

**General Permit Registration for  
Diesel Engine Driven Emergency Generator  
Installation at APCO Beckley Service Center**

**Date: September 23, 2016**

**Prepared For: Appalachian Power Company  
Beckley Service Center  
4600 Robert C. Byrd Drive  
Beckley, WV 25801**

**Prepared By: AEP Environmental Services Division  
1 Riverside Plaza  
Columbus, OH 43215**

# Table of Contents

	Page
Cover Page	Front Cover
Table of Contents	i
Application for General Permit Registration	1
Attachment A Current Business Certificate	6
Attachment B Process Description	8
Attachment C Description of Fugitive Emissions - (Not Applicable)	10
Attachment D Process Flow Diagram	11
Attachment E Plot Plan	13
Attachment F Area Map	15
Attachment G Equipment Data Sheets and Registration Section Applicability Form	17
Attachment H Air Pollution Control Device Sheets (Not Applicable)	22
Attachment I Emission Calculations	23
Attachment J Class I Legal Advertisement (Not Applicable)	25
Attachment K Electronic Submittal	26
Attachment L General Permit Registration Application Fee	27
Attachment M Siting Criteria Waiver (Not Applicable)	28
Attachment N Material Safety Data Sheets (MSDS)	29
Attachment O Emission Summary Sheets	37
Attachment P Other Supporting Documentation Equipment Drawings	40



WEST VIRGINIA  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 DIVISION OF AIR QUALITY  
 601 57<sup>th</sup> Street, SE  
 Charleston, WV 25304  
 Phone: (304) 926-0475 • www.dep.wv.gov/daq

**APPLICATION FOR GENERAL PERMIT REGISTRATION**  
 CONSTRUCT, MODIFY, RELOCATE OR ADMINISTRATIVELY UPDATE  
 A STATIONARY SOURCE OF AIR POLLUTANTS

- CONSTRUCTION     MODIFICATION     RELOCATION     CLASS I ADMINISTRATIVE UPDATE  
 CLASS II ADMINISTRATIVE UPDATE

**CHECK WHICH TYPE OF GENERAL PERMIT REGISTRATION YOU ARE APPLYING FOR:**

- |   |  |
|---|--|
| <input type="checkbox"/> <b>G10-D</b> – Coal Preparation and Handling                                   | <input type="checkbox"/> <b>G40-C</b> – Nonmetallic Minerals Processing                  |
| <input type="checkbox"/> <b>G20-B</b> – Hot Mix Asphalt   | <input type="checkbox"/> <b>G50-B</b> – Concrete Batch                                   |
| <input type="checkbox"/> <b>G30-D</b> – Natural Gas Compressor Stations                                 | <input type="checkbox"/> <b>G60-C</b> - Class II Emergency Generator                     |
| <input type="checkbox"/> <b>G33-A</b> – Spark Ignition Internal Combustion Engines                      | <input checked="" type="checkbox"/> <b>G65-C</b> – Class I Emergency Generator           |
| <input type="checkbox"/> <b>G35-A</b> – Natural Gas Compressor Stations (Flare/Glycol Dehydration Unit) | <input type="checkbox"/> <b>G70-A</b> – Class II Oil and Natural Gas Production Facility |

**SECTION I. GENERAL INFORMATION**

1. Name of applicant (as registered with the WV Secretary of State's Office): <b>Appalachian Power Company</b>		2. Federal Employer ID No. (FEIN): 540124790	
3. Applicant's mailing address:  APCO Beckley Service Center 4600 Robert C. Byrd Drive Beckley, WV 25801		4. Applicant's physical address:  APCO Beckley Service Center 4600 Robert C. Byrd Drive Beckley, WV 25801	
5. If applicant is a subsidiary corporation, please provide the name of parent corporation: American Electric Power			
6. <b>WV BUSINESS REGISTRATION.</b> Is the applicant a resident of the State of West Virginia? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO – IF YES, provide a copy of the Certificate of Incorporation/ Organization / Limited Partnership (one page) including any name change amendments or other Business Registration Certificate as Attachment A. – IF NO, provide a copy of the Certificate of Authority / Authority of LLC / Registration (one page) including any name change amendments or other Business Certificate as Attachment A.			

**SECTION II. FACILITY INFORMATION**

7. Type of plant or facility (stationary source) to be constructed, modified, relocated or administratively updated (e.g., coal preparation plant, primary crusher, etc.):  Replacement of Emergency Diesel Generator located at an office building	8a. Standard Industrial Classification Classification (SIC) code: 4911	AND	8b. North American Industry System (NAICS) code: 221122
9. DAQ Plant ID No. (for existing facilities only): N/A	10. List all current 45CSR13 and other General Permit numbers associated with this process (for existing facilities only): N/A		

**A: PRIMARY OPERATING SITE INFORMATION**

11A. Facility name of primary operating site:  Appalachian Power Company Beckley Service Center	12A. Address of primary operating site:  Mailing: APCO Beckley Service Center 4600 Robert C. Byrd Drive Beckley, WV 25801 <span style="float: right;">Physical: APCO Beckley Service Center          4600 Robert C. Byrd Drive          Beckley, WV 25801</span>	
13A. Does the applicant own, lease, have an option to buy, or otherwise have control of the proposed site? <span style="float: right;"><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</span> - IF YES, please explain: Appalachian Power Company owns this site. _____  _____ - IF NO, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.		
14A. - For <b>Modifications or Administrative Updates</b> at an existing facility, please provide directions to the present location of the facility from the nearest state road; - For Construction or Relocation permits, please provide directions to the proposed new site location from the nearest state road. Include a <b>MAP as Attachment F.</b>  From Charleston, take I-64E/I-77S approximately 55 miles to exit 48. Proceed from exit 48 to the intersection of US-19 S/WV-16 S/Robert C Byrd Dr. Turn right onto US-19 S/WV-16 S/Robert C Byrd Dr and travel approximately 2 miles. Facility is located on the left (traveling south) side of US-19 S/WV-16 S/Robert C Byrd Dr.		
15A. Nearest city or town:  Beckley, WV	16A. County:  Raleigh County	17A. UTM Coordinates: Northing (KM): 4186.00 Easting (KM): 483.24 Zone: 17
18A. Briefly describe the proposed new operation or change (s) to the facility: Replacement of an existing diesel generator with a new diesel generator		19A. Latitude & Longitude Coordinates (NAD83, Decimal Degrees to 5 digits): Latitude: 37.82127 Longitude: -81.19048

**B: 1<sup>ST</sup> ALTERNATE OPERATING SITE INFORMATION (only available for G20, G40, & G50 General Permits)**

11B. Name of 1 <sup>st</sup> alternate operating site:  _____  _____	12B. Address of 1 <sup>st</sup> alternate operating site:  Mailing: _____ Physical: _____  _____	
13B. Does the applicant own, lease, have an option to buy, or otherwise have control of the proposed site? <span style="float: right;"><input type="checkbox"/> YES <input type="checkbox"/> NO</span> - IF YES, please explain: _____  _____ - IF NO, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.		

