006 and are not fire pump engines.

This permit condition was revised to reflect that new Generator 1 will be subject to 40 CFR 60 Subpart III upon installation.

Added Permit Condition 3.43

In accordance with 40 CFR 60.4204(a), the permittee must comply with the emission standards for new CI engines in §60.4201 for their non-emergency stationary CI ICE.

This permit condition was added because both generators are non-emergency stationary CI ICE.

Deleted Permit Condition 57

In accordance with 40 CFR 60.4205(b), the permittee must comply with the emissions standards for new nonroad CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.

This permit condition was deleted because Generator 2 is no longer an emergency engine and the emission standards are stated in Permit Condition 3.43.

Deleted Permit Condition 58

In accordance with 40 CFR 60.4202(a)(2), the permittee must certify Generator 2 to the emission standards for new nonroad CI engines in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants.

This permit condition was deleted because the emission standards are stated in Permit Condition 3.43.

Existing Permit Condition 59

In accordance with 40 CFR 60.4206, the permittee shall operate and maintain Generator 2 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.

Revised Permit Condition 3.44

In accordance with 40 CFR 60.4206, the permittee shall operate and maintain new Generator 1 and Generator 2 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.

This permit condition was revised to include new Generator 1.

Existing Permit Condition 60

In accordance with 40 CFR 60.4207, the permittee must use diesel fuel in Generator 2 that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel.

Revised Permit Condition 3.45

In accordance with 40 CFR 60.4207, the permittee must use diesel fuel in new Generator 1 and Generator 2 that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel.

This permit condition was revised to include new Generator 1.

Deleted Permit Condition 61

In accordance with 40 CFR 60.4209(a), the permittee shall install a non-resettable hour meter prior to startup of Generator 2.

This permit condition was deleted because Generator 2 is no longer an emergency engine.

Deleted Permit Condition 62

In accordance with 40 CFR 60.4211(f), Generator 2 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 owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. 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, is prohibited.

This permit condition was deleted because Generator 2 is no longer an emergency engine.

Deleted Permit Condition 63

In accordance with 40 CFR 60.4214(b), if the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

This permit condition was deleted because Generator 2 is no longer an emergency engine.

PUBLIC REVIEW

Public Comment Opportunity

Because this permitting action does not authorize an increase in emissions, an opportunity for public comment period was not required or provided in accordance with IDAPA 58.01.01.209.04 or IDAPA 58.01.01.404.04.

APPENDIX A – EMISSIONS INVENTORIES

Facility:

Electrical Generator > 600 hp (447 kW) AP-42 Section 3.4 (diesel fueled, uncontrolled)

Diesel Generator Operating Parameters	
Generator Size (kw) =	750
Generator Size (hp) =	1,005.75
BSFC (Btu/hp-hr) =	7,000
Heat Input (MMBtu/hr) =	7.0403
Actual Operating Hours (hr/yr) =	2,080
Potential Operating Hours (hr/yr) =	8,760
Max Sulfur % =	0.15

Supplier guarantee

Manufacturer: Caterpillar
 Model: SR4B
 Serial Number: 6E101232
 Engine Model: 3412
 Engine Serial Number: 2WJ02549
 Date of Manufacture: 1999
 Tier Category: 1
 Stack Height: 17 ft.
 Stack Diameter: 8 in.

Pollutant	Emission Factor ^a (lb/MMBtu)	Emissions (lb/hr)	Emissions at Max Hours (T/yr)
PM ^b	0.1	0.704	3.08
PM-10 (total) ^d	0.0573	0.403	1.77
PM-2.5 (total)	0.0556	0.391	1.71
CO ^b	0.85	5.984	26.21
NOx ^b	from source test	7.240	31.71
SO ₂ ^b (total SOx presumed)	0.0015	0.011	0.05
VOC ^b (total TOC-> VOCs)	0.09	0.634	2.78
Non-PAH HAPs			
Acetaldehyde ^c	2.52E-05	1.77E-04	7.77E-04
Acrolein ^c	7.88E-06	5.55E-05	2.43E-04
Benzene ^{c,e}	7.76E-04	5.46E-03	2.39E-02
Formaldehyde ^{c,e}	7.89E-05	5.55E-04	2.43E-03
Toluene ^{c,e}	2.81E-04	1.98E-03	8.66E-03
Xylene ^{c,e}	1.93E-04	1.36E-03	5.95E-03
PAH HAPs			
Acenaphthene ^{c1}	4.68E-06	3.29E-05	1.44E-04
Acenaphthylene ^{c1}	9.23E-06	6.50E-05	2.85E-04
Anthracene ^{c1}	1.23E-06	8.66E-06	3.79E-05
Benzo(a)anthracene ^{c1}	6.22E-07	4.38E-06	1.92E-05
Benzo(a)pyrene ^{c1,e}	2.57E-07	1.81E-06	7.92E-06
Benzo(b)fluoranthene ^{c1}	1.11E-06	7.81E-06	3.42E-05
Benzo(g,h,i)perylene ^{c1}	5.56E-07	3.91E-06	1.71E-05
Benzo(k)fluoranthene ^{c1}	2.18E-07	1.53E-06	6.72E-06
Chrysene ^{c1}	1.53E-06	1.08E-05	4.72E-05
Dibenzo(a,h)anthracene ^{c1}	3.46E-07	2.44E-06	1.07E-05
Fluoranthene ^{c1}	4.03E-06	2.84E-05	1.24E-04
Fluorene ^{c1}	1.28E-05	9.01E-05	3.95E-04
Indeno(1,2,3-c,d)pyrene ^{c1}	4.14E-07	2.91E-06	1.28E-05
Naphthalene ^{c1,e}	1.30E-04	9.15E-04	4.01E-03
POM	4.50E-06	3.17E-05	1.39E-04
Phenanthrene ^{c1}	4.08E-05	2.87E-04	1.26E-03
Pyrene ^{c1}	3.71E-06	2.61E-05	1.14E-04

