



west virginia department of environmental protection

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**GENERAL PERMIT REGISTRATION APPLICATION
ENGINEERING EVALUATION / FACT SHEET**

BACKGROUND INFORMATION

Registration No.: G60-C071
Plant ID No.: 037-00102
Applicant: U.S. Fish & Wildlife Service
Facility Name: National Conservation Training Center (NCTC)
Location: Shepherdstown, Jefferson County
SIC Code: 9512
Application Type: Construction
Received Date: February 3, 2015
Engineer Assigned: William T. Rothwell II, P.E.
Fee Amount: \$1,500.00
Date Received: February 6, 2015
Incomplete Date: March 4, 2015
Complete Date: March 9, 2015
Applicant Ad Date: February 7, 2015
Newspaper: *The Journal*
UTM's: Easting: 258.17 km Northing: 4374.86 km Zone: 17
Description: Application for the construction and operation three (3) diesel-fired emergency generators to be used to provide power at the NCTC during periods of utility power outages.

TYPE OF PROCESS

The following process description was taken from Permit Application G60-C071:

The U.S. Fish & Wildlife Service will utilize three (3) new Cummins QSK23 800 kW generator sets powered by three (3) 1,220 horsepower diesel fired Cummins QSK23-G7 NR2 engines that are all three EPA Tier 2 Certified. There will be one 10,000-gallon aboveground tank which will store diesel fuel to supply all three emergency generators. Each generator will also have its own 120-gallon diesel fuel day tank. The emergency generators will be used to provide power to critical equipment during periods of utility power outages.

SITE INSPECTION

A site inspection was deemed unnecessary by the writer at this time due to the remoteness of the location verified by Google Earth and conversations with Greg McCleaf. However, this site will be added to the list for regular inspections.

Directions as given in the permit application are as follows:

From I-81, take exit 16 (Rt 9 East - Edwin Miller Blvd.) Travel 1.7 miles East on Rt 9. Take left at light onto Rt 45 E. Travel 8.3 miles East on Rt. 45 - to Shepherdstown. Proceed through ALT 480 light. Take left at 4-way stop in Shepherdstown. Travel 0.2 miles North on Rt. 480. Take the third left onto Shepherd Grade Road (SGR). Travel 3.3 miles on SGR. Turn right into NCTC gate.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Maximum controlled emissions from The U.S. Fish & Wildlife Service’s emergency generator’s are summarized below. G60-C limits the facility to 500 hours per year of operation.

Emission	Pollutant	Maximum Hourly	Maximum Annual
EG-1 Cummins QSK23-G7 NR2	Nitrogen Oxides	17.51	4.38
	Carbon Monoxide	0.89	0.22
	Volatile Organic Compounds	0.27	0.07
	Sulfur Dioxide	0.27	0.07
	Particulate Matter-10	0.13	0.03
	Formaldehyde	<0.01	<0.01
EG-2 Cummins QSK23-G7 NR2	Nitrogen Oxides	17.51	4.38
	Carbon Monoxide	0.89	0.22
	Volatile Organic Compounds	0.27	0.07
	Sulfur Dioxide	0.27	0.07
	Particulate Matter-10	0.13	0.03
	Formaldehyde	<0.01	<0.01
EG-3 Cummins QSK23-G7 NR2	Nitrogen Oxides	17.51	4.38
	Carbon Monoxide	0.89	0.22
	Volatile Organic Compounds	0.27	0.07
	Sulfur Dioxide	0.27	0.07
	Particulate Matter-10	0.13	0.03
	Formaldehyde	<0.01	<0.01

Because of the low emission levels, the VOC, Sulfur Dioxides, Particulate Matter, and Formaldehyde emissions will not be written into the permit.

GENERAL PERMIT ELIGIBILITY

The proposed construction and operation of this facility meets the applicability stated under Section 2.3 (area source, source not subject to additional requirements, and located in an attainment area, etc.), and is required to meet the Limitations and Standards stated under Section 3.2 as specified in General Permit G60-C.

The permittee is subject to 40CFR60 Subpart III because they are an owner and operator of a stationary compression ignition (CI) internal combustion engine (ICE) that commenced construction after July 11, 2005 and the stationary CI ICE was manufactured after April 1, 2006 and is not a fire pump engine [§60.4200 (a)(2)(I)].

Certified values for this specific engine were used in the emissions calculations. Since the engine meets EPA Tier 2 requirements, it emits no more than what is specified in 40 CFR §89.112, Table 1. For annual emissions calculations, 500 hrs/year were used.

Section 60.4205b details the emission standards for emergency engines with a displacement less than 30 liters per cylinder that are not fire pump engines. They must meet the emission standards for new non-road CI engines in Section 60.4202. Section 60.4202.a.2 states that engines with a maximum engine power greater than or equal to 37 kW (50 hp) must meet the standards in 40CFR89.112 and 40CFR89.113 for all pollutants beginning in model year 2007. [§60.4202.a.2.].

The permittee is subject to 40CFR80 because Section 60.4207 states that owners and operators of stationary CI ICE subject to Subpart III that use diesel fuel must use diesel fuel that meets the requirements of 40CFR 80.510(a) beginning October 1, 2007 [§60.4207.a.].

RECOMMENDATION TO DIRECTOR

The U.S. Fish & Wildlife Service's request to construct and operate three emergency generators at the Shepherdstown, Jefferson County, WV site meets the requirements of General Permit G60-C and all applicable rules and therefore should be granted a General Permit Registration to construct and operate the said facility.



William T. Rothwell II, P.E.

Engineer

04/23/2015

Date