<p>14B. — For <b>Modifications or Administrative Updates</b> at an existing facility, please provide directions to the present location of the facility from the nearest state road;</p> <p>— For <b>Construction or Relocation</b> permits, please provide directions to the proposed new site location from the nearest state road. Include a <b>MAP as Attachment F</b>.</p> <p>_____</p> <p>_____</p>		
15B. Nearest city or town:	16B. County:	17B. UTM Coordinates: Northing (KM): _____ Easting (KM): _____ Zone: _____
18B. Briefly describe the proposed new operation or change (s) to the facility:		19B. Latitude & Longitude Coordinates (NAD83, Decimal Degrees to 5 digits): Latitude: _____ Longitude: _____

**C: 2<sup>ND</sup> ALTERNATE OPERATING SITE INFORMATION (only available for G20, G40, & G50 General Permits):**

11C. Name of 2 <sup>nd</sup> alternate operating site: _____	12C. Address of 2 <sup>nd</sup> alternate operating site: Mailing: _____ Physical: _____	
<p>13C. Does the applicant own, lease, have an option to buy, or otherwise have control of the proposed site? <input type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>— IF YES, please explain: _____</p> <p>_____</p> <p>— IF NO, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.</p>		
<p>14C. — For <b>Modifications or Administrative Updates</b> at an existing facility, please provide directions to the present location of the facility from the nearest state road;</p> <p>— For <b>Construction or Relocation</b> permits, please provide directions to the proposed new site location from the nearest state road. Include a <b>MAP as Attachment F</b>.</p> <p>_____</p> <p>_____</p>		
15C. Nearest city or town:	16C. County:	17C. UTM Coordinates: Northing (KM): _____ Easting (KM): _____ Zone: _____
18C. Briefly describe the proposed new operation or change (s) to the facility:		19C. Latitude & Longitude Coordinates (NAD83, Decimal Degrees to 5 digits): Latitude: _____ Longitude: _____

<p>20. Provide the date of anticipated installation or change:</p> <p>11/01/2016</p> <p><input type="checkbox"/> If this is an <b>After-The-Fact</b> permit application, provide the date upon which the proposed change did happen: :        ____/____/____</p>	<p>21. Date of anticipated Start-up if registration is granted:</p> <p>11/01/2016</p>
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22. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application if other than 8760 hours/year. (Note: anything other than 24/7/52 may result in a restriction to the facility's operation).

Hours per day: 24 Days per week: 7 Weeks per year: 52 Percentage of operation: Operation will occur during periods of power loss to the facility, and for maintenance and testing, as required. Operation will be maintained at 500 hours or less each year to maintain emergency generator status.

**SECTION III. ATTACHMENTS AND SUPPORTING DOCUMENTS**

23. Include a check payable to WVDEP – Division of Air Quality with the appropriate **application fee** (per 45CSR22 and 45CSR13).

24. Include a **Table of Contents** as the first page of your application package.

All of the required forms and additional information can be found under the Permitting Section (General Permits) of DAQ's website, or requested by phone.

25. Please check all attachments included with this permit application. Please refer to the appropriate reference document for an explanation of the attachments listed below.

- ATTACHMENT A : CURRENT BUSINESS CERTIFICATE
- ATTACHMENT B: PROCESS DESCRIPTION
- ATTACHMENT C: DESCRIPTION OF FUGITIVE EMISSIONS
- ATTACHMENT D: PROCESS FLOW DIAGRAM
- ATTACHMENT E: PLOT PLAN
- ATTACHMENT F: AREA MAP
- ATTACHMENT G: EQUIPMENT DATA SHEETS AND REGISTRATION SECTION APPLICABILITY FORM
- ATTACHMENT H: AIR POLLUTION CONTROL DEVICE SHEETS
- ATTACHMENT I: EMISSIONS CALCULATIONS
- ATTACHMENT J: CLASS I LEGAL ADVERTISEMENT
- ATTACHMENT K: ELECTRONIC SUBMITTAL
- ATTACHMENT L: GENERAL PERMIT REGISTRATION APPLICATION FEE
- ATTACHMENT M: SITING CRITERIA WAIVER
- ATTACHMENT N: MATERIAL SAFETY DATA SHEETS (MSDS)
- ATTACHMENT O: EMISSIONS SUMMARY SHEETS
- OTHER SUPPORTING DOCUMENTATION NOT DESCRIBED ABOVE (Equipment Drawings, Aggregation Discussion, etc.)

Please mail an original and two copies of the complete General Permit Registration Application with the signature(s) to the DAQ Permitting Section, at the address shown on the front page of this application. Please DO NOT fax permit applications. For questions regarding applications or West Virginia Air Pollution Rules and Regulations, please refer to the website shown on the front page of the application or call the phone number also provided on the front page of the application.

SECTION IV. CERTIFICATION OF INFORMATION

This General Permit Registration Application shall be signed below by a Responsible Official. A Responsible Official is a President, Vice President, Secretary, Treasurer, General Partner, General Manager, a member of a Board of Directors, or Owner, depending on business structure. A business may certify an Authorized Representative who shall have authority to bind the Corporation, Partnership, Limited Liability Company, Association, Joint Venture or Sole Proprietorship. Required records of daily throughput, hours of operation and maintenance, general correspondence, Emission Inventory, Certified Emission Statement, compliance certifications and all required notifications must be signed by a Responsible Official or an Authorized Representative. If a business wishes to certify an Authorized Representative, the official agreement below shall be checked off and the appropriate names and signatures entered. Any administratively incomplete or improperly signed or unsigned Registration Application will be returned to the applicant.

