From:	Air.Pollution Control
To:	APC Permitting
Subject:	FW: Construction Permit Application for Gorman Woodyard Fly Ash Transloading Facility - McEwen, TN
Date:	Monday, August 8, 2022 4:43:23 PM
Attachments:	emailsig_04_335_71cbdba6-1673-492a-85a8-22997d3dde1a.png Gorman Woodyard Fly Ash Terminal Application 2022-08-08.pdf

Created 43-0127

From: Mark Cummings <mark.cummings@ecomaterial.com>
Sent: Monday, August 8, 2022 3:36 PM
To: Air.Pollution Control <Air.Pollution.Control@tn.gov>
Cc: Karen Milligan <KMilligan@ecomaterial.com>; Keith Bodiford <Keith.Bodiford@ecomaterial.com>; Terese Hunwick <Terese.Hunwick@ecomaterial.com>
Subject: [EXTERNAL] Construction Permit Application for Gorman Woodyard Fly Ash Transloading Facility - McEwen, TN

Attached is a construction permit application for two portable fly ash railcar-to truck unloaders, each with a portable baghouse, for the following address:

Gorman Woodyard
4997 Trace Creek Rd
McEwen, TN 37101
Humphreys County

Included with this application is a completed Form APC_100, two Form APC_101's, baghouse emissions estimates, a process flow diagram, and certificates of conformity for the portable generator and compressor.

Please contact me at (470) 599-3836 or mark.cummings@ecomaterial.com if you need more information.

Thank you,

Mark Cummings
Sr Environmental Manager
ECOMATERIAL TECHNOLOGIES
P: (470) 599-3836
M: (470) 599-3836
mark.cummings@ecomaterial.com
219 Crazy Bear Ridge, 11860 Big Canoe, Jasper GA, 30143

ECOMATERIAL
TECHNOLOGIES

Via Electronic Mail

August 8, 2022

Ms. Michelle Owenby
Technical Secretary
Department of Environment and Conservation
Division of Air Pollution Control
312 Rosa L. Parks Avenue
Nashville, TN 37243

RE: Legal name: EM Resources LLC
Site name: EM Resources - Gorman Woodyard Fly Ash Transloading
Site address: 4997 Trace Creek Road, McEwen, TN 37101
Request for Construction Permit

Dear Ms. Owenby,

EM Resources would like to construct and operate two portable fly ash truck to railcar loaders at the referenced location.

Included with this letter is Form APC_100, two Form APC_101's, baghouse emissions estimates, a process flow diagram and a certificates of conformity for the portable generator and compressor.

If there is any additional information that you need for this determination and registration, please do not hesitate to contact me by telephone at (470) 470-599-3836 or by email at mark.cummings@ecomaterial.com.

Sincerely,

Mark Cummings
Sr. Environmental Manager

DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF AIR POLLUTION CONTROL
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor, Nashville, TN 37243
Telephone: (615) 532-0554, Email: Air.Pollution.Control@TN.gov

NON-TITLE V PERMIT APPLICATION
FACILITY IDENTIFICATION

Type or print and submit. Attach appropriate source description forms.

SITE INFORMATION

1. Organization's legal name and SOS control number [as registered with the TN Secretary of State (SOS)]
EM Resources LLC (SOS Control No. 392407)

2. Site name (if different from legal name)
EM Resources - Gorman Woodyard Fly Ash Transloading

3. Is a construction permit application fee being submitted? Yes ☐ No ☑
(see instructions for appropriate fee to submit)

4. Site address (St./Rd./Hwy.)		County name
4997 Trace Creek Road		Humphreys
City	Zip code	**5.** NAICS or SIC code
McEwen	37101	562111

6. Site location (in lat. /long.)	Latitude	Longitude
	36.106174 °N	-87.707683 °W

CONTACT INFORMATION (RESPONSIBLE PERSON)

