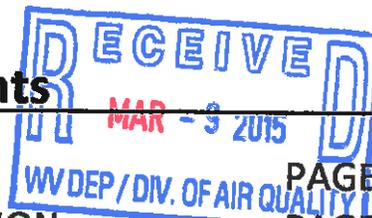


# Table of Contents



*See*  
645-0550  
063-00020

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OTHER SUPPORTING DOCUMENTATION	

COPY



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): TOWN OF ALDERSON, WV		2. Federal Employer ID No. (FEIN): 55-6000141	
3. Applicant's mailing address:  P.O. BOX 179 ALDERSON, WV 24910		4. Applicant's physical address:  GLEN RAY ROAD ALDERSON, WV 24910	
5. If applicant is a subsidiary corporation, please provide the name of parent corporation:			
6. <b>WV BUSINESS REGISTRATION.</b> Is the applicant a resident of the State of West Virginia? <input checked="" type="checkbox"/> YES <input 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.):  WASTEWATER LIFT STATION #1	8a. Standard Industrial Classification Classification (SIC) code: 4952	AND	8b. North American Industry System (NAICS) code: 221320
9. DAQ Plant ID No. (for existing facilities only):  _____	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: <u>ALDERSON WASTEWATER TREATMENT PLANT</u>	12A. Address of primary operating site: Mailing: <u>P.O. BOX 179</u> Physical: <u>GLEN RAY ROAD</u> <u>ALDERSON, WV 24910</u> <u>ALDERSON, WV 24910</u>	
13A. Does the applicant own, lease, have an option to buy, or otherwise have control of the proposed site? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO ⇨ IF YES, please explain: <u>THE TOWN OF ALDERSON OWNS THE LIFT STATION SITE</u>  ⇨ 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 <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> <u>From the Wastewater Treatment Plant, head east toward Greenbrier River estates Rd. then turn right onto Greenbrier River estates Road. Continue onto Railroad Avenue. Turn Left onto Prison Rd.. Merge onto railroad Ave. . Then turn left onto WV-3 westbound. then turn right at the first cross street onto W Riverview Avenue (WV 12) and the Lift Station will be on your left.</u>		
15A. Nearest city or town: <u>ALDERSON</u>	16A. County: <u>MONROE</u>	17A. UTM Coordinates: Northing (KM): <u>4175623.4</u> Easting (KM): <u>531053.5</u> Zone: <u>17</u>
18A. Briefly describe the proposed new operation or change (s) to the facility: <u>THE INSTALLATION OF AN EMERGENCY GENERATOR</u>		19A. Latitude & Longitude Coordinates (NAD83, Decimal Degrees to 5 digits): Latitude: <u>37.72735</u> Longitude: <u>80.64761</u>

**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? <input type="checkbox"/> YES <input type="checkbox"/> NO ⇨ 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): <u>531053.5</u> 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: _____	
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 ⇨ IF YES, please explain: _____ _____ ⇨ IF NO, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.		
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; ⇨ 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> . _____ _____		
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><u>10 / 15 / 15</u></p> <p>If this is an <b>After-The-Fact</b> permit application, provide the date upon which the proposed change did happen: :</p> <p><u>    </u> / <u>    </u> / <u>    </u></p>	<p>21. Date of anticipated Start-up if registration is granted:</p> <p><u>11 / 01 / 15</u></p>
<p>22. Provide maximum projected <b>Operating Schedule</b> 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). --*The generator will operate approximately less than or equal to 500 hours per year.*--</p> <p>Hours per day _____ Days per week _____ Weeks per year _____ Percentage of operation _____</p>	

**SECTION III. ATTACHMENTS AND SUPPORTING DOCUMENTS**

<p>23. Include a check payable to WVDEP – Division of Air Quality with the appropriate application fee (per 45CSR22 and 45CSR13).</p>
<p>24. Include a <b>Table of Contents</b> as the first page of your application package.</p>
<p>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.</p>
<p>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.</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> ATTACHMENT A : CURRENT BUSINESS CERTIFICATE</li> <li><input type="checkbox"/> ATTACHMENT B: PROCESS DESCRIPTION</li> <li><input type="checkbox"/> ATTACHMENT C: DESCRIPTION OF FUGITIVE EMISSIONS</li> <li><input type="checkbox"/> ATTACHMENT D: PROCESS FLOW DIAGRAM</li> <li><input type="checkbox"/> ATTACHMENT E: PLOT PLAN</li> <li><input checked="" type="checkbox"/> ATTACHMENT F: AREA MAP</li> <li><input checked="" type="checkbox"/> ATTACHMENT G: EQUIPMENT DATA SHEETS AND REGISTRATION SECTION APPLICABILITY FORM</li> <li><input type="checkbox"/> ATTACHMENT H: AIR POLLUTION CONTROL DEVICE SHEETS</li> <li><input checked="" type="checkbox"/> ATTACHMENT I: EMISSIONS CALCULATIONS</li> <li><input type="checkbox"/> ATTACHMENT J: CLASS I LEGAL ADVERTISEMENT</li> <li><input type="checkbox"/> ATTACHMENT K: ELECTRONIC SUBMITTAL</li> <li><input checked="" type="checkbox"/> ATTACHMENT L: GENERAL PERMIT REGISTRATION APPLICATION FEE</li> <li><input type="checkbox"/> ATTACHMENT M: SITING CRITERIA WAIVER</li> <li><input type="checkbox"/> ATTACHMENT N: MATERIAL SAFETY DATA SHEETS (MSDS)</li> <li><input checked="" type="checkbox"/> ATTACHMENT O: EMISSIONS SUMMARY SHEETS</li> <li><input checked="" type="checkbox"/> OTHER SUPPORTING DOCUMENTATION NOT DESCRIBED ABOVE (Equipment Drawings, Aggregation Discussion, etc.)</li> </ul> <p>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 <b>DO NOT</b> 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.</p>