FOR A CORPORATION (domestic or foreign)

I certify that I am a President, Vice President, Secretary, Treasurer or in charge of a principal business function of the corporation

FOR A PARTNERSHIP

I certify that I am a General Partner

FOR A LIMITED LIABILITY COMPANY

I certify that I am a General Partner or General Manager

FOR AN ASSOCIATION

I certify that I am the President or a member of the Board of Directors

FOR A JOINT VENTURE

I certify that I am the President, General Partner or General Manager

FOR A SOLE PROPRIETORSHIP

I certify that I am the Owner and Proprietor

I hereby certify that (please print or type) L. Jane Moore, Workplace Services Supervisor

is an Authorized Representative and in that capacity shall represent the interest of the business (e.g., Corporation, Partnership, Limited Liability Company, Association Joint Venture or Sole Proprietorship) and may obligate and legally bind the business. If the business changes its Authorized Representative, a Responsible Official shall notify the Director of the Office of Air Quality immediately, and/or,

I hereby certify that all information contained in this General Permit Registration Application and any supporting documents appended hereto is, to the best of my knowledge, true, accurate and complete, and that all reasonable efforts have been made to provide the most comprehensive information possible

Signature \_\_\_\_\_  
(please use blue ink)

*Philip A. Wright*  
Responsible Official

*9/28/16*  
Date

Name & Title: Philip A. Wright, Vice President – Distribution Regions Operations  
(please print or type)

Signature \_\_\_\_\_  
(please use blue ink)

*L. Jane Moore*  
Authorized Representative (if applicable)

*9-28-16*  
Date

Applicant's Name: Appalachian Power Company – Beckley Service Center

Phone & Fax: 304-746-2566 (L. Jane Moore) – Permit Contact  
Phone Fax

Email: ljmoore@aep.com

Attachment A  
Current Business Certificate

# State of West Virginia



## Certificate

*I, Natalie E. Tennant, Secretary of State of the State of West Virginia, hereby certify that*

**APPALACHIAN POWER COMPANY**

a corporation formed under the laws of Virginia filed an application to be registered as a foreign corporation authorizing it to transact business in West Virginia. The application was found to conform to law and a "Certificate of Authority" was issued by the West Virginia Secretary of State on March 08, 1926.

I further certify that the corporation has not been revoked by the State of West Virginia nor has a Certificate of Withdrawal been issued to the corporation by the West Virginia Secretary of State.

Accordingly, I hereby issue this

### CERTIFICATE OF AUTHORIZATION

Validation ID:2WV1G\_CK2GX



*Given under my hand and the Great Seal of the State of West Virginia on this day of January 14, 2014*

*Natalie E. Tennant*

Secretary of State

Notice: A certificate issued electronically from the West Virginia Secretary of State's Web site is fully and immediately valid and effective. However, as an option, the issuance and validity of a certificate obtained electronically may be established by visiting the Certificate Validation Page of the Secretary of State's Web site, <https://apps.wv.gov/sos/businessentitysearch/validate.aspx> entering the validation ID displayed on the certificate, and following the instructions displayed. Confirming the issuance of a certificate is merely optional and is not necessary to the valid and effective issuance of a certificate.

# Attachment B

## Process Description

Attachment B

Process Description:

Appalachian Power Company proposed to install a Cummins Inc. 450DFEJ Stationary Emergency Diesel Generator Set for use at the APCO Beckley Service Center Building. The Beckley Service Center is currently served by a Cummins VTA-28G2 Emergency Diesel Generator Set, which will be retired and replaced with the new generator.

In the event of a loss of power to the facility, this emergency generator will provide emergency power backup. The emergency generator will not be used to provide power to the external electric grid. The generator will also be cycled periodically to insure proper operation.

Attachment C

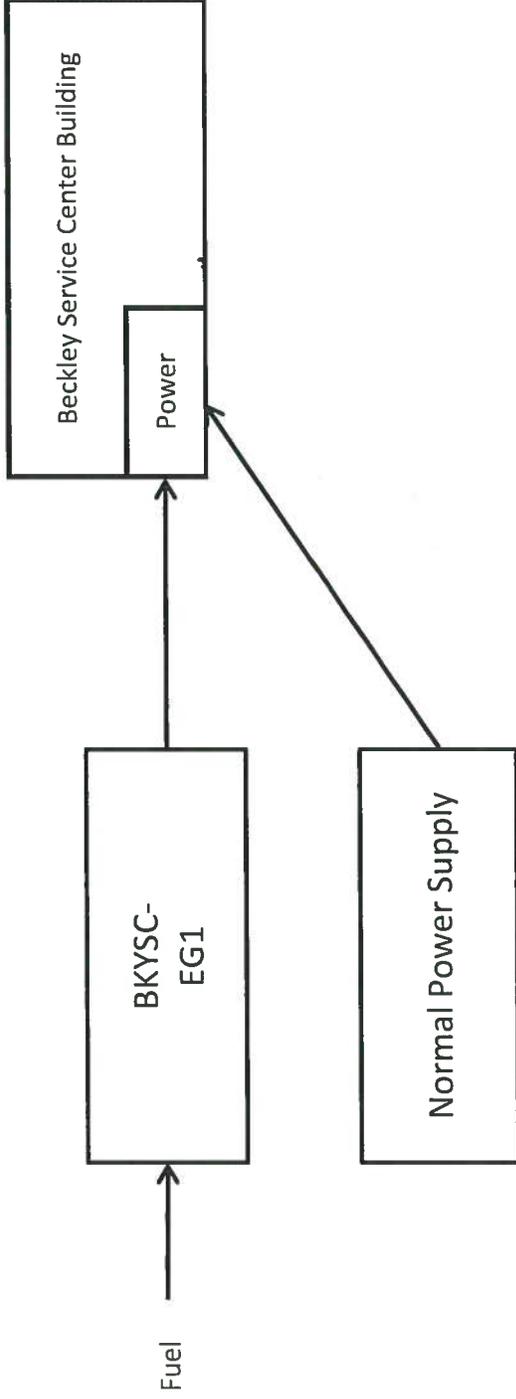
Description of Fugitive Emissions

(Not Applicable)

