



# **Air Quality Permitting Response to Public Comments**

**February 4, 2015**

**Tier I Operating Permit No. T1-2014.0034  
Project 61419**

**Idaho Power Company, Evander Andrews Complex  
Mountain Home, Idaho**

**Facility ID No. 039-00024**

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AIR QUALITY DIVISION

*KW*

**Final**

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## **1. BACKGROUND**

As deemed appropriate by the Director, the Department of Environmental Quality (DEQ) provided for public comment regarding the proposed Tier I Operating Permit, T1-2014.0034 Project 61419 for Idaho Power Company, Evander Andrews Complex from December 31, 2014 through January 30, 2015, in accordance with IDAPA 58.01.01.364. During this period, comments were submitted in response to DEQ's proposed action. Each comment and DEQ's response is provided in the following section.

## **2. PUBLIC COMMENT AND RESPONSES**

Public comments regarding the technical and regulatory analyses and the air quality aspects of the proposed permit are summarized below. Questions, comments, and/or suggestions received during the comment period that did not relate to the air quality aspects of the permit application, the Department's technical analysis, or the proposed permit are not addressed. For reference purposes, a copy of the Rules for the Control of Air Pollution in Idaho can be found at:

<http://adm.idaho.gov/adminrules/rules/idapa58/0101.pdf>

### **Potential to Emit (PTE) Calculations**

**Comment 1.** The PTE for criteria pollutants in the draft statement of basis (Table 5.6) and the PTE worksheet provided in Appendix B do not match. The Department should provide an explanation for this inconsistency and determine which PTE is more representative of the facility.

In addition, within Appendix B of the statement of basis, the PTE for the 755 bhp diesel emergency engine generator was calculated based on "the manufacturer's fuel consumption rate and logged hours of operation." This calculation represents the actual emissions for an unnamed period, but does not represent the allowable PTE. PTE for this emergency engine generator should be calculated based on 500 hours per year operation for routine testing, maintenance, and emergency operations, in accordance with EPA guidance (2/14/2006 Region 2 response letter to New Jersey Department of Environmental Protection). Please follow this guidance and show the revised PTE calculations in your response.

Finally, operation of the fire pump engine for routine maintenance, testing, and emergency operations was limited in PTC No. P-040031 to a maximum of 50 hours per year. The draft Tier I permit and statement of basis incorporates this 50 hr/yr limitation, but without the descriptive text indicating that the 50 hr/yr also includes emergency operation of the fire pump. Please clarify this stipulation within the permit and use this 50 hr/yr limit within the calculations for the 231 hp fire pump engine PTE.

### **Response:**

The first two pages of the PTE worksheet provided in Appendix A are for GHG calculations and does not represent the PTE for criteria pollutants at the facility. The PTE for criteria pollutants was established and carried forward from PTC No. 060065 issued May 1, 2007 and PTC No. P-040031 issued March 18, 2005. The GHG calculations as shown in the worksheet are calculated by setting the annual heat input to the permit limit for each unit, or essentially based on the maximum annual heat inputs.

The PTE for the emergency engine generator was calculated based on 500 hours per year for maintenance and testing as shown in exemption X-2008.0196. The table from the exemption showing the calculations has been added to Appendix A and was already properly reflected in the Statement of Basis.

Permit Condition 7.3 limits the hours of operation for the emergency fire pump to 50 hr/yr. This permit condition was directly incorporated as written from PTC No. P-040031 issued March 18, 2005.

### **Prevention of Significant Deterioration Applicability**

**Comment 2.** DEQ does not adequately justify that this Idaho Power facility is not subject to Prevention of Significant Deterioration requirements. The purpose of the PSD program, among other things, is to "assure that any decision to permit increased air pollution in any area...is made after careful evaluation of the consequences of such a decision and after adequate procedural opportunities for informed public participation in the decision making process." Facilities

subject to the PSD program must meet stringent requirements to install the Best Available Control Technology (BACT), conduct additional air quality analyses, and provide for public involvement.