7. Responsible person/Authorized contact			Phone number with area code
Mark Cummings			(470) 599-3836
Mailing address (St./Rd./Hwy.)			Fax number with area code
219 Crazy Bear Ridge, 11860 Big Canoe			
City	State	Zip code	Email address
Jasper	GA	30143	mark.cummings@ecomaterial.com

CONTACT INFORMATION (TECHNICAL)

8. Principal technical contact			Phone number with area code
Mark Cummings			(470) 599-3836
Mailing address (St./Rd./Hwy.)			Fax number with area code
219 Crazy Bear Ridge, 11860 Big Canoe			
City	State	Zip code	Email address
Jasper	GA	30143	mark.cummings@ecomaterial.com

CONTACT INFORMATION (BILLING)

9. Billing contact			Phone number with area code
Mark Cummings			(470) 599-3836
Mailing address (St./Rd./Hwy.)			Fax number with area code
219 Crazy Bear Ridge, 11860 Big Canoe			
City	State	Zip code	Email address
Jasper	GA	30143	mark.cummings@ecomaterial.com

AIR CONTAMINANT SOURCE(S) INFORMATION

10. Description of air contaminant source(s) and Unique Source ID(s). List, identify, and briefly describe process emission sources, fuel burning installations, and incinerators that are contained in this application and include a Unique Source ID for each source. The Unique Source ID is a name/number/letter, which uniquely identifies the air contaminant source(s), like Boiler #1, Paint Line #1, Engine #1, etc. (see instructions for more details)

The EM Resources LLC - Gorman Woodyard Fly Ash Transloading Facility will have two portable fly ash transloaders (Source No. 01 & Source No. 02) to convey fly ash from tanker trucks to railcars. The portable units will each be mounted on a mobile trailer equipped with a gasoline powered generator for electricity and a gasoline powered compressor for material transfer. Both are EPA compliant and the Notices of Conformity are attached. Fly ash will be transferred using the transloader to load fly ash from tanker trucks to rail cars via pneumatic transfer. All material handing will be performed completely enclosed and abated by a fabric filter dust collector. Emissions calculations are attached.

11. Is the air contaminant source(s) in a nonattainment area? If "Yes", then minor source BACT must be addressed. Yes ☐ No ☑

12. Normal operation:	Hours/Day 6	Days/Week 5	Weeks/Year 52	Days/Year 1560
13. Percent annual throughput	Dec. – Feb. 10	March – May 30	June – August 30	Sept. – Nov. 30

TYPE OF PERMIT REQUESTED (check appropriate box)

14. Operating permit ☐	Date construction started	Date completed	Date of ownership change (if applicable)
	Last permit number(s)	Emission Source Reference Number(s)	
Construction permit ☑	Last permit number(s)	Emission Source Reference Number(s) Source 01 & Source 02	

If you chose Construction permit above, then choose either New Construction, Modification, or Location Transfer

New Construction ☐	Starting date	Completion date
Modification ☐	Date modification started or will start	Date completed or will complete
Location Transfer ☐	Transfer date	Address of last location

15. Describe changes that have been made to this equipment or operation(s) since the last construction or operating permit application:

NA

16. Comments

NA

SIGNATURE

Based upon information and belief formed after a reasonable inquiry, I, as the responsible person of the above mentioned facility, certify that the information contained in this application is accurate and true to the best of my knowledge. As specified in TCA Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

17. Signature (application must be signed before it will be processed)	**Date**
Mark Cummings	August 22, 2022

Signer's name (type or print)	**Title**	**Phone number with area code**
Mark Cummings	Sr. Environmental Manager	(470) 599-3836

DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF AIR POLLUTION CONTROL
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor, Nashville, TN 37243
Telephone: (615) 532-0554, Email: Air.Pollution.Control@TN.gov

NON-TITLE V PERMIT APPLICATION
EMISSION POINT DESCRIPTION

Type or print and submit for each stack or air contaminant source. Submit with the APC 100.