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

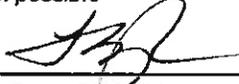
I certify that I am the President, General Partner or General Manager

FOR A SOLE PROPRIETORSHIP

I certify that I am the Owner and Proprietor

I hereby certify that (please print or type) \_\_\_\_\_ 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 \_\_\_\_\_  \_\_\_\_\_ 14 JAN 15  
(please use blue ink) Responsible Official Date

Name & Title \_\_\_\_\_ TRAVIS L. COPENHAVER, Mayor \_\_\_\_\_  
(please print or type)

Signature \_\_\_\_\_  
(please use blue ink) Authorized Representative (if applicable) Date

Applicant's Name \_\_\_\_\_

Phone & Fax \_\_\_\_\_  
Phone Fax

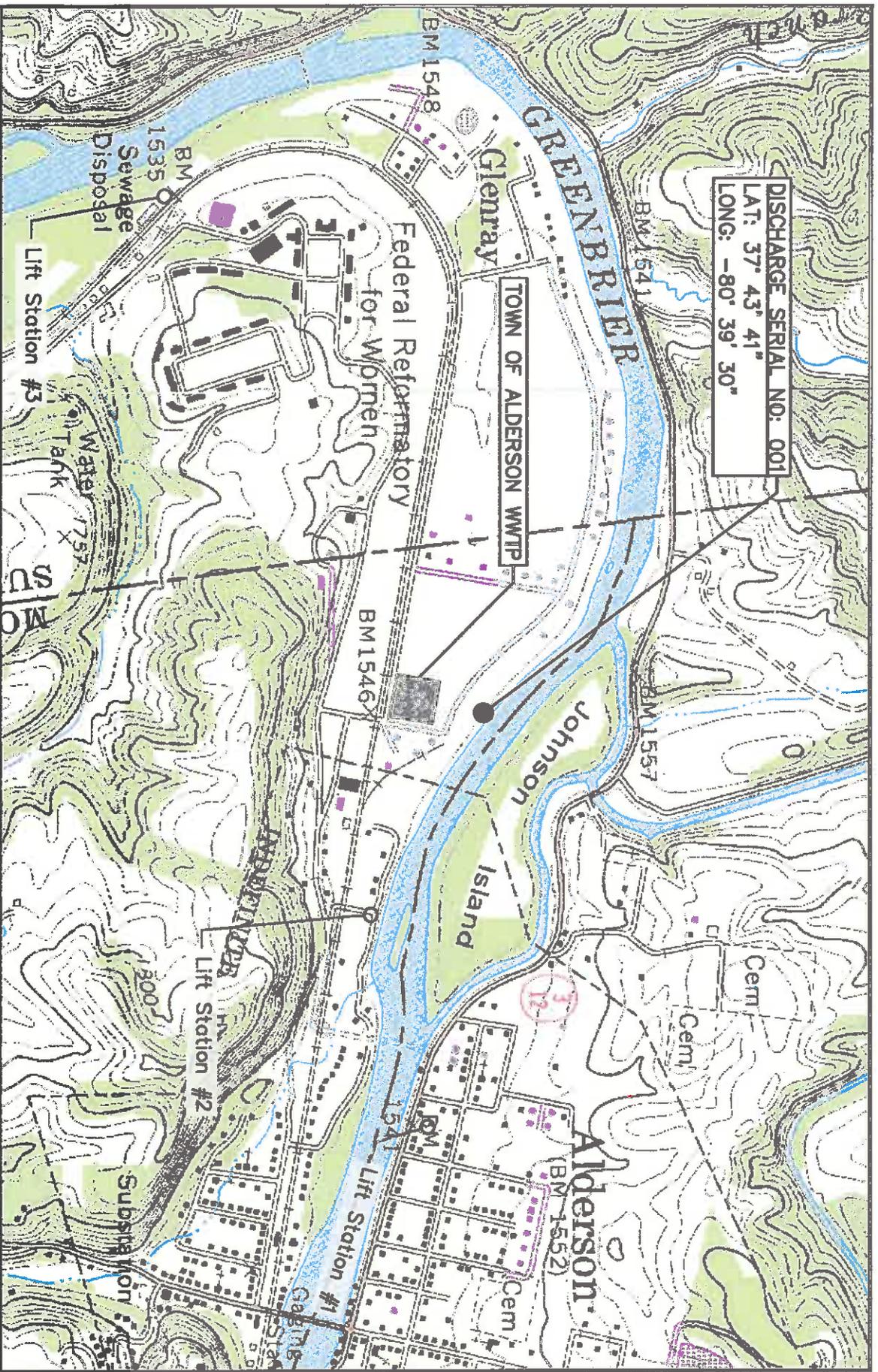
Email \_\_\_\_\_

# ATTACHMENT A

**The Town of Alderson, WV does not have, and is not required to have a  
Business Registration Certificate.**

# ATTACHMENT F

DISCHARGE SERIAL NO: 001  
 LAT: 37° 43' 41"  
 LONG: -80° 39' 30"