# Attachment D

## Process Flow Diagram

Beckley Service Center  
Emergency Generator Flow Diagram



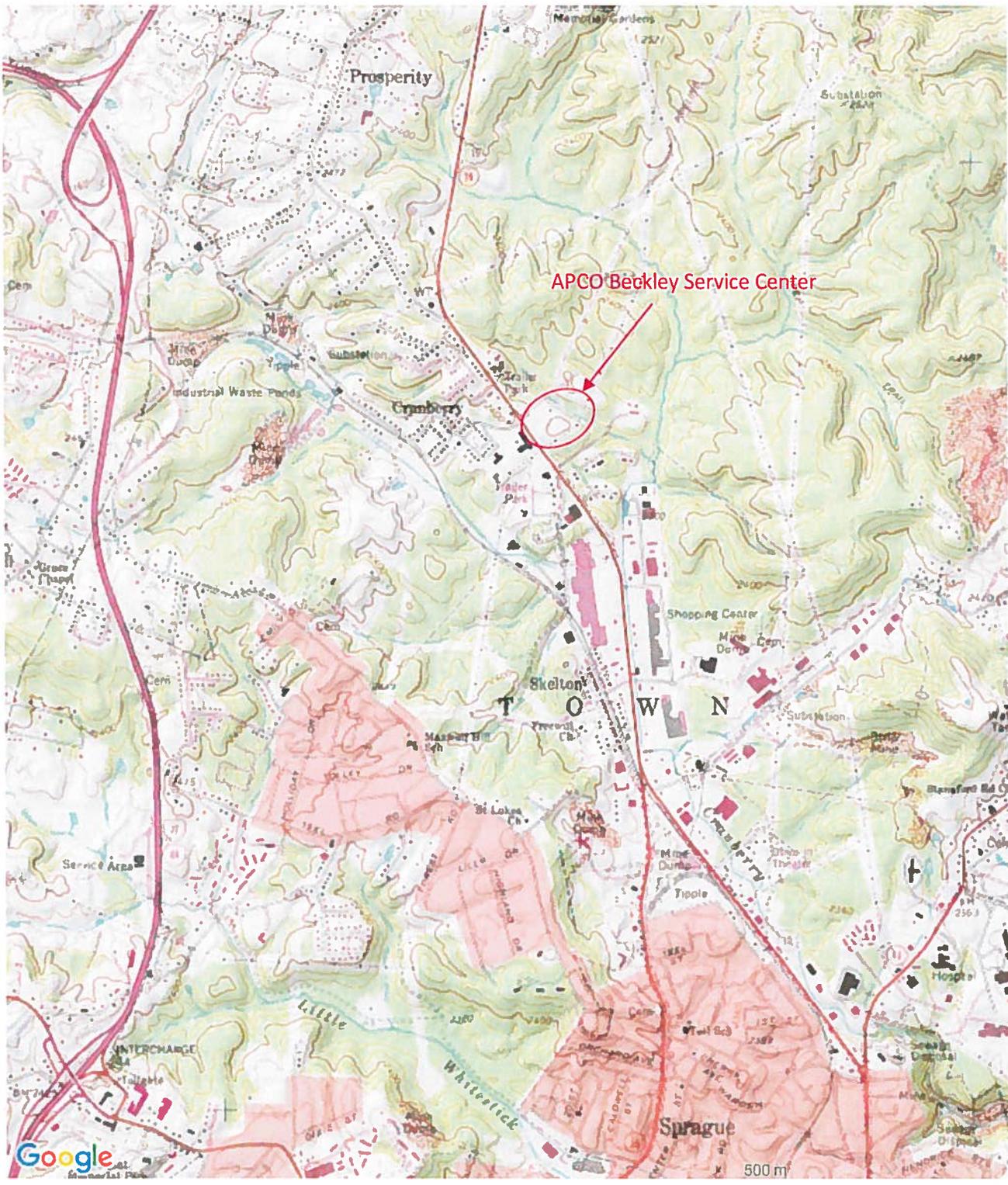
# Attachment E

## Plot Plan

APCO Beckley Service Center  
(Plot Plan)



Attachment F  
Area Map



## Attachment G

### Equipment Data Sheets and Registration Section Applicability Form

## General Permit G65-C Registration Section Applicability Form

General Permit G65-C was developed to allow qualified registrants to seek registration for emergency generator(s).

General Permit G65-C allows the registrant to choose which sections of the permit that they wish to seek registration under. Therefore, please mark which sections that you are applying for registration under. Please keep in mind, that if this registration is approved, the issued registration will state which sections will apply to your affected facility.

- |           |   |                                     |
|-----------|---|-------------------------------------|
| Section 5 | Reciprocating Internal Combustion Engines (R.I.C.E.)*   | <input checked="" type="checkbox"/> |
| Section 6 | Tanks   | <input checked="" type="checkbox"/> |
| Section 7 | Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40CFR60 Subpart IIII) | <input checked="" type="checkbox"/> |
| Section 8 | Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (40CFR60 Subpart JJJJ)       | <input type="checkbox"/>            |

\* **Affected facilities that are subject to Section 5 may also be subject to Sections 7 or 8. Therefore, if the applicant is seeking registration under both sections, please select both.**

## EMERGENCY GENERATOR ENGINE DATA SHEET

Source Identification Number <sup>1</sup>		BKYSC-EG1	
Engine Manufacturer and Model		Cummins QSX15-G9	
Manufacturer's Rated bhp/rpm		755/1800	
Source Status <sup>2</sup>		NS	
Date Installed/Modified/Removed <sup>3</sup>		11/01/2016	
Engine Manufactured/Reconstruction Date <sup>4</sup>			
Is this a Certified Stationary Compression Ignition Engine according to 40CFR60 Subpart IIII? (Yes or No) <sup>5</sup>		Yes	
Is this a Certified Stationary Spark Ignition Engine according to 40CFR60 Subpart JJJJ? (Yes or No) <sup>6</sup>		No	
Engine, Fuel and Combustion Data	Engine Type <sup>7</sup>	DFEJ	
	APCD Type <sup>8</sup>	A/F	
	Fuel Type <sup>9</sup>	2FO	
	H <sub>2</sub> S (gr/100 scf)		
	Operating bhp/rpm	755/1800	
	BSFC (Btu/bhp-hr)		
	Fuel throughput (ft <sup>3</sup> /hr)	30.3 gal/hr	
	Fuel throughput (MMft <sup>3</sup> /yr)	15,150 gal/yr	
	Operation (hrs/yr)	500	
Reference <sup>10</sup>	Potential Emissions <sup>11</sup>	lbs/hr	tons/yr
MD	NO <sub>x</sub>	8.57	2.14
MD	CO	0.83	0.21
AP-42	VOC	0.53	0.13
AP-42	SO <sub>2</sub>	0.0063	0.0016
MD*	PM <sub>10</sub>	0.13	0.033
AP-42	Formaldehyde	0.00033	0.000082
	* Manufacturer provides PM emissions. Used conservative assumption that PM=PM10=PM2.5		

1. Enter the appropriate Source Identification Number for each emergency generator. Generator engines should be designated EG-1.
2. Enter the Source Status using the following codes:  
NS Construction of New Source (installation)      ES Existing Source  
MS Modification of Existing Source                      RS Removal of Source
3. Enter the date (or anticipated date) of the engine's installation (construction of source), modification or removal.
4. Enter the date that the engine was manufactured, modified or reconstructed.
5. Is the engine a certified stationary spark ignition internal combustion engine according to 40CFR60 Subpart IIII. If so, the engine and control device must be operated and maintained in accordance with the manufacturer's emission-related written instructions. You must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required. If the certified engine is not operated and maintained in accordance with the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine and you must demonstrate compliance according to 40CFR§60.4210 as appropriate.