GENERAL IDENTIFICATION AND DESCRIPTION

1. Organization's legal name and SOS control number [as registered with the TN Secretary of State (SOS)]

EM Resources LLC (SOS Control No. 932407)

2. Unique Source ID (name/number/letter which uniquely identifies this air contaminant source, like Boiler #1)

Transloader / TR#1

3. Unique Emission Point ID (name/number/letter which uniquely identifies this emission point, like Stack #1)

Transloader Baghouse / TRB#1

4. Brief description of air contaminant source (Attach a diagram if appropriate):

Particulate emissions from fly ash transloading

5. Emission point location	Latitude	Longitude	**6. Distance to nearest property line (Ft.)**
	36.106174 °N	-87.707683 °W	50

STACK AND EMISSION DATA

7. Stack or emission point data: →	Height above grade (Ft.)	Diameter (Ft.)	Temperature (°F)	% of time over 125°F	Direction of exit (Up, down or horizontal)
	10	1	Ambient		Horizontal

Data at exit conditions: →	Flow (actual $Ft.^3$/Min.)	Velocity (Ft. /Sec.)	Moisture (Grains/$Ft.^3$)	Moisture (Percent)
	2000	40	0.01	5

Data at standard conditions: →	Flow (Dry std. $Ft.^3$/Min.)	Velocity (Ft. /Sec.)	Moisture (Grains/$Ft.^3$)	Moisture (Percent)
	2000	40	0.01	5

8. Monitoring device and recording instrument (check all that apply):

Opacity monitor	SO_2 monitor	NO_X monitor	Strip chart	Electronic data logger	Other (specify in comments)	No monitor (none)
☐	☐	☐	☐	☐	☐	☑

9. Control device. Description of proposed monitoring, recordkeeping, and reporting to assure compliance with emission limits. Include operating parameters of control device (flow rate, temperature, pressure drop, etc.).

NA

10. Air contaminants. Emission estimates for each air contaminant emitted from this point should be based on stack sampling results or engineering calculations. Calculations should be attached on a separate sheet. (see instructions for more details)

Air contaminants	Average Emissions (Lbs./Hr.)	Maximum Emissions (Lbs./Hr.)	Concen-tration	Average Emissions (Ton/Yr.)	Potential Emissions (Ton/Yr.)	Emissions Estimation Method Code *	Control Devices *	Control Effi-ciency %
Particulate matter (PM)	0.445	0.445	**	0.178	0.178	3	018	99.9
Sulfur dioxide (SO_2)			***					
Carbon monoxide (CO)			PPM					
Volatile organic compounds (VOC)			PPM					
Nitrogen oxides (NO_X)			PPM					
Hydrogen fluoride (HF)								
Hydrogen chloride (HCl)								
Lead (Pb)								
Greenhouse gases (CO_2 equivalents)								
Hazardous air pollutant (specify) Arsenic	2.51E-05	2.51E-05				3	018	99.9
Hazardous air pollutant (specify) Beryllium	2.26E-06	2.26E-06				3	018	99.9
Hazardous air pollutant (specify) Cadmium	4.96E-07	4.96E-07				3	018	99.9
Hazardous air pollutant (specify) Total Chromium	3.05E-05	3.05E-05				3	018	99.9
Hazardous air pollutant (specify) Lead	1.30E-05	1.30E-05				3	018	99.9
Other (specify) Manganese	6.40E-06	6.40E-06				3	018	99.9
Other (specify) Nickel	5.70E-05	5.70E-05				3	018	99.9
Other (specify) Total Phophorous	8.85E-05	8.85E-05				3	018	99.9
Other (specify) Selenium	1.81E-06	1.81E-06				3	018	99.9

11. Comments

NA

SIGNATURE

If this form is being submitted at the same time as an APC 100 form, then a signature is not required on this form. Date this form regardless of whether a signature is provided. If this form is NOT being submitted at the same time as an APC 100 form, then a signature is required.

Based upon information and belief formed after a reasonable inquiry, I, as the responsible person of the above mentioned facility, certify that the information contained in this application is accurate and true to the best of my knowledge. As specified in TCA Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

12. Signature		**Date**
		August 8, 2022
Signer's name (type or print)	**Title**	**Phone number with area code**
Mark Cummings	Sr. Environmental Manager	(417) 599-3836

* Refer to the tables in the instructions for estimation method and control device codes.