NO.	REVISIONS	DATE	BY

**STAFFORD CONSULTANTS INCORPORATED**  
 ENGINEERING DESIGN AND CONSULTING  
 PRINCETON, WEST VIRGINIA

**WASTEWATER TREATMENT PLANT UPGRADES & LIFT STATION REPLACEMENTS**  
 GREENBRIER/MONROE/SUMMERS COUNTY, WEST VIRGINIA

**TOWN OF ALDERSON USGS ALDERSON 7.5 MINUTE QUADRANGLE**

DRAWN	CHECKED	APPROVED	DATE	SCALE
WPK	WPK	WPK	8/13/13	1"=1000'
PROJECT NUMBER:	12-7326			

SHEET NUMBER  
 1 OF 2  
 REV. NO.

# ATTACHMENT G

## EMERGENCY GENERATOR ENGINE DATA SHEET

Source Identification Number <sup>1</sup>		EG-1	
Engine Manufacturer and Model		Cummins C20-N6	
Manufacturer's Rated bhp/rpm		43.5/1800	
Source Status <sup>2</sup>		NS	
Date Installed/Modified/Removed <sup>3</sup>		Not installed Yet	
Engine Manufactured/Reconstruction Date <sup>4</sup>		Not installed Yet	
Is this a Certified Stationary Spark Ignition Engine according to 40CFR60 Subpart IIII? (Yes or No) <sup>5</sup>		No	
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>	LB4s	
	APCD Type <sup>8</sup>	A/F	
	Fuel Type <sup>9</sup>	LPG	
	H <sub>2</sub> S (gr/100 scf)		
	Operating bhp/rpm	43.5/1800	
	BSFC (Btu/bhp-hr)	2,416	
	Fuel throughput (ft <sup>3</sup> /hr)		
	Fuel throughput (MMft <sup>3</sup> /yr)		
	Operation (hrs/yr)	Less than 500 hr/year	
Reference <sup>10</sup>	Potential Emissions <sup>11</sup>	lbs/hr	tons/yr
MD	NO <sub>x</sub>	0.479	0.12
MD	CO	3.038	0.76
MD	VOC		
MD	SO <sub>2</sub>		
MD	PM <sub>10</sub>		
MD	Formaldehyde		
MD	HC (unburned hydrocarbons)	0.06	0.01

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

## 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 type="checkbox"/>            |
| Section 7 | Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40CFR60 Subpart IIII) | <input 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.

# ATTACHMENT I

EG-1	0.00204622618	grams/lb
	43.5	bhp
	2000	lb/ton
	500	hr/yr

EG-1	grams/hp.hr	lbs/hr	tons/yr
NOx	5.38	0.479	0.12
CO	34.13	3.038	0.76
VOC		0	0.00
So2		0	0.00
PM		0	0.00
Formaldahyde		0	0.00
Smoke		0	0.00
HC	0.67	0.06	0.01

Note: All emission calculations were performed with the following methodology:

1. Information was obtained from manufacturer emission data sheets.
2. Values obtained were converted from grams/hp.hr to lbs/hr. by multiplying by the factor 0.00204622618 grams/lb. and then multiplying the resulting value by the bhp value obtained from manufacturer data sheets.
3. Multiply the previously obtained value by 500 hr/yr.
4. Divide the previous total by 2,000 lb/ton to get the total tons per year of emissions.

# ATTACHMENT L

ONE TIME CONTRACTING

1/14/2015

0037261

Invoice No.	Invoice Date	Description	Amount
011315	1/13/2015	WVDEP GENERATOR PERMIT (PALNT) AND WVDEP GENE	1000.00
<b>Total:</b>			<b>1,000.00</b>

DOCUMENT IS PRINTED ON CHEMICALLY REACTIVE PAPER - THE BACK OF THIS DOCUMENT INCLUDES A TAMPER EVIDENT CHEMICAL WASTE WARNING BOX

**TOWN OF ALDERSON**

PO Box 179  
Alderson, West Virginia 24910  
Phone: 304-445-2916

CITY NATIONAL BANK  
ALDERSON, WV 24910

69-452/519

**Check: 0037261**

<b>Check Date</b>
1/14/2015

<b>Check Amount</b>
*****1000.00

Pay: **\*\*\*One Thousand and No/100 Dollars\*\*\***

To the **WV DEP DIVISION OF AIR QUALITY**  
Order of: **601 57TH ST SE**  
**CHARLESTON, WV 25304**

*[Handwritten Signature]*  
\_\_\_\_\_  
*[Handwritten Signature]*  
\_\_\_\_\_  
AUTHORIZED SIGNATURE



⑈0037261⑈

⑈051904524⑈

2300800067⑈

# ATTACHMENT O

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

Emergency Generator Location: Wastewater Lift Station #1		Registration Number (Agency Use) <u>G65-C</u>													
Source ID No.	Potential Emissions (lbs/hr)										Potential Emissions (tons/yr)				
	NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	NOx	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>
EG-1	0.479	3.038	-	-	-	0.12	0.76	-	-	-	0.12	0.76	-	-	-
<b>Total</b>	<b>0.479</b>	<b>3.038</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>0.12</b>	<b>0.76</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>0.12</b>	<b>0.76</b>	<b>-</b>	<b>-</b>	<b>-</b>