**Provide a manufacturer's data sheet for all engines being registered.**

6. Is the engine a certified stationary spark ignition internal combustion engine according to 40CFR60 Subpart JJJJ. If so, the engine and control device must be operated and maintained in accordance with the manufacturer's emission-related written instructions. You must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required. If the certified engine is not operated and maintained in accordance with the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine and you must demonstrate compliance according to 40CFR§60.4243a(2)(i) through (iii), as appropriate.

**Provide a manufacturer's data sheet for all engines being registered.**

7. Enter the Engine Type designation(s) using the following codes:  
LB2S Lean Burn Two Stroke                                      RB4S Rich Burn Four Stroke  
LB4S Lean Burn Four Stroke
8. Enter the Air Pollution Control Device (APCD) type designation(s) using the following codes:  
A/F Air/Fuel Ratio    IR Ignition Retard  
HEIS High Energy Ignition System                              SIPC Screw-in Precombustion Chambers  
PSC Prestratified Charge    LEC Low Emission Combustion  
NSCR Rich Burn & Non-Selective Catalytic Reduction      SCR Lean Burn & Selective Catalytic Reduction
9. Enter the Fuel Type using the following codes:  
PQ Pipeline Quality Natural Gas                                      RG Raw Natural Gas  
2FO #2 Fuel Oil    LPG Liquid Propane Gas
10. Enter the Potential Emissions Data Reference designation using the following codes. Attach all referenced data to this *Compressor/Generator Data Sheet(s)*.  
MD Manufacturer's Data    AP AP-42  
GR GRI-HAPCalc™    OT Other \_\_\_\_\_ (please list)
11. Enter each engine's Potential to Emit (PTE) for the listed regulated pollutants in pounds per hour and tons per year. PTE shall be calculated at manufacturer's rated brake horsepower and may reflect reduction efficiencies of listed Air Pollution Control Devices. Emergency generator engines may use 500 hours of operation when calculating PTE. PTE data from this data sheet shall be incorporated in the *Emissions Summary Sheet*.

**NOTE: Fuel Tank is enclosed in the base of the genset, not a separate unit**

**STORAGE TANK DATA SHEET**

Source ID # <sup>1</sup>	Status <sup>2</sup>	Content <sup>3</sup>	Volume <sup>4</sup>	Dia <sup>5</sup>	Throughput <sup>6</sup>	Orientation <sup>7</sup>	Liquid Height <sup>8</sup>
BKYSC-EG1-T	NEW	2FO	500 gal	N/A	Approx. 15,150	HORZ	N/A

1. Enter the appropriate Source Identification Numbers (Source ID #) for each storage tank located at the compressor station. Tanks should be designated T01, T02, T03, etc.
2. Enter storage tank Status using the following:
  - EXIST Existing Equipment
  - NEW Installation of New Equipment
  - REM Equipment Removed
3. Enter storage tank content such as condensate, pipeline liquids, glycol (DEG or TEG), lube oil, etc.
4. Enter storage tank volume in gallons.
5. Enter storage tank diameter in feet.
6. Enter storage tank throughput in gallons per year.
7. Enter storage tank orientation using the following:
  - VERT Vertical Tank
  - HORZ Horizontal Tank
8. Enter storage tank average liquid height in feet.

Attachment H  
Air Pollution Control Device Sheets  
(Not Applicable)

# Attachment I

## Emission Calculations

2016 Cummins 450DFEJ

**Beckley Service Center Diesel Engine Driven Backup Generator Emission Calculations**

Max Power 755 BHP

Fuel Use: 30.3 gal/hr  
 15,150 gal/yr assuming 500 hours operation.  
 137,030 Btu/gal (diesel heat content)

4.15 MMBtu/hr  
 2076.00 MMBtu/yr

Hourly Emissions:

	Emission Factor*	Emissions	
	Grams/kWh	lb/hr	lb/24hr
NOx	5.15 Grams/bhp-hr	8.57	205.73
CO	0.50 Grams/bhp-hr	0.83	19.97
HC	0.20 Grams/bhp-hr	0.33	7.99
SO2	0.001515 lbs/MMBtu	0.0063	0.151
PM=PM10=PM2.5	0.08 Grams/bhp-hr	0.13	3.20
CO2	1.16 lb/HP-hr	875.8	21019.20
VOC (used TOC)	0.000705 lb/HP-hr	0.53	12.77
Formaldehyde	0.0000789 lb/MMBtu	0.00033	0.0079
Benzene	0.000776 lb/MMBtu	0.0032	0.077
Propylene	0.00279 lb/MMBtu	0.012	0.28
Toluene	0.000281 lb/MMBtu	0.0012	0.028
Xylenes	0.000193 lb/MMBtu	0.00080	0.019
Acetaldehyde	0.0000252 lb/MMBtu	0.00010	0.0025
Acrolein	0.00000788 lb/MMBtu	0.000033	0.00079
Napthalene	0.000130 lb/MMBtu	0.00054	0.013
Total HAPS		0.018	0.43

Note:

\*Nox, CO, HC and PM emission factors are Mfg. info.

\* SO2 estimated using AP-42. Assuming 30.3 gal/hr and 137,030 Btu/gal (therefore 4.15 MMBtu/hr)

\* All PM assumed to be less than 1 um

\* CO2 estimated using AP-42 CO2 EF for large stationary diesel engines.

\*TOC estimated using AP-42 TOC EF for diesel industrial engines.

\* Formaldehyde estimated using AP-42 Formaldehyde EF for large stationary diesel engines. Assuming 30.3 gal/hr and 137,030 Btu/gal (therefore 4.15 MMBtu/hr).

\* Benzene estimated using AP-42 Benzene EF for large stationary diesel engines. Assuming 30.3 gal/hr and 137,030 Btu/gal (therefore 4.15 MMBtu/hr).

\* Propylene estimated using AP-42 1,3 Butadiene EF for large stationary diesel engines. Assuming 30.3 gal/hr and 137,030 Btu/gal (therefore 4.15 MMBtu/hr).

\* Toluene estimated using AP-42 Toluene EF for large stationary diesel engines. Assuming 30.3 gal/hr and 137,030 Btu/gal (therefore 4.15 MMBtu/hr).

\* Xylenes estimated using AP-42 Xylenes EF for large stationary diesel engines. Assuming 30.3 gal/hr and 137,030 Btu/gal (therefore 4.15 MMBtu/hr).

\*Acetaldehyde estimated using AP-42 Acetaldehyde EF for large stationary diesel engines. Assuming 30.3 gal/hr and 137,030 Btu/gal (therefore 4.15 MMBtu/hr).