Three issues point to a need to do a PSD analysis on this and previous DEQ permitting actions:

- 1) The emergency diesel fire pump engine in the proposed permit has a rating of 231 bhp, whereas the previous permitted fire pump engine (PTC No. 04-0031) had a rating of 185 hp. This increase in engine power could very well cause an increase in facility-wide PTC, however it does not appear any revised calculations were done. Does the newly installed 231 bhp fire pump engine cause a facility-wide exceedance of 250 tons per year of NO<sub>2</sub>? DEQ should provide justification and calculations to demonstrate that a PSD analysis is not needed.
- 2) If the increase in fire pump engine power did trigger a PSD analysis, the modification authorized by PTC No. P-060065 and the addition of another 170 MW turbine and heater should have also been subject to PSD requirements.
- 3) The emissions inventory provided in Appendix B of the draft Tier I permit indicates that facility-wide NO<sub>x</sub> emissions may have exceeded 250 T/yr at some point. The PTE for combustion engines 2 and 3 (CT2 and CT3) combined to a total of 291 T/year of NO<sub>x</sub>. These emissions exceed the maximum allowable combined NO<sub>x</sub> emissions for these turbines (Permit condition 1.2 of P-040031 and Table 5.2 of the draft permit). DEQ must review NO<sub>x</sub> emissions over the last 12-month period between startup of Combustion Turbine 2 and Combustion Turbine 3 to ensure NO<sub>x</sub> emissions did not exceed 250 T/yr.

#### **Response:**

Looking back many years at previous permits issued to Idaho Power, it appears that the emergency fire pump engine was inadvertently changed from 185 hp to 231 hp with no explanation or revision in emission calculations. DEQ requested that Idaho Power provide the actual engine specifications for the emergency fire pump engine that is rated at 231 hp in the current permit. The engine manufacturer sheet and data plate provided from Idaho Power shows that the engine is rated at 87 hp (as seen in Section 3, attachments). The engine suffered damage in 2006 when it overheated and caught on fire but the damaged parts were replaced on the original engine. The engine has not been replaced since it was originally installed.

In PTC No. P-040031 issued March 18, 2005, the fire pump engine was listed at 185 hp with appropriate emission calculations. The actual engine is only 87 hp, hence the emissions are overestimated and therefore there has not been an emission increase that would have justified the need to do a PSD analysis at the facility. The correct engine rating of 87 hp will need to be changed in an underlying PTC revision.

The emissions for combustion turbines 2 and 3 as shown in Appendix A are calculated by setting the annual heat input to the permit limit for each unit, or essentially based on the maximum annual heat inputs. The potential to emit for CT2 and CT3 is below 250 tons per year at 248 tons per year. CEMS (continuous emission monitoring systems) data is used to determine compliance with NO<sub>x</sub> limits as established in the permit. Provided in Idaho Power's application (Attachment 7) is the semiannual report for the first half of 2014 showing NO<sub>x</sub> and CO CEMS summary reports to demonstrate compliance with emission limits.

#### **Aggregate Facilities**

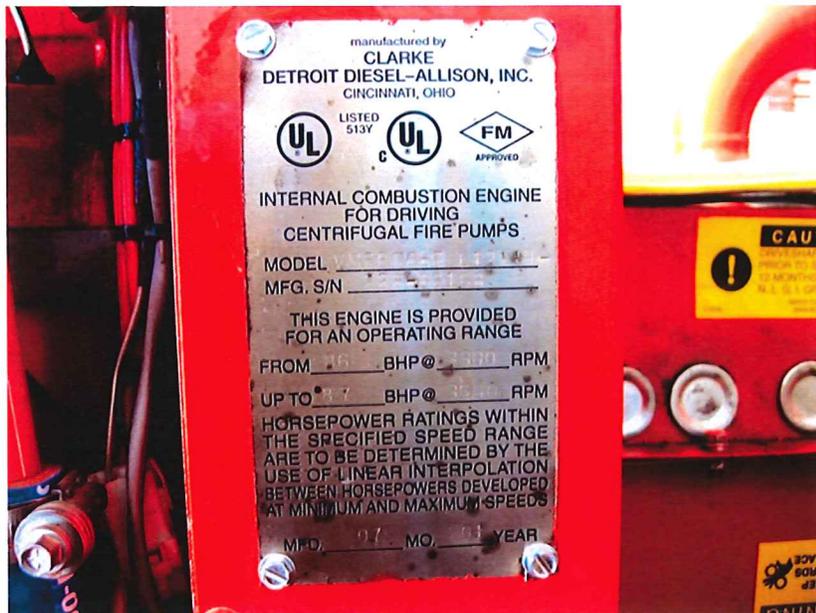
**Comment 3.** Based on the issues raised above, DEQ should prepare a PSD analysis including an airshed impact analysis for the Evander Andrews complex. In this analysis, DEQ should assess whether or not the Evander Andrews complex would be appropriately aggregated with the Bennett Mountain power plant. If these facilities have overlapping impact areas, DEQ should seek the input of the Environmental Protection Agency and assess aggregation. These facilities are owned by the same entity, close in proximity, have related scopes, and are economically linked to one another. In order to appropriately demonstrate no adverse health impacts to human

health, such detailed and thorough analysis is required.

