WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

601 57th Street, SE
Charleston, WV 25304
(304) 926-0475
www.dep.wv.gov/daq

APPLICATION FOR NSR PERMIT AND TITLE V PERMIT REVISION (OPTIONAL)

PLEASE CHECK ALL THAT APPLY TO **NSR (45CSR13)** (IF KNOWN):

☐ **CONSTRUCTION** ☐ **MODIFICATION** ☐ **RELOCATION**

x☑ **CLASS I ADMINISTRATIVE UPDATE** ☐ **TEMPORARY**

☐ **CLASS II ADMINISTRATIVE UPDATE** ☐ **AFTER-THE-FACT**

PLEASE CHECK TYPE OF **45CSR30 (TITLE V)** REVISION (IF ANY):

☐ **ADMINISTRATIVE AMENDMENT** ☐ **MINOR MODIFICATION**

☐ **SIGNIFICANT MODIFICATION**

IF ANY BOX ABOVE IS CHECKED, INCLUDE TITLE V REVISION INFORMATION AS **ATTACHMENT S** TO THIS APPLICATION

FOR TITLE V FACILITIES ONLY: Please refer to "Title V Revision Guidance" in order to determine your Title V Revision options (Appendix A, "Title V Permit Revision Flowchart") and ability to operate with the changes requested in this Permit Application.

Section I. General

1. Name of applicant *(as registered with the WV Secretary of State's Office):*
Adjutant Generals Department

2. Federal Employer ID No. ***(FEIN):***
556009554

3. Name of facility *(if different from above):*
Camp Dawson

4. The applicant is the:
☐ **OWNER** ☐ **OPERATOR** x☑ **BOTH**

5A. Applicant's mailing address:
1703 Coonskin Drive
Charleston WV 25311

5B. Facility's present physical address:
1001 Military Road
Kingwood WV 26537

6. **West Virginia Business Registration.** Is the applicant a resident of the State of West Virginia? ☑ **xYES** ☐ **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 L.L.C./Registration** (one page) including any name change amendments or other Business Certificate as **Attachment A.**

7. If applicant is a subsidiary corporation, please provide the name of parent corporation:

8. Does the applicant own, lease, have an option to buy or otherwise have control of the *proposed site?* x☑ **YES** ☐ **NO**

- If **YES,** please explain: Owner
- If **NO,** you are not eligible for a permit for this source.

9. Type of plant or facility (stationary source) to be **constructed, modified, relocated, administratively updated** or **temporarily permitted** (e.g., coal preparation plant, primary crusher, etc.): Standby Emergency Generators

10. North American Industry Classification System **(NAICS)** code for the facility:
92811

11A. DAQ Plant ID No. (for existing facilities only):
097-00057

11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only):
G60-C042A

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

Administrative Update #1

12A.

- For **Modifications, Administrative Updates** or **Temporary permits** 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 **MAP** as **Attachment B.**

From Interstate 68 take Rt. 26 South to Kingwood. At stoplight in Kingwood, take left onto Route 7. Follow Rt. 7 East and cross the Cheat River. Immediately after crossing river make two consecutive lefts taking you back underneath Rt. 7. Follow river until reaching Guard shack.

12.B. New site address (if applicable):	12C. Nearest city or town: Kingwood	12D. County: Preston
12.E. UTM Northing (KM): 4367.05	12F. UTM Easting (KM): 614.30	12G. UTM Zone: 17

13. Briefly describe the proposed change(s) at the facility:
Incorporate RICE MACT standards into R13-2658

14A. Provide the date of anticipated installation or change: 1/June/2015 – If this is an **After-The-Fact** permit application, provide the date upon which the proposed change did happen: / /	14B. Date of anticipated Start-Up if a permit is granted: / /

14C. Provide a **Schedule** of the planned **Installation of/Change** to and **Start-Up** of each of the units proposed in this permit application as **Attachment C** (if more than one unit is involved).

15. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application:
Hours Per Day Days Per Week Weeks Per Year

16. Is demolition or physical renovation at an existing facility involved? ☐ **YES** XX ☑ **NO**

17. **Risk Management Plans.** If this facility is subject to 112(r) of the 1990 CAAA, or will become subject due to proposed changes (for applicability help see www.epa.gov/ceppo), submit your **Risk Management Plan (RMP)** to U. S. EPA Region III.

18. **Regulatory Discussion.** List all Federal and State air pollution control regulations that you believe are applicable to the proposed process *(if known).* A list of possible applicable requirements is also included in Attachment S of this application (Title V Permit Revision Information). Discuss applicability and proposed demonstration(s) of compliance *(if known).* Provide this information as **Attachment D.**

Section II. Additional attachments and supporting documents.

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

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

21. Provide a **Plot Plan,** e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is or is to be located as **Attachment E** (Refer to ***Plot Plan Guidance***) .
– Indicate the location of the nearest occupied structure (e.g. church, school, business, residence).