\*Acrolein estimated using AP-42 Acrolein EF for large stationary diesel engines. Assuming 30.3 gal/hr and 137,030 Btu/gal (therefore 4.15 MMBtu/hr).

\*Naphthalene estimated using AP-42 Naphthalene EF for large stationary diesel engines. Assuming 30.3 gal/hr and 137,030 Btu/gal (therefore 4.15 MMBtu/hr).

Typical Annual Emissions - (Assume 500 hrs/yr)

	Emissions tons/yr
NOx	2.14
CO	0.21
HC	0.083
SO2	0.0016
PM	0.033
CO2	218.95
VOC	0.13
Formaldehyde	0.000082
Benzene	0.00081
Propylene	0.0029
Toluene	0.00029
Xylenes	0.00020
Acetaldehyde	0.000026
Acrolein	0.0000082
Napthalene	0.00013
Total HAPS	0.0044

Attachment J  
Class I Legal Advertisement  
(Not Applicable)

Attachment K  
Electronic Submittal  
(CDs Enclosed)

## Attachment L

General Permit Registration Application Fee

(Separate Check Attached)

Attachment M  
Siting Criteria Waiver  
(Not Applicable)

Attachment N  
Material Safety Data Sheets  
(Typical Diesel Fuel Oil MSDS Attached)

MATERIAL SAFETY DATA SHEET

Ashland

Page 001  
Date Prepared: 05/12/03  
Date Printed: 08/23/04  
MSDS No: 999.0013902-009.001

DIESEL FUEL #2

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Identity

Product Name: DIESEL FUEL #2  
Product Code: 250510  
General or Generic ID: HYDROCARBON

Company

Ashland  
Ashland Distribution Co. &  
Ashland Specialty Chemical Co.  
P. O. Box 2219  
Columbus, OH 43216  
614-790-3333

Emergency Telephone Number:

1-800-ASHLAND (1-800-274-5263)  
24 hours everyday

Regulatory Information Number:  
1-800-325-3751

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	% (by weight)
ALIPHATIC & AROMATIC HYDROCARBONS	68476-34-6	100.0

3. HAZARDS IDENTIFICATION

Potential Health Effects

Eye

May cause mild eye irritation.

Skin

May cause mild skin irritation. Prolonged or repeated contact may dry and crack the skin. Passage of this material into the body through the skin is possible, but it is unlikely that this would result in harmful effects during safe handling and use.

Swallowing

Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. This material can get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

Inhalation

It is possible to breathe this material under certain conditions of handling and use (for example, during heating, spraying, or stirring). Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful.

Symptoms of Exposure

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness), loss of coordination, liver damage

MATERIAL SAFETY DATA SHEET

Ashland

Page 002  
Date Prepared: 05/12/03  
Date Printed: 08/23/04  
MSDS No: 999.0013902-009.001

DIESEL FUEL #2

**Target Organ Effects**

Exposure to this material (or a component) has been found to cause kidney damage in male rats. The mechanism by which this toxicity occurs is specific to the male rat and the kidney effects are not expected to occur in humans. Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals, and may aggravate preexisting disorders of these organs in humans: anemia, lung damage.

**Developmental Information**

Based on the available information, risk to the fetus from maternal exposure to this material cannot be assessed.

**Cancer Information**

Diesel engine exhaust is listed as carcinogenic by the International Agency for Research on Cancer (IARC). Excess lung and bladder cancers have been reported in workers exposed to these emissions. In addition, exposure to diesel exhaust particulates is listed as carcinogenic by the National Toxicology Program. This product (or a component) is a petroleum-derived material. Similar materials and certain compounds occurring naturally in petroleum oils have been shown to cause skin cancer in laboratory animals following repeated exposure without washing or removal.

**Other Health Effects**

No data

**Primary Route(s) of Entry**

Inhalation, Skin absorption, Skin contact, Eye contact, Ingestion.

**4. FIRST AID MEASURES**

**Eyes**

If symptoms develop, move individual away from exposure and into fresh air. Flush eyes gently with water while holding eyelids apart. If symptoms persist or there is any visual difficulty, seek medical attention.

**Skin**

Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

**Swallowing**

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

**Inhalation**

If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

**Note to Physicians**

This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (See Section 3 - Swallowing) when deciding whether to induce vomiting. Preexisting disorders of the following organs ( or organ systems) may be aggravated by exposure to this material: skin, lung (for example, asthma-like conditions), liver, Exposure to this material may aggravate any pre-existing condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or

Continued on next page

MATERIAL SAFETY DATA SHEET

Ashland

Page 003  
Date Prepared: 05/12/03  
Date Printed: 08/23/04  
MSDS No: 999.0013902-009.001

DIESEL FUEL #2

anemias.

5. FIRE FIGHTING MEASURES

Flash Point

> 135.0 F (57.2 C)

Explosive Limit

No data

Autoignition Temperature

No data

Hazardous Products of Combustion

May form: carbon dioxide and carbon monoxide, various hydrocarbons.

Fire and Explosion Hazards

Vapors are heavier than air and may travel along the ground or be moved by ventilation and ignited by heat, pilot lights, other flames and ignition sources at locations distant from material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.

Extinguishing Media

regular foam, carbon dioxide, dry chemical.

Fire Fighting Instructions

Water or foam may cause frothing which can be violent and possibly endanger the life of the firefighter. Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment. Refer to the personal protective equipment section of this MSDS.

NFPA Rating

Health - 1, Flammability - 2, Reactivity - 0

6. ACCIDENTAL RELEASE MEASURES

Small Spill

Eliminate all sources of ignition such as flares, flames (including pilot lights), and electrical sparks. Absorb liquid on vermiculite, floor absorbent or other absorbent material.

Large Spill

Eliminate all ignition sources (flares, flames, including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from the area of the spill until clean-up has been completed. Contain spill to the smallest area possible. Dike area to prevent spreading. Prevent from entering drains, sewers, streams or other bodies of water. Recover as much of the product as possible by methods such as vacuuming and use of absorbent. Transfer contaminated absorbent, soil and other materials in proper containers for ultimate disposal.

MATERIAL SAFETY DATA SHEET

Ashland

Page 004  
Date Prepared: 05/12/03  
Date Printed: 08/23/04  
MSDS No: 999.0013902-009.001

DIESEL FUEL #2

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7. HANDLING AND STORAGE

Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. All five gallon pails and larger metal containers including tank cars and tank trucks should be grounded and/or bonded when material is transferred.

Storage

Not applicable

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection

Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative.