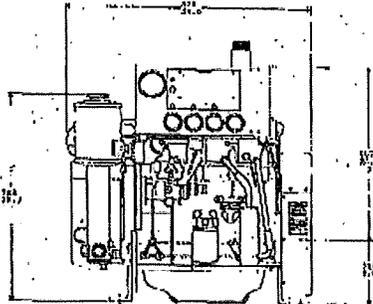
**Response:**

As shown in the response to Comment 2, a PSD analysis is not required at this time for the facility because there was no emission increase. The Evander Andrews complex and Bennett Mountain power plant are separate facilities for PSD purposes and because there is no increase in emissions, modeling is not required at this time.

### **3. ATTACHMENTS**



# CLARKE FIRE PUMP DRIVERS



VMFP-04HT  
OVERALL WIDTH  
22 1/4 (569.6)

## MODELS

VMFP-04HN VMFP-04HT VMFP-08HT  
VMFP-T8HT VMFP-L6HR VMFP-T8HR  
APPROVED RATINGS (BHP)/(kW) FMAL

VMFP MODEL	SPEED (RPM)			
	40	50	58	60
04HN	41	42	42	45
04HT	80	83	86	87
08HT	104	110	120	119
T8HT	135	140	143	148
L6HR	155	160	163	168
T8HR	160	175	180	185

\*Engines are rated at standard SAE conditions of 29.92 in. (762 mm) Hg barometer and 77°F (25°C) inlet air temperature (approximate 300 ft. (91.4 m) above sea level) by the testing laboratory (see SAE Standard J1949).  
A deduction of 3 percent from engine horsepower rating at standard SAE conditions shall be made for diesel engines for each 1000 ft. (305 m) altitude above 300 ft. (91.4 m).  
A deduction of 1 percent from engine horsepower rating as corrected to standard SAE conditions shall be made for diesel engines for every 10°F (5.6°C) above 77°F (25°C) ambient temperature.  
Note: Engines certified at any speed between 2000 & 3000. See details on request side for finer BHP interpolations.

### STANDARD EQUIPMENT

- Air Cleaner -- Direct Mounted, Washable, For Indoor Service Only
- Alternator -- Integral Regulator, 12V-DC, 40 Amperes, with Belt Guard
- Cooling Water Control -- Automatic At Local Control Panel
- Exhaust Blankets -- For Manifolds & Turbo
- Exhaust Connection -- Flexible SS Bellows
- Flywheel -- Includes Integral Cover
- Fuel Connections -- Flexible Supply & Return
- Fuel Injection -- Bosch Direct Injection
- Fuel Filter -- With Water Drain
- Engine Heater -- 115 Voltage (AC), 850 Watts With Thermostat
- Governor -- Constant Speed
- Heat Exchanger -- NPTF Connections, Tube & Shell Type, Rated 80 PS.
- Instrument Panel -- English & Metric, Tachometer, Hourmeter, Water Temperature, Oil Pressure, Voltmeter (2)
- Junction Box -- Integral With Instrument Panel, For Customer Wiring (DC) To Engine Controller
- Lube Oil Cooler -- Engine Water Cooled, Plate Type
- Lube Oil Filter -- Full Flow W/Bypass Valve
- Lube Pump -- Gear Driven, Rotor Type
- Manual Start Controls -- On Instrument Panel With Control Position Warning Light
- Mounts -- Adjustable Height
- Over-speed Control -- Electronic w/Reset on Instrument Panel
- Power Take Off -- Drive Shaft
- Raw Water Solenoid Operation -- Automatic With Emergency Local Control
- Run-Stop Control -- On Instrument Panel
- Starters -- Two (2) 12V-DC Motors
- Throttle Control -- Tamper Proof
- Water Pump -- Dual Belt Driven, Centrifugal Type



meets  
NFPA-20  
Requirements