## **OTHER SUPPPORTING DOCUMENTATION**



**Engine Information:**

Model:	QSJ2.4	Bore:	3.41 in. (86.5 mm)
Type:	4 Cycle, In-line, 4 Cylinder	Stroke:	3.94 in. (100 mm)
Aspiration:	Naturally aspirated	Displacement:	146.46 cu. in. (2.4 liters)
Compression Ratio:	9.5:1		
Emission Control Device:	Electronic Air/Fuel Ratio Control and Closed-Loop Breather System		

PERFORMANCE DATA	Natural Gas	Propane
	Standby	Standby
BHP @ 1800 RPM (60 Hz)	40	43.5
Fuel Consumption (SCFH)	259.6	105.1
Air to Fuel Ratio	16.5:1	14.7:1
Exhaust Gas Flow (CFM)	115.4	110.7
Exhaust Gas Temperature (°F)	1265	1300
<b>EXHAUST EMISSION DATA</b>		
HC (Total Unburned Hydrocarbons)*	91	478
NOx (Oxides of Nitrogen as NO <sub>2</sub> )	1454	1470
CO (Carbon Monoxide)	8808	13258
Values are ppmvd		
HC (Total Unburned Hydrocarbons)*	0.14	0.67
NOx (Oxides of Nitrogen as NO <sub>2</sub> )	5.70	5.38
CO (Carbon Monoxide)	24.37	34.13
Values are Grams per HP-Hour		
*HC includes all NMHC, VOC, POC, and ROC constituents (Non-Methane HC, Volatile Organic Compounds, Precursor Organic Compounds, and Reactive Organic Compounds)		

**TEST CONDITIONS**

Data was recorded during steady-state rated engine speed ( $\pm 25$  RPM) with full load ( $\pm 2\%$ ). Pressures, temperatures, and emission rates were stabilized.

**Fuel Specification:**

- Natural Gas: Dry gas as received from Supplier (1000 BTU/SCF).
- Propane: Meets the requirements for Commercial Grade Propane under the ASTM D1835 Standard Specification for Liquefied Gases
- Fuel Temperature:  $60 \pm 9$  °F at Flow Transmitter
- Fuel Pressure:  $14.73$ PSIA  $\pm 0.5$  PSIA at Flow Transmitter
- Intake Air Temperature:  $77 \pm 9$  °F at inlet
- Barometric Pressure:  $29.92$  in. Hg  $\pm 1$  in. Hg
- Humidity: NOx measurement corrected to 75 grains H<sub>2</sub>O/lb dry air

The NOx, HC, and CO emission data tabulated here were from a single engine under the test conditions shown above. These data are subjected to instrumentation and engine-to-engine variability. Field emission test data are not guaranteed to these levels. Actual field test results may vary due to test site conditions, installation, fuel specification, test procedures and instrumentation. Engine operation with excessive air intake or exhaust restriction, beyond published maximum limit, or with improper maintenance, may result in elevated emission levels.



**Generator set data sheet**

# EPA Emissions

**Model:** C20 N6  
**KW rating:** 20.0 natural gas standby  
 20.0 propane standby  
**Frequency:** 60 Hz  
**Fuel type:** Natural gas/propane

<b>Exhaust emission data sheet:</b>	<b>EDS-1165</b>
<b>Exhaust emission compliance sheet:</b>	<b>EPA-1235</b>
<b>Sound performance data sheet:</b>	<b>MSP-1156</b>
<b>Cooling performance data sheet:</b>	<b>MCP-244</b>
<b>Prototype test summary data sheet:</b>	<b>PTS-317</b>

<b>Fuel consumption</b>	<b>Natural gas</b>				<b>Propane</b>			
	<b>Standby kW (kVA)</b>				<b>Standby kW (kVA)</b>			
<b>Ratings</b>	20.0 (25.0)				20.0 (25.0)			
<b>Load</b>	<b>1/4</b>	<b>1/2</b>	<b>3/4</b>	<b>Full</b>	<b>1/4</b>	<b>1/2</b>	<b>3/4</b>	<b>Full</b>
<b>scfh</b>	115.3	163.4	211.5	259.6	47.8	66.9	86.0	105.1
<b>m<sup>3</sup>/hr</b>	3.27	4.63	5.99	7.35	1.35	1.86	2.44	2.98

<b>Engine</b>	<b>Natural gas</b>		<b>Propane</b>
	<b>Standby rating</b>		<b>Standby rating</b>
Engine model	QSJ2.4		
Configuration	Cast iron, in-line 4 cylinder		
Aspiration	Naturally aspirated		
Gross engine power output, kWm (bhp)	30 (40)		32 (43.5)
BMEP at rated load, kPa (psi)	845.79 (122.7)		919.80 (133.4)
Bore, mm (in)	86.5 (3.4)		
Stroke, mm (in)	100.0 (3.94)		
Rated speed, rpm	1800		
Piston speed, m/s (ft/min)	6.0 (1176.38)		
Compression ratio	9.5:1		
Lube oil capacity, L (qt)	4 (4.54)		
Overspeed limit, rpm	2250 ± 4.5		