** Exit gas particulate matter concentration units: Process – Grains/Dry Standard Ft^3 (70^0F), Wood fired boilers - Grains/Dry Standard Ft^3 (70^0F), all other boilers – Lbs. /Million BTU heat input.

*** Exit gas sulfur dioxide concentrations units: Process – PPM by volume, dry bases, and boilers – Lbs. /Million BTU heat input

DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF AIR POLLUTION CONTROL
William R. Snodgrass Tennessee Tower
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NON-TITLE V PERMIT APPLICATION
EMISSION POINT DESCRIPTION

Type or print and submit for each stack or air contaminant source. Submit with the APC 100.

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EM Resources LLC (SOS Control No. 932407)

2. Unique Source ID (name/number/letter which uniquely identifies this air contaminant source, like Boiler #1)

Transloader / TR#2

3. Unique Emission Point ID (name/number/letter which uniquely identifies this emission point, like Stack #1)

Transloader Baghouse / TRB#2

4. Brief description of air contaminant source (Attach a diagram if appropriate):

Particulate emissions from fly ash transloading

5. Emission point location	Latitude	Longitude	**6. Distance to nearest property line (Ft.)**
	36.106174 °N	-87.707683 °W	50

STACK AND EMISSION DATA

7. Stack or emission point data: →	Height above grade (Ft.)	Diameter (Ft.)	Temperature (°F)	% of time over 125°F	Direction of exit (Up, down or horizontal)
	10	1	Ambient		Horizontal

Data at exit conditions: →	Flow (actual $Ft.^3$/Min.)	Velocity (Ft. /Sec.)	Moisture (Grains/$Ft.^3$)	Moisture (Percent)
	2000	40	0.01	5

Data at standard conditions: →	Flow (Dry std. $Ft.^3$/Min.)	Velocity (Ft. /Sec.)	Moisture (Grains/$Ft.^3$)	Moisture (Percent)
	2000	40	0.01	5

8. Monitoring device and recording instrument (check all that apply):

Opacity monitor	SO_2 monitor	NO_X monitor	Strip chart	Electronic data logger	Other (specify in comments)	No monitor (none)
☐	☐	☐	☐	☐	☐	☑

9. Control device. Description of proposed monitoring, recordkeeping, and reporting to assure compliance with emission limits. Include operating parameters of control device (flow rate, temperature, pressure drop, etc.).

NA

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Air contaminants	Average Emissions (Lbs./Hr.)	Maximum Emissions (Lbs./Hr.)	Concen-tration	Average Emissions (Ton/Yr.)	Potential Emissions (Ton/Yr.)	Emissions Estimation Method Code *	Control Devices *	Control Effi-ciency %
Particulate matter (PM)	0.445	0.445	**	0.178	0.178	3	018	99.9
Sulfur dioxide (SO_2)			***					
Carbon monoxide (CO)			PPM					
Volatile organic compounds (VOC)			PPM					
Nitrogen oxides (NO_X)			PPM					
Hydrogen fluoride (HF)								
Hydrogen chloride (HCl)								
Lead (Pb)								
Greenhouse gases (CO_2 equivalents)								
Hazardous air pollutant (specify) Arsenic	2.51E-05	2.51E-05				3	018	99.9
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Other (specify) Total Phophorous	8.85E-05	8.85E-05				3	018	99.9
Other (specify) Selenium	1.81E-06	1.81E-06				3	018	99.9

11. Comments

NA

SIGNATURE

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12. Signature		**Date**
		August 8, 2022
Signer's name (type or print)	**Title**	**Phone number with area code**
Mark Cummings	Sr. Environmental Manager	(417) 599-3836

* Refer to the tables in the instructions for estimation method and control device codes.

** Exit gas particulate matter concentration units: Process – Grains/Dry Standard Ft^3 (70^0F), Wood fired boilers - Grains/Dry Standard Ft^3 (70^0F), all other boilers – Lbs. /Million BTU heat input.