6.69 g/bkhp/hr 6728.468 g/hr 14.83

1999 model 3412 NOx source test 3/20-24/00, Sierra Nevada Brewing Co

0.724

	EL	AAC/AACC	Modeling Required?
3.03E-03	4.50E-01		NO
0.017	12.5		NO
8.00E-04	1.20E-01		YES
5.10E-04	7.70E-02		YES
2.50E+01	18750		NO
2.90E+01	21750		NO

2.00E-06 3.00E-04 NO

3.33 2500 NO
 2.00E-06 3.00E-04 YES

- a) Emission factors are from AP-42
- b) AP-42, Table 3.4-1, Gaseous Emission Factors for Large Stationary Diesel and All Stationary Dual Fuel Engines, 10/96
- c) AP-42, Table 3.4-3, Speciated Organic Compound Emission Factors for Large Uncontrolled Stationary Diesel Engines, Emission Factor Rating E, 10/96
- c1) AP-42, Table 3.4-4, PAH Emission Factors for Large Uncontrolled Stationary Diesel Engines, Emission Factor Rating E, 10/96
- d) AP-42, Table 3.4-2, Particulate and Particle-Sizing Emission Factors for Large Uncontrolled Stationary Diesel Engines, Emission Factor Rating E, 10/96
- e) IDAPA Toxic Air Pollutant

Assumptions
 Nox, CO, and PM emission rates at Tier II limits
 All other pollutants at same AP-42

New Generator

Generator Size (kw) = 500
 Generator Size (hp) = 670.5
 BSFC (Btu/hp-hr) = 7000
 Heat Input (MMBtu/h) = 4.6935
 Actual Operating Hours = 2080
 Potential Operating Hours = 8760
 Max Sulfur % = 0.15

AP42 Table 3.4-1 GHG

INITIAL	EF	lb/hp-hr	lbs/hr	tons/yr	CO2 equiv tons/yr
CO2	1.16	1166.67	5110.015	5110.015	
Methane	6.35E-05	0.063815	0.278509	5.869689	
			TOTAL	5115.884	
MODIFIED	EF	lb/hp-hr	lbs/hr	tons/yr	CO2 equiv tons/yr
CO2	1.16	777.78	3406.676	3406.676	
Methane	6.35E-05	0.042543	0.186339	3.913128	
			TOTAL	3410.59	
Meets EPA Tier 2 specs below					
		4.77 g NOx/hp-hr	0.010516 lb/hp-hr		
		0.15 g PM/hp-hr	0.000331 lb/hp-hr		
		2.61 g CO/hp-hr	0.005754 lb/hp-hr		