### Fuel supply pressure

Minimum operating pressure, kPa (in H <sub>2</sub> O)	1.5 (6.0)
Maximum operating pressure, kPa (in H <sub>2</sub> O)	3.5 (14.0)

<b>Air</b>	<b>Natural gas</b>	<b>Propane</b>
	<b>Standby rating</b>	<b>Standby rating</b>
Combustion air, m <sup>3</sup> /min (scfm)	0.9 (32.63)	0.88 (31.5)
Maximum air cleaner restriction, kPa (in H <sub>2</sub> O)	0.37 (1.5)	
Alternator cooling air, m <sup>3</sup> /min (scfm)	N/A	

### Exhaust

Exhaust flow at rated load, m <sup>3</sup> /min (cfm)	3.2 (115.4)	3.1 (110.7)
Exhaust temperature, °C (°F)	594 (1101)	618 (1144)
Exhaust back pressure (maximum allowable at engine), kPa (in H <sub>2</sub> O)	5.0 (20)	5.0 (20)
Exhaust back pressure (actual with factory fitted muffler), kPa (in H <sub>2</sub> O)	1.1 (4.3)	

### Standard set-mounted radiator cooling

Ambient design, °C (°F)	50 (122)	
Fan load, kW (HP)	0.74 (1.0)	
Coolant capacity (with radiator), L (US gal)	12 (3.1)	
Coolant system air flow, m <sup>3</sup> /min (scfm)	60.2 (2150)	
Total heat rejection, MJ/min (Btu/min)	1.9 (1757)	1.9 (1757)
Maximum cooling air flow static restriction, kPa (in H <sub>2</sub> O)	0.12 (0.5)	

### Weights<sup>2</sup>

Unit dry weight kgs (lbs)	465 (1027)
Unit wet weight kgs (lbs)	482 (1063)

### Notes:

<sup>1</sup>For non-standard remote installations contact your local Cummins Power Generation representative.

<sup>2</sup>Weights represent a set with 1-phase with sound level 1 enclosure.

## Alternator data

### Standard alternators

		Natural gas/ propane single phase table	Natural gas/propane three phase table			
		120 °C	120 °C	120 °C	120 °C	120 °C
<b>Maximum temperature rise above 40 °C ambient</b>						
Feature code		B949-2	B986-2	B946-2	B943-2	B952-2
Alternator data sheet number		ADS-570	ADS-568	ADS-568	ADS-568	ADS-568
Voltage ranges		120/240	120/240	120/208	277/480	347/600
Voltage feature code		R104-2	R106-2	R098-2	R002-2	R114-2
Surge kW		24.2/26.3	24.1/26.3	24.1/26.3	24.1/26.3	24.1/26.3
Motor starting kVA (at 90% sustained voltage)	Shunt	38	48	48	48	48
	EBS	62	75	75	75	75
Full load current amps at standby rating		83	60	69	30	24

		Natural gas/ propane single phase table	Natural gas/propane three phase table			
		105 °C	105 °C	105 °C	105 °C	105 °C
<b>Optional alternators for improved motor starting capability</b>						
<b>Maximum temperature rise above 40 °C ambient</b>						
Feature code		BB96-2	BB94-2	BB93-2	BB95-2	BB92-2
Alternator data sheet number		ADS-571	ADS-571	ADS-571	ADS-571	ADS-571
Voltage ranges		120/240	120/240	120/208	277/480	347/600
Voltage feature code		R104-2	R106-2	R098-2	R002-2	R114-2
Surge kW		24.4/26.7	24.8/27.1	24.8/27.1	24.8/27.1	24.8/27.1
Motor starting kVA (at 90% sustained voltage)	Shunt	48	59	59	59	59
	EBS	78	94	94	94	94
Full load current amps at standby rating		83	60	69	30	24

## Derating factors

### Natural gas/propane

Standby	Engine power available up to 1005 m (3300 ft) at ambient temperatures up to 40 °C (104 °F). Above these elevations derate at 4% per 305m (1000 ft) and 2% per 10 °C above 40 °C (104 °F).
---------	---

## Ratings definitions

Emergency standby power (ESP):	Limited-time running power (LTP):	Prime power (PRP):	Base load (continuous) power (COP):
Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.	Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) is in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.

## Formulas for calculating full load currents:

### Three phase output

$$\frac{\text{kW} \times 1000}{\text{Voltage} \times 1.73 \times 0.8}$$

### Single phase output

$$\frac{\text{kW} \times \text{SinglePhaseFactor} \times 1000}{\text{Voltage}}$$

**Warning:** Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

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NAD-5693c-EN (10/14)



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**Power  
Generation**

**EPA Exhaust Emission  
Compliance Statement**

**C20 N6  
standby**

**60 Hz Spark Ignited Generator Set**

**Compliance Information:**

The engine used in this generator set complies with U.S. EPA emission regulations under the provisions of 40 CFR Part 60, Stationary Emergency Spark-Ignited emissions limits when tested on 6 mode cycle of Part 90.