*** Exit gas sulfur dioxide concentrations units: Process – PPM by volume, dry bases, and boilers – Lbs. /Million BTU heat input

TABLE 1

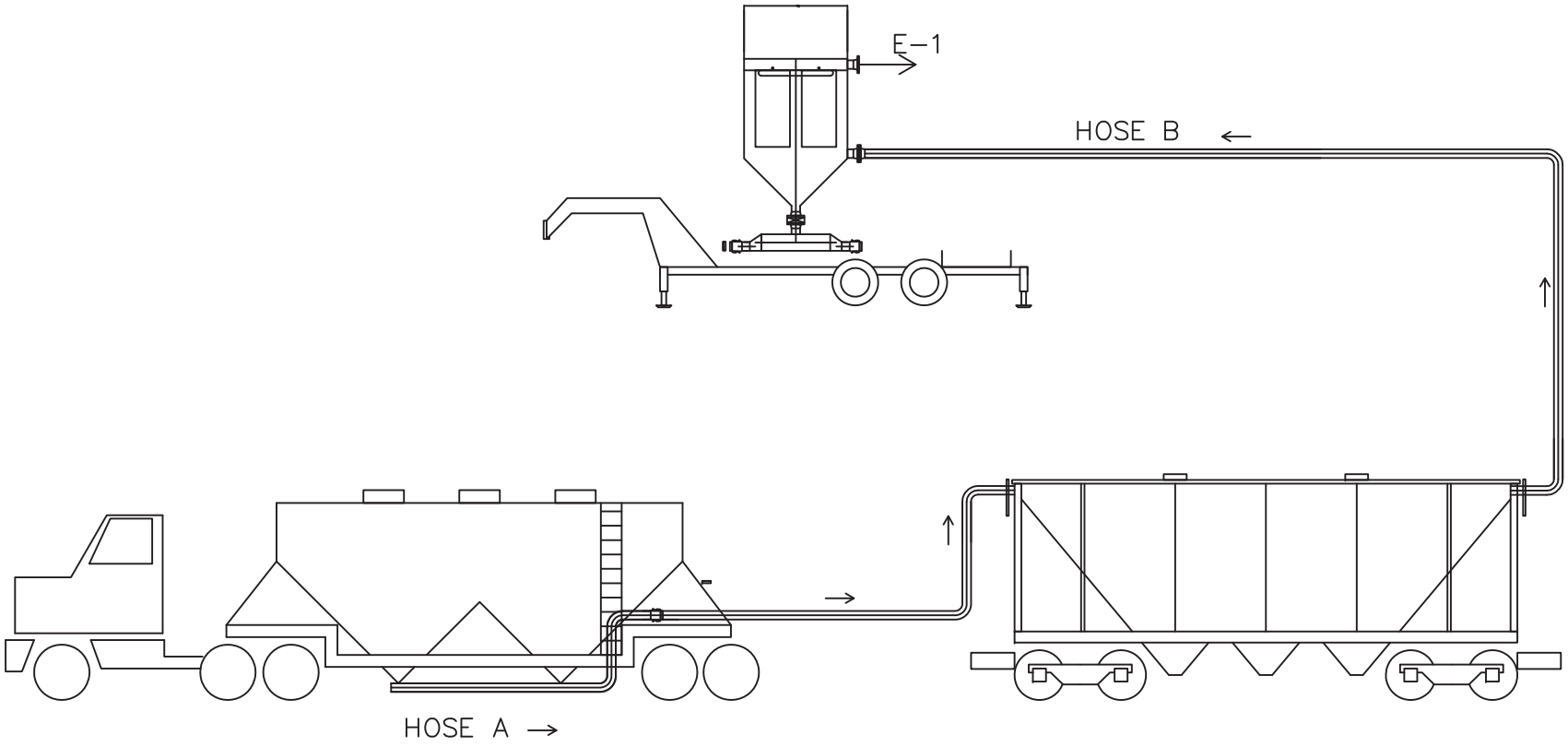
EM RESOURCES LLC

GORMAN WOODYARD FACILITY
EMISSIONS ASSOCIATED WITH 1 RAILCAR LOADER

Source: Vol 1, 5th Ed., AP-42, Table 11.12-2 & 11.12-8 (June 2006)