Pollutant	Emission Factor (lb/MMBtu)	Emissions (lb/hr)	Emissions at Max Hours (T/yr)	Decrease from prev permitted (lb/hr)	Change from prev permitted (tons/yr)
PM b		0.22172619	0.97116071	0.4822988	2.112469
PM-10 (total) d		0.12704911	0.55647509	0.2763572	1.210445
PM-2.5 (total)		0.12327976	0.53996536	0.2681561	1.174533
CO b		3.85803571	16.8981964	2.1261768	9.312654
NOx b		7.05089286	30.8828107	0.1891071	0.828289
SO2 b (total SOx presumed)	0.0015	0.00704025	0.0308363	0.0035201	0.015418
VOC b (total TOC -> VOCs)	0.09	0.422415	1.8501777	0.2112075	0.925089
Non-PAH HAPs					
Acetaldehyde	0.0000252	0.00011828	0.00051805	5.914E-05	0.000259
Acrolein	0.0000788	3.6985E-05	0.00016199	1.849E-05	8.1E-05
Benzene, e	0.000776	0.00364218	0.01595264	0.0018211	0.007976
Formaldehyde, e	0.0000789	0.00037032	0.00162199	0.0001852	0.000811
Toluene, e	0.000281	0.00131887	0.00577667	0.0006594	0.002888
Xylenes, e	0.000193	0.00090585	0.0039676	0.0004529	0.001984
PAH HAPs					
Acenaphthene	0.00000468	2.1966E-05	9.6209E-05	1.098E-05	4.81E-05
Acenaphthylene	0.00000923	4.3321E-05	0.00018975	2.166E-05	9.49E-05
Anthracene	0.00000123	5.773E-06	2.5286E-05	2.887E-06	1.26E-05
Benzo(a)anthracene	0.00000622	2.9194E-06	1.2787E-05	1.46E-06	6.39E-06
Benzo(a)pyrene	0.00000257	1.2062E-06	5.2833E-06	6.031E-07	2.64E-06
Benzo(b)fluoranthene	0.00000111	5.2098E-06	2.2819E-05	2.605E-06	1.14E-05
Benzo(g,h,i)perylene	0.000000556	2.6096E-06	1.143E-05	1.305E-06	5.71E-06
Benzo(k)fluoranthene	0.00000218	1.0232E-06	4.4815E-06	5.116E-07	2.24E-06
Chrysene	0.00000153	7.1811E-06	3.1453E-05	3.591E-06	1.57E-05
Dibenzo(a,h)anthracene	0.000000346	1.624E-06	7.1129E-06	8.12E-07	3.56E-06
Fluoranthene	0.00000403	1.8915E-05	8.2847E-05	9.457E-06	4.14E-05
Fluorene	0.0000128	6.0077E-05	0.00026314	3.004E-05	0.000132
Indeno(1,2,3-cd)pyrene	0.000000414	1.9431E-06	8.5108E-06	9.716E-07	4.26E-06
Naphthalene	1.3E-94	6.1016E-94	2.6725E-93	3.051E-94	1.34E-93
POM	0.000004497	2.1107E-05	9.2447E-05	1.055E-05	4.62E-05
Phenanthrene	0.0000408	0.00019149	0.00083875	9.575E-05	0.000419
Pyrene	0.00000371	1.7413E-05	7.6268E-05	8.706E-06	3.81E-05

- a) Emission factors are from AP-42
- b) AP-42, Table 3.4-1, Gaseous Emission Factors for Large Stationary Diesel and All Stationary Dual Fuel Engines, 10/96
- c) AP-42, Table 3.4-3, Speciated Organic Compound Emission Factors for Large Uncontrolled Stationary Diesel Engines, Emission Factor Rating E, 10/96
- d) AP-42, Table 3.4-4, PAH Emission Factors for Large Uncontrolled Stationary Diesel Engines, Emission Factor Rating E, 10/96
- e) AP-42, Table 3.4-2, Particulate and Particle-Sizing Emission Factors for Large Uncontrolled Stationary Diesel Engines, Emission Factor Rating E, 10/96
- f) IDAPA Toxic Air Pollutant

Small Generator

Diesel Generator Operating Parameters	
Generator Size (kw) =	100
Generator Size (hp) =	134.10
BSFC (Btu/hp-hr) =	7,000
Heat Input (MMBtu/hr) =	0.9387
Actual Operating Hours (hr/yr) =	50
Annual Operating Hours (hr/yr) =	500
Max Sulfur % =	0.15

net decrease because small generator will now only be allowed to operate when large generator and crushing cycle are both not in operation only operates when big generator and crushing cycle are down

8760

Not used except to replace capacity from Main generator

8760

Pollutant	Emission Factor ^a (lb/MMBtu)	(lbs/hr)	(tons/yr)		increase from small generator
PM (total) ^b	0.31	0.291	0.0727	1.2746	1.2018
PM-10 (total) ^b	0.31	0.291	0.0727	1.2746	1.2018
P.M.-2.5					
CO ^b	0.95	0.892	0.2229	3.9059	3.6830
NOx ^b	4.41	4.140	1.0349	18.1317	17.0968
SO ₂ ^b (total SOx p	0.0015	0.001	0.0004	0.0062	0.0058
VOC ^b (total TOC-	0.36	0.338	0.0845	1.4801	1.3957