Engine Manufacturer: Cummins Inc  
 EPA Certificate Number: ECExB02.4AAA-001  
 Effective Date: 09/25/2013  
 Date Issued: 09/25/2013  
 EPA Engine Family: ECExB02.4AAA

**Engine Information:**

Model: QSJ2.4  
 Engine Nameplate HP: Natural Gas 40 Bore: 3.41 in. (86.5 mm)  
 Propane 43.5  
 Type: 4 Cycle, In-line, 4 Cylinder Stroke: 3.94 in. (100 mm)  
 Aspiration: Naturally Aspirated Displacement: 146.46 cu. in. (2.4 liters)  
 Compression Ratio: 9.5:1  
 Emission Control Device: Electronic Air/Fuel Ratio Control and Closed-Loop Breather System

**U.S. Environmental Protection Agency Stationary Emergency SI Emission Limits**

Natural Gas and Propane Fuel Emission Limits	Grams per BHP-hr		Grams per kWm-hr	
	NOx + HC	CO	NOx + HC	CO
Test Results (Natural Gas)	5.04	39.4	6.8	52.8
Test Results (Propane)	6.48	51.7	8.7	69.3
EPA Emissions Limit	10.0	387.0	13.4	519.0

**Note:**

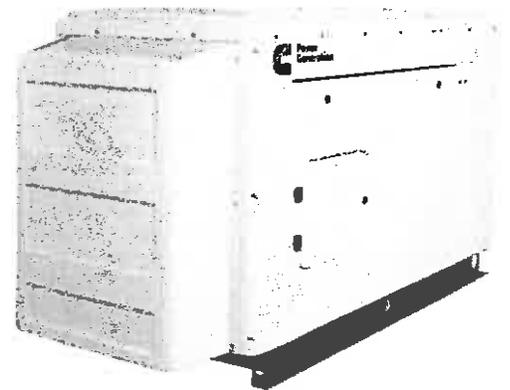
Tests conducted using alternate test methods, instrumentation, fuel or reference conditions can yield different results. Engine operation with excessive air intake or exhaust restriction beyond published maximum limits, or with improper maintenance, may result in elevated emission levels.

## Specification sheet



# Spark-ignited generator set

20–40 kW standby  
EPA emissions



### Description

Cummins Power Generation generator sets are fully integrated power generation systems providing optimum performance, reliability and versatility for stationary standby applications.

### Features

**Gas engine** - Rugged 4-cycle Cummins QSJ2.4 spark-ignited engine delivers reliable power. The electronic air/fuel ratio control provides optimum engine performance and fast response to load changes.

**Alternator** - Several alternator sizes offer selectable motor starting capability with low reactance 2/3 pitch windings, low waveform distortion with non-linear loads and fault clearing short-circuit capability.

**Control system** - The PowerCommand® 1.1 electronic control is standard equipment and provides total generator set system integration including automatic remote starting/stopping,

precise frequency and voltage regulation, alarm and status message display, output metering, auto-shutdown at fault detection and NFPA 110 Level 1 compliance.

**Cooling system** - Standard cooling package provides reliable running at up to 50 °C (122 °F) ambient temperature.

**Enclosures** - The aesthetically appealing enclosure incorporates special designs that deliver one of the quietest generators of its kind. Aluminum material plus durable powder coat paint provides the best anti-corrosion performance. The generator set enclosure has been evaluated to withstand 180 MPH wind loads in accordance with ASCE7-10. The intelligent design has removable panels and service doors to provide easy access for service and maintenance.

**NFPA** - The generator set accepts full rated load in a single step in accordance with NFPA 110 for Level 1 systems.

**Warranty and service** - Backed by a comprehensive warranty and worldwide distributor and dealer network.

Model	Natural Gas		Propane		Data sheets 60 Hz
	Standby 60 Hz		Standby 60 Hz		
	kW	kVA	kW	kVA	
<b>C20 N6</b>	20	25	20	25	NAD-5693-EN
<b>C25 N6</b>	25	31	25	31	NAD-5695-EN
<b>C30 N6</b>	30	38	30	38	NAD-5696-EN
<b>C36 N6</b>	36	45	36	45	NAD-5697-EN
<b>C40 N6</b>	40	50	40	50	NAD-5698-EN

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## Generator set specifications

Governor regulation class	ISO 8528 Part 1 Class G3
Voltage regulation, no load to full load	± 1.0%
Random voltage variation	± 1.0%
Frequency regulation	Isocronous
Random frequency variation	± 0.25% @ 60 Hz
Radio frequency emissions compliance	Meets requirements of most industrial and commercial applications

## Engine specifications

Design	Naturally aspirated or turbo charged (varies by generator set model)
Bore	86.5 mm (3.4 in)
Stroke	100.0 mm (3.94 in)
Displacement	2.4 liters (143.5 in <sup>3</sup> )
Cylinder block	Cast iron, in-line 4 cylinder
Battery capacity	550 amps at ambient temperature of 0 °F to 32 °F (-18 °C to 0 °C)
Battery charging alternator	50 amps
Starting voltage	12 volt, negative ground
Lube oil filter type(s)	Spin-on with relief valve
Standard cooling system	50 °C (122 °F) ambient cooling system
Rated speed	1800 rpm