Emission Source	Process Rate: Short-term ton/hr	Process Rate: Annual ton/yr	Constituent	Emission Factor lb/ton	Controlled Emissions: Short-term (lb/hr)	Controlled Emissions: Annual (ton/yr)
Railcar Loading	50	40,000	PM	0.0089	0.445	0.178
			PM_{10}	0.0049	0.245	0.098
			$PM_{2.5}$	0.0049	0.245	0.098
			Arsenic	5.02E-07	2.51E-05	1.00E-05
			Beryllium	4.52E-08	2.26E-06	9.04E-07
			Cadmium	9.92E-09	4.96E-07	1.98E-07
			Total Chromium	6.10E-07	3.05E-05	1.22E-05
			Lead	2.60E-07	1.30E-05	5.20E-06
			Manganese	1.28E-07	6.40E-06	2.56E-06
			Nickel	1.14E-06	5.70E-05	2.28E-05
			Total Phosphorus	1.77E-06	8.85E-05	3.54E-05
			Selenium	3.62E-08	1.81E-06	7.24E-07
			Total HAPs =		2.25E-04	9.00E-05

PORTABLE BAGHOUSE RAIL CAR LOADING
FIGURE 1



Exhaust Emission Data Sheet
60DSFAD
60 Hz Diesel Generator Set
EPA Emission: Tier 3

Power Generation

Engine Information:

Model:	Cummins Inc. QSB5-G3 NR3	Bore:	4.21 in. (107 mm)
Type:	4 Cycle, In-line, 4 Cylinder Diesel	Stroke:	4.88 in. (124 mm)
Aspiration:	Turbocharged and CAC	Displacement:	275 cu. in. (4.5 liters)
Compression Ratio:	17.2:1		
Emission Control Device:	Turbocharged with Charge Air Cooled		

PERFORMANCE DATA	1/4 Standby	1/2 Standby	3/4 Standby	Full Standby	Full Prime
BHP @ 1800 RPM (60 Hz)	26	51	77	103	92
Fuel Consumption (gal/Hr)	1.8	3.0	4.6	5.7	5.3
Exhaust Gas Flow (CFM)	308	433	596	665	646
Exhaust Gas Temperature (°F)	500	624	727	778	765
EXHAUST EMISSION DATA					
HC (Total Unburned Hydrocarbons)	0.24	0.11	0.07	0.04	0.05
NOx (Oxides of Nitrogen as NO2)	2.76	2.15	2.09	2.37	2.20
CO (carbon Monoxide)	2.27	1.18	0.63	0.50	0.56
PM (Particular Matter)	0.28	0.14	0.05	0.06	0.06
SO2 (Sulfur Dioxide)	0.19	0.16	0.15	0.14	0.15
Smoke (Bosch)	0.76	0.60	0.31	0.38	0.37

All values are Grams per HP-Hour

TEST CONDITIONS

Data is representative of steady-state engine speed (± 25 RPM) at designated genset loads. Pressures, temperatures, and emission rates were stabilized.

Fuel Specification:	ASTM D975 No. 2-D diesel fuel with 0.03-0.05% sulfur content (by weight), and 40-48 cetane number.
Fuel Temperature:	99 ± 9 °F (at fuel pump inlet)
Intake Air Temperature:	77 ± 9 °F
Barometric Pressure:	29.6 ± 1 in. Hg
Humidity:	NOx measurement corrected to 75 grains H2O/lb dry air
Reference Standard:	ISO 8178

The NOx, HC, CO and PM emission data tabulated here were taken from a single engine under the test conditions shown above. Data for the other components are estimated. 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 limits, or with improper maintenance, may results in elevated emission levels.

