



west virginia department of environmental protection

Division of Air Quality
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Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
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**GENERAL PERMIT REGISTRATION APPLICATION
ENGINEERING EVALUATION / FACT SHEET**

BACKGROUND INFORMATION

Registration No.: G65-C556
Plant ID No.: 055-00138
Applicant: Rehabilitation Hospital Corporation of America, LLC
Facility Name: HealthSouth Southern Hills Rehabilitation Hospital
Location: Princeton, Mercer County
SIC Code: 8069
Application Type: Construction
Received Date: September 14, 2015
Engineer Assigned: William T. Rothwell II, P.E.
Fee Amount: \$250.00
Date Received: September 16, 2015
Complete Date: October 14, 2015
Applicant Ad Date: *Not Applicable*
Newspaper: *Not Applicable*
UTM's: Easting: 490.157 E km Northing: 4135.165 N km Zone: 17
Description: Installation of a 674 kW emergency generator to be used in the event of a power failure.

TYPE OF PROCESS

The installation is a Volvo 674 kW Diesel Generator Set, Model TWD1643GE using a 917 bhp Volvo Tier 2 Certified engine that was manufactured in 2015. The generator is used to supply standby backup power to the rehabilitation hospital in the event of a power failure. During normal operation, the generator is exercised once a week for approximately one hour for an annual run time of 52 hours. The generator will not exceed the allowable 500 hours/year allowed by the State of West Virginia.

SITE INSPECTION

A site inspection was deemed unnecessary by the writer at this time. However, once the emergency generator is installed and operated, it will be placed on the regular inspection list of sources.

From Rt. 19/Courthouse Rd./S/Walker St, turn onto Morrison Dr. (Rt. 104), then turn Right onto 12th Street to the Rehab Hospital.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
Nitrogen Oxides	10.46	2.61
Carbon Monoxide	0.76	0.19
VOC	0.20	0.05
Sulfur Oxides	0.01	0.01
Particulate Matter	0.14	0.04

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

GENERAL PERMIT ELIGIBILITY

The proposed construction and operation of this facility meets the eligibility requirements required in Section 1.3 and the storage tank limitation required in Section 2.1.4.b as specified in the General Permit G65-C.

The permittee is subject to 40CFR60 Subpart IIII 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 (2015) 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 IIII 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 ACTING DIRECTOR

The request of Rehabilitation Hospital Corporation of America, LLC to operate an emergency generator near Princeton, Mercer County, WV site meets the requirements of General Permit G65-C and all applicable rules. It is the recommendation of the writer to grant a General Permit Registration to construct and operate said facility.

William T. Rothwell II

William T. Rothwell II, P.E.
Engineer

11/13/2015

Date