40CFR98 Table A1		AP42 Tables 3.3-1 and 3.4-1			
GHG CO2		EF			CO2 equiv
equiv multiplier		lb/hp-hr	lbs/hr	tons/yr	tons/yr
1	CO2	1.15	154.2	3.9	3.9
21	Methane	6.345E-05	0.0085	0.0021	0.045
					TOTAL 3.9

Non-PAH HAPs					
Acetaldehyde ^c	7.67E-04	7.20E-04	0.0002	0.0032	0.0030
Acrolein ^c	9.25E-05	8.68E-05	0.0000	0.0004	0.0004
Benzene ^{c,e}	9.33E-04	8.76E-04	0.0002	0.0038	0.0036
1,3-Butadiene ^{c,e}	3.91E-05	3.67E-05	0.0000	0.0002	0.0002
Ethylbenzene ^e					
Formaldehyde ^{c,e}	1.18E-03	1.11E-03	0.0003	0.0049	0.0046
Hexane ^e					
Isooctane					
Methyl Ethyl Ketone ^e					
Pentane ^e					
Propionaldehyde ^e					
Quinone ^e					
Methyl chloroform ^e					
Toluene ^{c,e}	4.09E-04	3.84E-04	0.0001	0.0017	0.0016
Xylene ^{c,e}	2.85E-04	2.68E-04	0.0001	0.0012	0.0011

PAH HAPs					
Acenaphthene ^c	1.42E-06	1.33E-06	3.3E-07	0.0000	0.0000
Acenaphthylene ^c	5.06E-06	4.75E-06	1.2E-06	0.0000	0.0000
Anthracene ^c	1.87E-06	1.76E-06	4.4E-07	0.0000	0.0000
Benzo(a)anthracene	1.68E-06	1.58E-06	3.9E-07	0.0000	0.0000
Benzo(a)pyrene ^{c,e}	1.88E-07	1.76E-07	4.4E-08	0.0000	0.0000
Benzo(b)fluoranth	9.91E-08	9.30E-08	2.3E-08	0.0000	0.0000
Benzo(g,h,i)peryle	4.89E-07	4.59E-07	1.1E-07	0.0000	0.0000
Benzo(k)fluoranth	1.55E-07	1.45E-07	3.6E-08	0.0000	0.0000
Chrysene ^c	3.53E-07	3.31E-07	8.3E-08	0.0000	0.0000
Dibenzo(a,h)anthr	5.83E-07	5.47E-07	1.4E-07	0.0000	0.0000
Fluoranthene ^c	7.61E-06	7.14E-06	1.8E-06	0.0000	0.0000
Fluorene ^c	2.92E-05	2.74E-05	6.9E-06	0.0001	0.0001
Indeno(1,2,3-cd)py	3.75E-07	3.52E-07	8.8E-08	0.0000	0.0000
Naphthalene ^{c,e}	8.48E-05	7.96E-05	2.0E-05	0.0003	0.0003
Phenanthrene ^c	2.94E-05	2.76E-05	6.9E-06	0.0001	0.0001
Pyrene ^c	4.78E-06	4.49E-06	1.1E-06	0.0000	0.0000
			1.4164	24.8145	23.3981

- a) Emission factors are from AP-42
- b) AP-42, Table 3.3-1, Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines, 10/96
- c) AP-42, Table 3.3-2, Speciated Organic Compound Emission Factors for Uncontrolled Diesel Engine, Emission Factor Rating E, 10/96
- d) (reserved)
- e) IDAPA Toxic Air Pollutant

APPENDIX B – FACILITY DRAFT COMMENTS

The following comments were received from the facility on August 20, 2012:

Facility Comment: The wording in section 3.8 can be improved.

DEQ Response: The wording from the existing PTC was not changed except to include existing in the description of Generator 1.

Facility Comment: Table 4 in the SOB shows an increase in Potential to Emit for a few pollutants. This appears to be due to the added restrictions on existing generator 1 emissions associated with the proposed modification being included in the pre-modification emission totals in that table. The text below the table makes it clear that there is no increase in emissions associated with this proposed action because, as a result of the proposed modification, not all sources are allowed to operate simultaneously. The inventory of potential emissions we submitted with our application is more accurate in quantifying maximum emissions allowed at any time before and after the proposed modification, and the net change in potential emissions. We suggest Table 4 in the draft Statement of Basis be corrected to be consistent with the summary tables provided in our submitted PTE calculations.

DEQ Response: The Potential to Emit calculations submitted by the Applicant did not take into account the 50% load restriction on existing Generator 1 and the SO₂ emission factor was incorrect. DEQ corrected these in the Statement of Basis and used tables from our template to demonstrate that there is no increase in emissions from this permit revision.

APPENDIX C – PROCESSING FEE