2016 EPA Tier 3 Exhaust Emission Compliance Statement
60DSFAD
Stationary Emergency
60 Hz Diesel Generator Set

Compliance Information:

The engine used in this generator set complies with Tier 3 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:	GCEXL0275AAG-009
Effective Date:	11/04/2015
Date Issued:	11/04/2015
EPA Engine Family (Cummins Emissions Family):	GCEXL0275AAG (A323)

Engine Information:

Model:	QSB4.5 / QSB5 / QSB5-G3 NR3	Bore:	4.21 in. (107 mm)
Engine Nameplate HP:	145	Stroke:	4.88 in. (124 mm)
Type:	4 Cycle, In-line, 4 Cylinder Diesel	Displacement:	272 cu. in. (4.5 liters)
Aspiration:	Turbocharged and CAC	Compression Ratio:	17.3:1
Emission Control Device:		Exhaust Stack Diameter:	3 in.

Diesel Fuel Emission Limits

D2 Cycle Exhaust Emissions

	Grams per BHP-hr			Grams per kWm-hr		
	NOx + NMHC	CO	PM	NOx + NMHC	CO	PM
Test Results - Diesel Fuel (300-4000 ppm Sulfur)	2.8	0.7	0.11	3.8	0.9	0.15
EPA Emissions Limit	3.0	2.6	0.15	4.0	3.5	0.20
Test Results - CARB Diesel Fuel (<15 ppm Sulfur)	2.6	0.7	0.10	3.5	0.9	0.13
CARB Emissions Limit	3.0	2.6	0.15	4.0	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 H2O/lb) of dry air; required for NOx 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.

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: **GCEXL0275AAG-009**

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: GCEXL0275AAG

Mobile/Stationary Indicator: Stationary
Emissions Power Category: 75<=kW<130
Fuel Type: Diesel
After Treatment Devices: No After Treatment Devices Installed
Non-after Treatment Devices: No Non-After Treatment Devices Installed

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.

Manufacturer American Honda Motor Co., Inc.	**Manufacturer Code** HNX	**Engine Family** GHNXS.6882AA	**Model Year** 2016
Small Volume Manufacturer (Y/N) No	**Small Volume Engine Family (Y/N)** No	**Carryover?** Yes	**Carryover Engine Family** AHNXS.6882AA
Cylinders 2	**Cylinder Arrangement** V	**Engine Fuel Category** Single Fuel	**Test Fuel** Gasoline (as defined in 1065.710)
Max Engine Power 16.5	**Max Engine Test Speed** 3600	**Engine Type** 4-Stroke	**Valve Location** Overhead
Closed Loop Control AF Ratio No	**Engine Cooling Mediums** Air	**Crankshaft Orientation** Horizontal, Horizontal	**Method of Aspiration** Naturally Aspirated
Aftertreatment Device? N	**Non-Aftertreatment Device 1** Engine Design Modification	**Non-Aftertreatment Device 2**	**Pollutant Units** g/kW-hr
CO Df 1.1	**DF Type** Steady-State Multiplicative	**HC-NOx FEL** 7.7	**HC-NOx Result before DF** 6.453
Engine Family Industry Small SI	**Service Class** Nonhandheld-Class II	**Marine Generator?** No	**Useful Life** 1000 Hours / 5 Years
Bond Required (Y/N) No	**Altitude Compensation Method** Altitude Kit	**ABT Program?** Yes	**Limited Applic Enforcement**
Fuel Metering Carburetor	**Electronic Control?** N	**Displacement** 688	**Displacement Units** Cubic Centimeters (cc)
Exhaust Valves Per Cycle 1	**Intake Valves Per Cycle** 1	**O2 Sensor?** No	**O2 Sensor Type**
Country 1 China	**Country 2**	**Country 3**	**Hydrocarbon Type** HC
CO FEL	**CO Result before DF** 399.8	**CO Standard** 610	**CO Cert Level** 440
HC-NOx Standard 8	**HC-NOx Cert Level** 6.5	**HC-NOx DF** 1	**CO2 Result** 754.37