## Alternator specifications

Design	Brushless, 4 pole, drip proof, revolving field
Stator	2/3 pitch
Rotor	Direct coupled, flexible disc
Insulation system	Class H per NEMA MG1-1.65
Standard temperature rise	120 °C (248 °F) standby
Exciter type	Torque match (shunt) with PMG/EBS as option
Alternator cooling	Direct drive centrifugal blower
AC waveform total harmonic distortion	< 5% no load to full linear load, < 3% for any single harmonic
Telephone influence factor (TIF)	< 50 per NEMA MG1-22.43
Telephone harmonic factor (THF)	3%

## Available voltages

1-phase	3-phase
• 120/240	• 120/208
	• 120/240 delta
	• 277/480
	• 347/600

## Generator set options

### Fuel system

- Single fuel – natural gas or propane vapor, field selectable
- Dual fuel – natural gas and propane vapor auto changeover
- Low fuel gas pressure warning

### Engine

- Engine air cleaner – normal or heavy duty
- Shut down – low oil pressure
- Extension – oil drain

### Alternator

- 120 °C (248 °F) temperature rise alternator
- 105 °C (221 °F) temperature rise alternator
- Excitation boost system (EBS) or PMG
- Alternator heater, 120V

### Control

- AC output analog meters (bar graph)
- Stop switch – emergency
- Auxiliary output relays (2)
- Auxiliary configurable signal inputs (8) and relay outputs (8)

### Electrical

- Single circuit breaker
- Dual circuit breakers
- 80% rated circuit breakers
- 100% rated circuit breakers

### Enclosure

- Aluminum enclosure Sound Level 1 or Level 2, with muffler installed, sandstone or green color
- Open set

### Cooling system

- Shutdown – low coolant level
- Warning – low coolant level
- Extension – coolant drain
- Coolant heater, 1Ph, 120V

### Exhaust system

- Exhaust connector NPT

### Generator set application

- Base barrier – elevated generator set
- Battery rack
- Battery rack, larger battery
- Radiator outlet duct adapter

### Warranty

- Base warranty – 2 year, 400 hour, standby
- Standby, 3 year, 900 hour, parts
- Standby, 5 year, 1500 hour, parts and labor
- Standby, 3 year, 900 hour, parts and labor
- Standby, 5 year, 1500 hour, parts and labor
- Standby, 3 year, 900 hour, parts, labor and travel
- Standby, 5 year, 1500 hour, parts, labor and travel

Note: Some options may not be available on all models – consult factory for availability.

## Generator set accessories

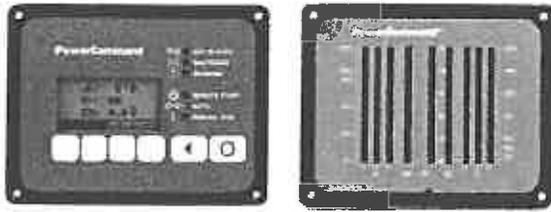
- Coolant heater – 1Ph, 120V
- Extreme cold weather components
- HM211RS in-home display, including pre-configured 12" harness
- HM211 remote display, including pre-configured 12" harness
- HM220 remote display
- Auxiliary output relays (2)
- Auxiliary configurable signal inputs (8) and relay outputs (8)
- Annunciator – RS485
- Remote monitoring device – PowerCommand 500
- Battery charger – stand-alone, 12V
- Circuit breakers
- Enclosure Sound Level 1 to Sound Level 2 upgrade kit
- Enclosure paint touch up kit
- Base barrier – elevated generator set
- Mufflers – industrial, residential or critical
- Alternator excitation boost system (EBS) or PMG
- Alternator heater
- Maintenance and service kit
- Engine lift kit

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## Control system PowerCommand 1.1



**PowerCommand control** is an integrated generator set control system providing voltage regulation, engine protection, operator interface and isochronous governing (optional). Major features include:

- Battery monitoring and testing features and smart starting control system.
- Standard PCCNet interface to devices such as remote annunciator for NFPA 110 applications.
- Control boards potted for environmental protection.
- Control suitable for operation in ambient temperatures from  $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  to  $+158^{\circ}\text{F}$ ) and altitudes to 5000 meters (13,000 feet).
- Prototype tested; UL, CSA, and CE compliant.
- InPower™ PC-based service tool available for detailed diagnostics.

### Operator/display panel

- Manual off switch
- Alpha-numeric display with pushbutton access for viewing engine and alternator data and providing setup, controls and adjustments (English or international symbols)
- LED lamps indicating generator set running, not in auto, common warning, common shutdown, manual run mode and remote start
- Suitable for operation in ambient temperatures from  $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$
- Bargraph display (optional)

### AC protection

- Over current warning and shutdown
- Over and under voltage shutdown
- Over and under frequency shutdown
- Over excitation (loss of sensing) fault
- Field overload

### Engine protection

- Overspeed shutdown
- Low oil pressure warning and shutdown
- High coolant temperature warning and shutdown
- Low coolant level warning or shutdown
- Low coolant temperature warning
- High, low and weak battery voltage warning
- Fail to start (overcrank) shutdown
- Fail to crank shutdown
- Redundant start disconnect
- Cranking lockout
- Sensor failure indication
- Low fuel level warning or shutdown

### Alternator data

- Line-to-line and Line-to-neutral AC volts
- 3-phase AC current
- Frequency
- Total kVa

### Engine data

- DC voltage
- Lube oil pressure
- Coolant temperature
- Engine speed

### Other data

- Generator set model data
- Start attempts, starts, running hours
- Fault history
- RS485 Modbus® interface
- Data logging and fault simulation (requires InPower service tool)