Skin Protection

Wear resistant gloves such as: neoprene, nitrile rubber, To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

Respiratory Protections

If workplace exposure limit(s) of product or any component is exceeded (See Exposure Guidelines), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (consult your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

Engineering Controls

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Exposure Guidelines

Component

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ALIPHATIC & AROMATIC HYDROCARBONS (68476-34-6)  
No exposure limits established

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9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point

(for product) 320.0 - 400.0 F (160.0 - 204.4 C) @ 760.00 mmHg

Vapor Pressure

(for product) < 1.000 mmHg @ 68.00 F

Specific Vapor Density

> 5.000 @ AIR=1

Continued on next page

## MATERIAL SAFETY DATA SHEET

Ashland

Page 005  
Date Prepared: 05/12/03  
Date Printed: 08/23/04  
MSDS No: 999.0013902-009.001

## DIESEL FUEL #2

**Specific Gravity**

.876 @ 60.00 F

**Liquid Density**7.296 lbs/gal @ 60.00 F  
.876 kg/l @ 15.60 C**Percent Volatiles (Including Water)**

No data

**Evaporation Rate**

SLOWER THAN ETHYL ETHER

**Appearance**

No data

**State**

LIQUID

**Physical Form**

HOMOGENEOUS SOLUTION

**Color**

RED, DYED LIQUID

**Odor**

No data

**pH**

Not applicable

**10. STABILITY AND REACTIVITY****Hazardous Polymerization**

Product will not undergo hazardous polymerization.

**Hazardous Decomposition**

May form: Carbon dioxide and carbon monoxide, various hydrocarbons.

**Chemical Stability**

Stable.

**Incompatibility**

Avoid contact with: strong oxidizing agents.

**11. TOXICOLOGICAL INFORMATION****Mutagenicity**

This material (or a component) caused mutations in cells in culture and in laboratory animals. The relevance of this finding to human health is uncertain.

Continued on next page

MATERIAL SAFETY DATA SHEET

Ashland

Page 006  
Date Prepared: 05/12/03  
Date Printed: 08/23/04  
MSDS No: 999.0013902-009.001

DIESEL FUEL #2

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12. ECOLOGICAL INFORMATION

No data

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13. DISPOSAL CONSIDERATION

Waste Management Information

Dispose of in accordance with all applicable local, state and federal regulations.

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14. TRANSPORT INFORMATION

DOT Information - 49 CFR 172.101

DOT Description:  
Not Regulated

Container/Mode:  
No data

NOS Component:  
None

RQ (Reportable Quantity) - 49 CFR 172.101

Not applicable

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15. REGULATORY INFORMATION

US Federal Regulations

TSCA (Toxic Substances Control Act) Status

TSCA (UNITED STATES) The intentional ingredients of this product are listed.

CERCLA RQ - 40 CFR 302.4

None

SARA 302 Components - 40 CFR 355 Appendix A

None

Section 311/312 Hazard Class - 40 CFR 370.2

Immediate(X) Delayed(X) Fire(X) Reactive( ) Sudden Release of Pressure( )

SARA 313 Components - 40 CFR 372.65

None

International Regulations

Inventory Status

AICS (AUSTRALIA) The intentional ingredients of this product are listed.

DSL (CANADA) The intentional ingredients of this product are listed.

ECL (SOUTH KOREA) The intentional ingredients of this product are listed.

EINECS (EUROPE) The intentional ingredients of this product are listed.

ENCS (JAPAN) The intentional ingredients of this product are listed.

Continued on next page

MATERIAL SAFETY DATA SHEET

Ashland

Page 007  
Date Prepared: 05/12/03  
Date Printed: 08/23/04  
MSDS No: 999.0013902-009.001

DIESEL FUEL #2

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State and Local Regulations  
California Proposition 65  
None

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16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

Attachment O  
Emission Summary Sheets

**EMERGENCY GENERATOR EMISSION SUMMARY SHEET FOR CRITERIA POLLUTANTS**

Emergency Generator Location:		Registration Number <small>(Agency Use)</small> <u>G65-C</u>													
Source ID No.	Potential Emissions (lbs/hr)										Potential Emissions (tons/yr)				
	NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>
BKYS-EG1	8.57	0.83	0.53	0.0063	0.13	2.14	0.21	0.13	0.0016	0.033					
<b>Total</b>	<b>8.57</b>	<b>0.83</b>	<b>0.53</b>	<b>0.0063</b>	<b>0.13</b>	<b>2.14</b>	<b>0.21</b>	<b>0.13</b>	<b>0.0016</b>	<b>0.033</b>					

**EMERGENCY GENERATOR EMISSION SUMMARY SHEET FOR HAZARDOUS/TOXIC POLLUTANTS**

Emergency Generator Location:		Registration Number (Agency Use) <u>G65-C</u>													
Source ID No.	Potential Emissions (lbs/hr)										Potential Emissions (tons/yr)				
	Benzene	Ethylbenzene	Toluene	Xylenes	n-Hexane	Formaldehyde	Benzene	Ethylbenzene	Toluene	Xylenes	n-Hexane	Formaldehyde			
BKYSC-EG1	0.0032	N/A	0.0012	0.00080	N/A	0.00033	0.00081	N/A	0.00029	0.00020	N/A	0.000082			
<b>Total</b>	<b>0.0032</b>	<b>N/A</b>	<b>0.0012</b>	<b>0.00080</b>	<b>N/A</b>	<b>0.00033</b>	<b>0.00081</b>	<b>N/A</b>	<b>0.00029</b>	<b>0.00020</b>	<b>N/A</b>	<b>0.000082</b>			

**General Permit Levels  
Construction, Modification, Relocation, Administrative Update**

## Attachment P

### Other Supporting Documentation Equipment Drawings



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
2016 MODEL YEAR  
CERTIFICATE OF CONFORMITY  
WITH THE CLEAN AIR ACT**

**OFFICE OF TRANSPORTATION  
AND AIR QUALITY  
ANN ARBOR, MICHIGAN 48105**

**Certificate Issued To:** Cummins Inc.  
(U.S. Manufacturer or Importer)  
**Certificate Number:** GCXL015.AAJ-022

**Effective Date:**  
11/04/2015  
**Expiration Date:**  
12/31/2016

  
Byron J. Bunker, Division Director  
Compliance Division

**Issue Date:**  
11/04/2015  
**Revision Date:**  
N/A

**Model Year:** 2016  
**Manufacturer Type:** Original Engine Manufacturer  
**Engine Family:** GCXL015.AAJ

**Mobile/Stationary Indicator:** Stationary  
**Emissions Power Category:** 560<kW<=2237  
**Fuel Type:** Diesel  
**After Treatment Devices:** No After Treatment Devices Installed  
**Non-after Treatment Devices:** Electronic Control

Pursuant to Section 111 and Section 213 of the Clean Air Act (42 U.S.C. sections 7411 and 7547) and 40 CFR Part 60, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following engines, by engine family, more fully described in the documentation required by 40 CFR Part 60 and produced in the stated model year.

