west virginia department of environmental protection

Division of Air Quality
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GENERAL PERMIT REGISTRATION APPLICATION ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Registration No.:	G65-C561 ***After-the-Fact***
Plant ID No.:	019-00117
Applicant:	Little General Store, Inc.
Location:	Fayetteville, Fayette County, WV
SIC Code:	5541
NAICS Code:	447110
Application Type:	Construction
Received Date:	September 06, 2016
Engineer Assigned:	Thornton E. Martin Jr.
Fee Amount:	$250.00
Date Received:	September 12, 2016
Complete Date:	October 12, 2016
Applicant Ad Date:	NA
Newspaper:	NA
UTM's:	Easting: 490.85 km Northing: 4,212.13 km Zone: 17
Description:	Application to permit operation of an existing emergency generator for use during power outages. Note that this Class I General Permit requires no public notice.

DESCRIPTION OF PROCESS

The emergency generator (EG-1) will combust #2 fuel oil / diesel and provide power when purchase power is disrupted. The generator will supply power for Facility #2030 at 312 N. Court Street, Fayetteville, WV. The engine is a Caterpillar, Serial No. 85Z08148, rated for 351 bhp @ 1,800 rpm. The unit was estimated to have been installed on 06/01/2014 and the engine has a manufacture date of February 14, 1991.

The proposed diesel fuel storage tank will hold approximately 265 gallons and an estimated annual fuel throughput of 9,250 gallons based 500 hours/yr potential operation.

All emission units covered by this permit are listed in Table 1:

Table 1: Emission Units

Source ID No.	Description	Engine							Control Equipment
		Manufacturer	Model	Mfg. Date	kW_E Rating	Speed	Serial No.	EPA Certificate	
Emergency Generator									
EG-1	Emergency Generator	Caterpillar	3306B	1991	261	1800 RPM	85Z08148	N/A	N/A
Storage									
		Status	**Content**	**Volume**	**Dia**	**Throughput**	**Orientation**	**Liquid Height**	
T-01	Fuel Tank	Existing	#2FO	265 gal.	N/A	9,250 gal.	HORZ	1.9	N/A

SITE INSPECTION

A site inspection of the Little General Stores' emergency generators was conducted by Andy Grimm of the Compliance and Enforcement Section of the Division of Air Quality on January 15, 2015. The Fayetteville store was identified as requiring a 45CSR13 permit since the NOx emissions have the potential for greater than 6 lbs/hr and 10 tons per year. A site inspection was deemed unnecessary by the writer at this time. However, once the emergency generator is permitted, it will be placed on the list of sources for regular inspection.

Directions (taken from Application): From MacCorkle Avenue SE turn right onto I-64/I-77 ramp towards Beckley and continue for approximately 35 miles. Take exit 60 for WV-612 toward Mossy/Oak Hill. Turn left onto WV-612 E and continue approximately 8 miles. Turn left onto US-19 N for approximately 8.5 miles. Turn right onto Court Street and the facility will be on the left.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Maximum controlled emissions from Little General Store, Inc.'s facility #2030, diesel fired emergency generator are summarized in the table below. G65-C limits the facility to 500 hours per year of operation. The following annual emissions estimate were derived based on 500 hours of use as allowed by the G65-C permit.

The emission factors for this emergency generator come from USEPA AP-42, Section 3.3-1 ("Air Emissions-Standby Generator") for a 250/260 kW, diesel Caterpillar 3306B as presented by the Applicant. Fuel consumption is 18.50 gallons/hour based on manufacturers specification.

The emission factors from the USEPA AP-42, Section 3.3-1 in lb/MMBtu are: 0.35, VOC; 4.41, NO_x; 0.95, CO; 0.29, SO_2; 0.31, PM_{10}.

Table 2: Estimated Emissions

Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (ton/year)
VOC (Volatile Organic Compounds)	0.89	0.22
NOx (Nitrogen Oxides)	11.18	2.79
CO (Carbon Monoxide)	2.41	0.60
SO_2 (Sulfur Dioxide)	0.74	0.18
PM_{10} (Particulate Matter < 10 microns)	0.79	0.20

REGULATORY APPLICABILITY

45CSR4 — *To Prevent an Control the Discharge of Air Pollutants into the Open Air which Causes or Contributes to the Objectionable Odor or Odors*

The Little General Store, Inc. facility #2030 shall not cause the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.

45CSR13 — *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation*

45CSR13 applies to this source due to the fact that it has the ability to exceed the regulatory emission threshold for regulated air pollutants of 6 lb/hr and 10 ton/year (NOx). Since this source required a Class I General Permit a $250 application fee was paid.

45CSR16 — *Standards of Performance for New Stationary Sources*

Since this facility is subject to 40CFR60 Subpart IIII, it is subject to this rule.

45CSR22 — *Air Quality Management Fee Program*

Since this source is subject to 45CSR13 and not currently subject to 45CSR30; this source is subject to 45CSR22.

40CFR60 Subpart IIII — *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*

The Little General Store #2030 will have one emergency generator that the date of manufacture is pre-2007 and must meet emissions standards provided in Table 1 of this subpart.

The emission standards for this engine in g/hp-hr from Table 1 are as follows: NO_x, 6.9; PM, 0.40; and CO, 8.5. This emission standard for permitting will be as follows: NO_x, 5.34 lb/hr and 1.33 TPY; PM, 0.31 lb/hr and 0.077 TPY; and CO, 6.58 lb/hr and 1.64 TPY. The engine will be non-compliant for NOx and PM_{10} emissions.

Further, 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.

§60.4211(g)(2)

In consideration of requirements for compliance under the reciprocating internal combustion engines (RICE) National Emissions Standards for Hazardous Air Pollutants, 40 CFR Part 63 Subpart ZZZZ: The Caterpillar engine would not be subject to this federal regulation.

40CFR63 Subpart ZZZZ *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*

§63.6585(f) The emergency stationary RICE listed in paragraphs (f)(1) through (3) of this section are not subject to this subpart. The stationary RICE must meet the definition of an emergency stationary RICE in §63.6675, which includes operating according to the provisions specified in §63.6640(f).

(f)(2) Existing commercial emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

RECOMMENDATION TO DIRECTOR

The Little General Store, Inc.'s request to construct and operate an emergency generator at the Fayetteville, Fayette County, WV store #2030 site meets the requirements of General Permit G65-C and all applicable rules and therefore should be granted a General Permit Registration to construct and operate the said facility.

Thornton E. Martin Jr.
Permit Engineer

October 12, 2016
Date