### Digital governing (optional)

- Integrated digital electronic isochronous governor
- Temperature dynamic governing

### Digital voltage regulation

- Integrated digital electronic voltage regulator
- 2-phase line-to-line sensing
- Configurable torque matching

### Control functions

- Time delay start and cooldown
- Cycle cranking
- PCCNet interface
- (2) Configurable inputs
- (2) Configurable outputs
- Remote emergency stop
- Automatic transfer switch (ATS) control
- Generator set exercise, field adjustable

### Options

- Auxiliary output relays (2)
- Remote annunciator with (3) configurable inputs and (4) configurable outputs
- PMG alternator excitation
- PowerCommand 500/550 for remote monitoring and alarm notification (accessory)
- Auxiliary, configurable signal inputs (8) and configurable relay outputs (8)
- Digital governing
- AC output analog meters (bargraph)
  - Color-coded graphical display of:
    - 3-phase AC voltage
    - 3-phase current
    - Frequency
    - kVa
- Remote operator panel

## Ratings definitions

### Emergency standby power (ESP):

Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

### Limited-time running power (LTP):

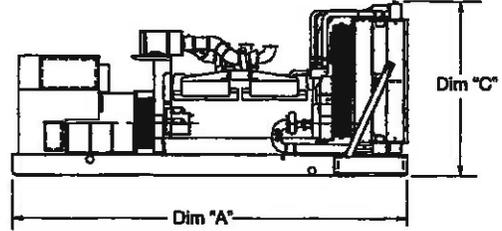
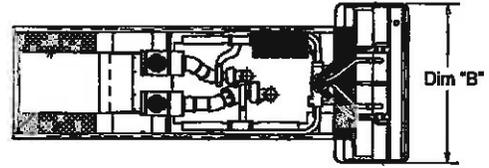
Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.

### Prime power (PRP):

Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

### Base load (continuous) power (COP):

Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.



This outline drawing is for reference only. See respective model data sheet for specific model outline drawing number.

**Do not use for installation design**

Model	Dim "A" mm (in.)	Dim "B" mm (in.)	Dim "C" mm (in.)	Set Weight*dry kg (lbs)	Set Weight*wet kg (lbs)
<b>Open Set</b>					
<b>C20 N6</b>	1669 (65.7)	864 (34)	1123 (44.2)	423 (933)	440 (969)
<b>C25 N6</b>	1669 (65.7)	864 (34)	1123 (44.2)	441 (972)	457 (1008)
<b>C30 N6</b>	2225 (87.6)	864 (34)	1123 (44.2)	491 (1083)	508 (1119)
<b>C36 N6</b>	2225 (87.6)	864 (34)	1123 (44.2)	520 (1146)	536 (1182)
<b>C40 N6</b>	2225 (87.6)	864 (34)	1123 (44.2)	548 (1208)	564 (1244)
<b>Sound Attenuated Enclosure Level 1</b>					
<b>C20 N6</b>	1829 (72)	864 (34)	1156 (45.5)	469 (1034)	485 (1070)
<b>C25 N6</b>	1829 (72)	864 (34)	1156 (45.5)	487 (1073)	503 (1109)
<b>C30 N6</b>	2388 (94)	864 (34)	1156 (45.5)	542 (1195)	558 (1231)
<b>C36 N6</b>	2388 (94)	864 (34)	1156 (45.5)	571 (1258)	587 (1294)
<b>C40 N6</b>	2388 (94)	864 (34)	1156 (45.5)	599 (1320)	615 (1356)
<b>Sound Attenuated Enclosure Level 2</b>					
<b>C20 N6</b>	2073 (81.6)	864 (34)	1156 (45.5)	474 (1045)	490 (1081)
<b>C25 N6</b>	2073 (81.6)	864 (34)	1156 (45.5)	492 (1084)	508 (1120)
<b>C30 N6</b>	2626 (103.4)	864 (34)	1156 (45.5)	547 (1206)	563 (1242)
<b>C36 N6</b>	2626 (103.4)	864 (34)	1156 (45.5)	576 (1269)	592 (1305)
<b>C40 N6</b>	2626 (103.4)	864 (34)	1156 (45.5)	604 (1331)	620 (1367)

\* Weights based on 1-phase generator set. Weights may vary with a different configuration.

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## Codes and standards

Codes or standards compliance may not be available with all model configurations – consult factory for availability.

 <p>The Prototype Test Support (PTS) program verifies the performance integrity of the generator set design. Cummins Power Generation products bearing the PTS symbol meet the prototype test requirements of NFPA 110 for Level 1 systems.</p>	 <p>This generator set is designed in facilities certified to ISO 9001 and manufactured in facilities certified to ISO 9001 or ISO 9002.</p>
<p><b>International Building Code</b></p> <p>The generator set is certified to International Building Code (IBC) 2012.</p>	 <p>The generator set is available Listed to UL 2200, Stationary Engine Generator Assemblies.</p>
	 <p>All low voltage models are CSA certified to product class 4215-01.</p>
	<p><b>U.S. EPA</b></p> <p>Engine certified to U.S. EPA SI Stationary Emission Regulation 40 CFR, Part 60.</p>

**Warning:** Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

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