

## SIGNIFICANT PERMIT REVISION DESCRIPTION

This significant permit revision for Freeport-McMoRan Morenci Inc. (FMMI) authorizes the company to use a 565 KW (757 HP) emergency diesel-fired engine at the Morenci facility. This engine will be used to provide power to the management command center and computers in the event of outside commercial power interruption or unreliability issues. This engine will be operated for a maximum of 300 hours in a year.

The above addition will result in potential emissions increase of 0.65 tons per year of carbon monoxide (CO), 1.2 ton per year of nitrogen oxides (NO<sub>x</sub>) and non-methane hydrocarbons (NMHC), 0.05 tons per year of sulfur dioxide (SO<sub>2</sub>), and 0.04 tons per year of particulate matter (PM). Though there is an increase in the emission of all the criteria pollutants, the increases are below the significant thresholds provided in A.A.C. R 18-2-101(106).

### ATTACHMENT "B" SPECIFIC CONDITIONS

#### Addenda (Significant Permit Revision #48969) to Operating Permit #42474 for Freeport-McMoRan Morenci Inc. - Morenci Mine

The following Condition XV shall be added in the requirements set forth in Attachment "B" of the Operating Permit #42474:

#### **XV. DIESEL GENERATOR**

##### **A. Applicability**

This Section is applicable to the CI engine identified as "New" and listed in Table C-15, Operation #015- Diesel Generator, Attachment "C" of this Permit.

##### **B. Voluntarily Accepted Limitation**

1. Type of Fuel [A.A.C. R18-2-306.01.A, -306.A.2, & -331.A.3.a]  
[Material permit conditions are indicated by underline and italics]

*The Permittee shall burn only diesel fuel in the compression ignition engine.*

2. Operating Hours [A.A.C. R18-2-306.01.A and -331.A.3.a]  
[Material permit conditions are indicated by underline and italics]

*The Permittee shall not operate the engine for more than 300 hours in a rolling twelve- month period.*

3. Monitoring, Reporting and Recordkeeping requirements [A.A.C. R18-2-306.A.3.c]

The Permittee shall keep a monthly record of the hours of operation of the engine. At the end of each month, a 12-month rolling total of hours of operation of the engine shall be computed.

## C. General Requirements

### 1. Operating Requirements

- a. The Permittee shall operate and maintain the engine over its entire life according to the manufacturer's written instructions or procedures developed by the Permittee that are approved by the engine manufacturer. A copy of the instructions or procedures shall be kept onsite and made available to ADEQ upon request.

[40 CFR 60.4206, 4211(a), and A.A.C. R18-2-306.A.3]

- b. The Permittee shall only change those engine settings that are permitted by the manufacturer. [40 CFR 60.4211(a)]

- c. The Permittee shall meet the requirements of 40 CFR parts 89, 94, or 1068, as they apply. [40 CFR 60.4211(a)]

### d. Fuel Requirements

- (1) The engine shall use diesel fuel that meets the following requirements of 40 CFR 80.510(a):

(a) Sulfur content: 500 parts per million (ppm) maximum; and

(b) A minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.

[40 CFR 60.4207(a)]

- (2) After October 1, 2010, the engine shall use diesel fuel that meets the following requirements of 40 CFR 80.510(b):

(a) Sulfur content: 15 ppm maximum; and

(b) A minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.

[40 CFR 60.4207(b)]

### e. Additional Emergency Engine Requirements

[Material permit conditions are indicated by underline and italics]

[40 CFR 60.4211(e), 60.4209(a), A.A.C. R18-2-306.A.3.c, -306.A.4, and -331.A.3.c]

- (1) *The Permittee shall install a non-resettable hour meter prior to startup of the engine.*

- (2) Emergency engines 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.

- (3) The Permittee shall not operate the emergency engine for the purposes of maintenance checks and readiness testing for more than 100 hours per year unless the Permittee maintains records identifying the Federal, State, or local standards that require maintenance and testing of emergency internal combustion engines beyond 100 hours per year. Copies of such records shall be provided to ADEQ upon request.
- (4) The Permittee 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 Permittee maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per year.
- (5) The Permittee shall not operate emergency engines except for emergency purposes, and maintenance and testing.
- (6) The Permittee shall maintain monthly records of engine operation. The records shall include the purpose of operation and the duration of time the engine was operated. The record shall identify whenever the operation of the engine was for emergency purposes.

2. Emission Limitations and Standards [40 CFR 60.4202.a]

- a. Nitrogen Oxides (NO<sub>x</sub>) and Non-methane hydrocarbons (NMHC) [40 CFR 89.112]

The Permittee shall limit the combined emissions of NO<sub>x</sub> and NMHC below 6.4 gm/kW-hr from the emergency engine.

- b. Carbon Monoxide (CO) [40 CFR 89.112]

The Permittee shall limit the emission of CO below 3.5 gm/kW-hr from the emergency engine.

- c. Particulate Matter (PM) [40 CFR 89.112]

The Permittee shall limit the emission of PM below 0.2 gm/kW-hr from the emergency engine.

- d. The Permittee shall limit exhaust opacity from the emergency engine to not to exceed: [40 CFR 89.113]

- 1) 20 percent during the acceleration mode;
- 2) 15 percent during the lugging mode; and

- 3) 50 percent during peaks in either the acceleration or lugging exhaust opacity modes.

3. Monitoring and Record Keeping Requirements

- a. The Permittee shall comply by purchasing an engine certified to the emission standards in Condition XV.C.2. The engine shall be installed and configured according to the manufacturer's specifications. [40 CFR 4211(c)]
- b. The Permittee shall maintain a copy of engine certifications or other documentation demonstrating that the engine complies with the applicable standards in this Permit, and shall make the documentation available to ADEQ upon request. [A.A.C. R18-2-306.A.4]
- c. The Permittee shall keep records of fuel supplier specifications. The specifications shall contain information regarding the name of fuel supplier, sulfur content, and cetane index or aromatic content in the fuel. These records shall be made available to ADEQ upon request. [A.A.C. R18-2-306.A.3.c]

4. Permit Shield [A.A.C. R18-2-325]

Compliance with the conditions of this Part shall be deemed compliance with 40 CFR 60.4202(a)(2), 60.4206, 60.4207(a) & (b), 60.4209(a), 60.4211(a), (c), & (e), 89.112, and 89.113.

**ATTACHMENT “C”  
EQUIPMENT LIST**

**Addenda (Significant Permit Revision #48969) to Operating Permit #42474 for  
Freeport-McMoRan Morenci Inc. - Morenci Mine**

The following equipment shall be added to the Equipment List, Attachment “C”, in the operating permit #42474.

**TABLE C-15 OPERATION #015- DIESEL GENERATORS**

Process No.	Equipment	Make	Model	Serial No.	Year of Manufacture	Rated Capacity	Existing/New
262	Emergency Diesel Engine	AB Volvo Penta	TAD1641GE	N/A	2008	565 KW	New