This certificate of conformity covers only those new compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 60 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 60.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 60. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 60.

This certificate does not cover engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.



# 2016 EPA Tier 2 Exhaust Emission Compliance Statement 450DFEJ Stationary Emergency 60 Hz Diesel Generator Set

## Compliance Information:

The engine used in this generator set complies with Tier 2 emissions limit of U.S. EPA New Source Performance Standards for stationary emergency engines under the provisions of 40 CFR 60 Subpart IIII when tested per ISO8178 D2.

Engine Manufacturer:	Cummins Inc
EPA Certificate Number:	GCEXL015.AAJ-022
Effective Date:	11/04/2015
Date Issued:	11/04/2015
EPA Engine Family (Cummins Emissions Family):	GCEXL015.AAJ (J103)

## Engine Information:

Model:	QSX / QSX15 / QSX15-G / QSX15-G9	Bore:	5.39 in. (137 mm)
Engine Nameplate HP:	755	Stroke:	6.65 in. (169 mm)
Type:	4 Cycle, In-line, 6 Cylinder Diesel	Displacement:	912 cu. in. ( 15 liters )
Aspiration:	Turbocharged and CAC	Compression Ratio:	17.0:1
Emission Control Device:	Electronic Control	Exhaust Stack Diameter:	8 in.

## Diesel Fuel Emission Limits D2 Cycle Exhaust Emissions

	Grams per BHP-hr			Grams per kWm-hr		
	<u>NOx + NMHC</u>	<u>CO</u>	<u>PM</u>	<u>NOx + NMHC</u>	<u>CO</u>	<u>PM</u>
Test Results - Diesel Fuel (300-4000 ppm Sulfur)	4.3	0.4	0.10	5.7	0.6	0.13
EPA Emissions Limit	4.8	2.6	0.15	6.4	3.5	0.20
Test Results - CARB Diesel Fuel (<15 ppm Sulfur)	3.9	0.4	0.08	5.2	0.6	0.11
CARB Emissions Limit	4.8	2.6	0.15	6.4	3.5	0.20

The CARB emission values are based on CARB approved calculations for converting EPA (500 ppm) fuel to CARB (15 ppm) fuel.

**Test Methods:** EPA/CARB Nonroad emissions recorded per 40CFR89 (ref. ISO8178-1) and weighted at load points prescribed in Subpart E, Appendix A for Constant Speed Engines (ref. ISO8178-4, D2)

**Diesel Fuel Specifications:** Cetane Number: 40-48. Reference: ASTM D975 No. 2-D.

**Reference Conditions:** Air Inlet Temperature: 25°C (77°F), Fuel Inlet Temperature: 40°C (104°F). Barometric Pressure: 100 kPa (29.53 in Hg), Humidity: 10.7 g/kg (75 grains H<sub>2</sub>O/lb) of dry air; required for NO<sub>x</sub> correction, Restrictions: Intake Restriction set to a maximum allowable limit for clean filter; Exhaust Back Pressure set to a maximum allowable limit.

Tests conducted using alternate test methods, instrumentation, fuel or reference conditions can yield different results.

Engine operation with excessive air intake or exhaust restriction beyond published maximum limits, or with improper maintenance, may result in elevated emission levels.



**Power  
Generation**

# Exhaust Emission Data Sheet

## 450DFEJ

### 60 Hz Diesel Generator Set

### EPA NSPS Stationary Emergency

#### Engine Information:

Model:	Cummins Inc. QSX15-G9 NR 2	Bore:	5.39 in. (137 mm)
Nameplate BHP @ 1800 RPM:	755	Stroke:	6.65 in. (169 mm)
Type:	4 Cycle, In-Line, 6 Cylinder Diesel	Displacement:	912 cu. in. (14.9 liters)
Aspiration:	Turbo-charged with air-to-air charge air cooling		
Compression Ratio:	17:1		
Emission Control Device:	Turbocharged with Charge Air Cooled		

	<u>1/4</u>	<u>1/2</u>	<u>3/4</u>	<u>Full</u>	<u>Full</u>
<b>PERFORMANCE DATA</b>	<b>Standby</b>	<b>Standby</b>	<b>Standby</b>	<b>Standby</b>	<b>Prime</b>
Engine HP @ Stated Load (1800 RPM)	185	344	502	661	605
Fuel Consumption (gal/hr)	10.6	17.4	23.6	30.3	28.0
Exhaust Gas Flow (CFM)	1360	2000	2605	3110	2920
Exhaust Temperature (°F)	735	820	810	865	825
<b>EXHAUST EMISSION DATA</b>					
HC (Total Unburned Hydrocarbons)	0.20	0.08	0.06	0.08	0.07
NOx (Oxides of Nitrogen as NO <sub>2</sub> )	2.75	2.95	4.25	5.15	4.95
CO (Carbon Monoxide)	0.50	0.36	0.31	0.42	0.45
PM (particular Matter)	0.08	0.05	0.05	0.03	0.05
Smoke (Pierburg)	0.52	0.56	0.52	0.40	0.45

All values are Grams per HP-Hour

#### TEST METHODS AND CONDITIONS

##### Test Methods:

Steady-State emissions recorded per ISO8178-1 during operation at rated engine speed (+/-2%) and stated constant load (+/-2%) with engine temperatures, pressures and emission rated stabilized.

**Fuel Specification:** 40-48 Cetane Number, 0.05 Wt.% max. Sulfur; Reference ISO8178-5, 40CFR86.1313-98 Type 2-D and ASTM D975 No. 2-D.

##### Reference Conditions:

25 °C (77 °F) Air Inlet Temperature, 40 °C (104 °F) Fuel Inlet Temperature, 100 kPa (29.53 in Hg) Barometric Pressure; 10.7 g/kg (75 grains H<sub>2</sub>O/lb) of dry air Humidity (required for NO<sub>x</sub> correction); Intake Restriction set to maximum allowable limit for clean filter; Exhaust Back pressure set to maximum allowable limit.

Data was taken from a single engine test according to the test methods, fuel specification and reference conditions stated above and is subjected to instrumentation and engine-to-engine variability. Tests conducted with alternate test methods, instrumentation, fuel or reference conditions can yield different results.

Data Subject to Change Without Notice.