22. Provide a **Detailed Process Flow Diagram(s)** showing each proposed or modified emissions unit, emission point and control device as **Attachment F.**

23. Provide a **Process Description** as **Attachment G.**
– Also describe and quantify to the extent possible all changes made to the facility since the last permit review (if applicable).

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

24. Provide **Material Safety Data Sheets (MSDS)** for all materials processed, used or produced as **Attachment H.**

– For chemical processes, provide a MSDS for each compound emitted to the air.

25. Fill out the **Emission Units Table** and provide it as **Attachment I.**

26. Fill out the **Emission Points Data Summary Sheet (Table 1 and Table 2)** and provide it as **Attachment J.**

27. Fill out the **Fugitive Emissions Data Summary Sheet** and provide it as **Attachment K.**

28. Check all applicable **Emissions Unit Data Sheets** listed below:

☐ Bulk Liquid Transfer Operations	☐ Haul Road Emissions	☐ Quarry
☐ Chemical Processes	☐ Hot Mix Asphalt Plant	☐ Solid Materials Sizing, Handling and Storage Facilities
☐ Concrete Batch Plant	☐ Incinerator	
☐ Grey Iron and Steel Foundry	☐ Indirect Heat Exchanger	☐ Storage Tanks
☑ General Emission Unit, specify Standby Emergency Generators		

Fill out and provide the **Emissions Unit Data Sheet(s)** as **Attachment L.**

29. Check all applicable **Air Pollution Control Device Sheets** listed below:

☐ Absorption Systems	☐ Baghouse	☐ Flare
☐ Adsorption Systems	☐ Condenser	☐ Mechanical Collector
☐ Afterburner	☐ Electrostatic Precipitator	☐ Wet Collecting System

☐ Other Collectors, specify

Fill out and provide the **Air Pollution Control Device Sheet(s)** as **Attachment M.**

30. Provide all **Supporting Emissions Calculations** as **Attachment N,** or attach the calculations directly to the forms listed in Items 28 through 31.

31. **Monitoring, Recordkeeping, Reporting and Testing Plans.** Attach proposed monitoring, recordkeeping, reporting and testing plans in order to demonstrate compliance with the proposed emissions limits and operating parameters in this permit application. Provide this information as **Attachment O.**

➢ Please be aware that all permits must be practically enforceable whether or not the applicant chooses to propose such measures. Additionally, the DAQ may not be able to accept all measures proposed by the applicant. If none of these plans are proposed by the applicant, DAQ will develop such plans and include them in the permit.

32. **Public Notice.** At the time that the application is submitted, place a **Class I Legal Advertisement** in a newspaper of general circulation in the area where the source is or will be located (See 45CSR§13-8.3 through 45CSR§13-8.5 and ***Example Legal Advertisement*** for details). Please submit the **Affidavit of Publication** as **Attachment P** immediately upon receipt.

33. **Business Confidentiality Claims.** Does this application include confidential information (per 45CSR31)?

☐ **YES** x☐ **NO**

➢ If **YES,** identify each segment of information on each page that is submitted as confidential and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's ***"Precautionary Notice – Claims of Confidentiality"*** guidance found in the ***General Instructions*** as **Attachment Q.**

Section III. Certification of Information

34. **Authority/Delegation of Authority.** Only required when someone other than the responsible official signs the application. Check applicable **Authority Form** below:

☐ Authority of Corporation or Other Business Entity	☐ Authority of Partnership
x☑ Authority of Governmental Agency	☐ Authority of Limited Partnership

Submit completed and signed **Authority Form** as **Attachment R.**

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

35A. **Certification of Information.** To certify this permit application, a Responsible Official (per 45CSR§13-2.22 and 45CSR§30-2.28) or Authorized Representative shall check the appropriate box and sign below.

Certification of Truth, Accuracy, and Completeness

I, the undersigned ☐ **Responsible Official** / ☑ **Authorized Representative,** hereby certify that all information contained in this application and any supporting documents appended hereto, is true, accurate, and complete based on information and belief after reasonable inquiry I further agree to assume responsibility for the construction, modification and/or relocation and operation of the stationary source described herein in accordance with this application and any amendments thereto, as well as the Department of Environmental Protection, Division of Air Quality permit issued in accordance with this application, along with all applicable rules and regulations of the West Virginia Division of Air Quality and W.Va. Code § 22-5-1 et seq. (State Air Pollution Control Act). If the business or agency changes its Responsible Official or Authorized Representative, the Director of the Division of Air Quality will be notified in writing within 30 days of the official change.

Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

SIGNATURE _____ *(Please use blue ink)* DATE: 18 May 2015 *(Please use blue ink)*

35B. Printed name of signee: Joseph P Stephens		35C. Title: C & FMO
35D. E-mail: joseph.p.stephens.mil@mail.mil	36E. Phone: 304-561-6367	36F. FAX: 304-561-6458
36A. Printed name of contact person (if different from above):		36B. Title:
36C. E-mail:	36D. Phone:	36E. FAX:

PLEASE CHECK ALL APPLICABLE ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

- ☐ Attachment A: Business Certificate
- ☐ Attachment B: Map(s)
- ☐ Attachment C: Installation and Start Up Schedule
- ☐ Attachment D: Regulatory Discussion
- ☐ Attachment E: Plot Plan
- ☐ Attachment F: Detailed Process Flow Diagram(s)
- ☐ Attachment G: Process Description
- ☐ Attachment H: Material Safety Data Sheets (MSDS)
- ☐ Attachment I: Emission Units Table
- ☑ Attachment J: Emission Points Data Summary Sheet
- ☐ Attachment K: Fugitive Emissions Data Summary Sheet
- ☑ Attachment L: Emissions Unit Data Sheet(s)
- ☐ Attachment M: Air Pollution Control Device Sheet(s)
- ☑ Attachment N: Supporting Emissions Calculations
- ☑ Attachment O: Monitoring/Recordkeeping/Reporting/Testing Plans
- ☐ Attachment P: Public Notice
- ☐ Attachment Q: Business Confidential Claims
- ☑ Attachment R: Authority Forms
- ☐ Attachment S: Title V Permit Revision Information
- ☐ Application Fee

Please mail an original and three (3) copies of the complete permit application with the signature(s) to the DAQ, Permitting Section, at the address listed on the first page of this application. Please DO NOT fax permit applications.

FOR AGENCY USE ONLY – IF THIS IS A TITLE V SOURCE:

- ☐ *Forward 1 copy of the application to the Title V Permitting Group and:*
- ☐ *For Title V Administrative Amendments:*
  - ☐ *NSR permit writer should notify Title V permit writer of draft permit,*
- ☐ *For Title V Minor Modifications:*
  - ☐ *Title V permit writer should send appropriate notification to EPA and affected states within 5 days of receipt,*
  - ☐ *NSR permit writer should notify Title V permit writer of draft permit.*
- ☐ *For Title V Significant Modifications processed in parallel with NSR Permit revision:*
  - ☐ *NSR permit writer should notify a Title V permit writer of draft permit,*
  - ☐ *Public notice should reference both 45CSR13 and Title V permits,*
  - ☐ *EPA has 45 day review period of a draft permit.*

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

STATE OF WEST VIRGINIA
OFFICE OF THE ADJUTANT GENERAL
1703 COONSKIN DRIVE
CHARLESTON, WEST VIRGINIA 25311-1085

James A. Hoyer
Major General, WVARNG
The Adjutant General

(304) 561-6317
DSN: 623-6317
FAX (304) 561-6327

18 May 2015

WVARNG Environmental Programs Division

Mr. William F. Durham
Director – Division of Air Quality
WV Department of Environmental Protection
601 57th Street SE
Charleston, WV 25304

Dear Mr. Durham:

Enclosed is a Class I Administrative Update to R13-2658 (Camp Dawson) to incorporate relevant provisions of the RICE MACT for two (2) emergency generators that will operate under the Demand Response Program.

This Class I Administrative Update was discussed with Ed Andrews and Gene Coccari.

The point of contact for this action is Phil Emmerth of my staff at 304-201-3529.

Sincerely,

Joseph P. Stephens
Colonel, WV Army National Guard
Construction and Facilities Management Officer
WV Army National Guard

ATTACHMENT J

EMISSION POINTS DATA SUMMARY SHEET

EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data

Emission Point ID No. *(Must match Equipment List Form & Plot Plan)*	Source(s) Vented Through This Point *(Must match Equipment List Form & Plot Plan)*		Air Pollution Control Device *(Must match Equipment List Form & Plot Plan)*		Vent Time for Source *(chemical processes only)*		All Regulated Pollutants - Chemical Name/CAS [2] *(Speciate VOCs & HAPS)*	Maximum Potential Uncontrolled Emissions [3]		Maximum Potential Controlled Emissions [4]		Emission Form or Phase *(At exit conditions, Solid, Liquid or Gas/Vapor)*	Est. Method Used [5]	Emission Concentration [6] (ppmv or mg/m^3)
	ID No.	Source	ID No.	Device Type	Short Term [1]	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
S1 and S2	G1 and G2	Standby Emergency Generators	N	None	N/A	N/A	NOx	91.48	91.48	91.48	91.48	Gas/Vapor	Manu-facturer test data	NA
							CO	12.88	12.88	12.88	12.88			
							PM	2.70	2.70	2.70	2.70	Solid		
							SO_2	9.14	9.14	9.14	9.14	Gas/Vapor		
							HC(VOC)	6.44	6.44	6.44	6.44			
							Benzene	0.035	0.035	0.035	0.035		AP-42	
							Toluene	0.0154	0.0154	0.0154	0.0154			
							Xylenes	0.0106	0.0106	0.0106	0.0106			
							Propylene	0.0968	0.0968	0.0968	0.0968			
							1,3-Butadiene	0.0048	0.0048	0.0048	0.0048			
							Formaldehyde	0.324	0.324	0.324	0.324			
							Acetaldehyde	0.0288	0.0288	0.0288	0.0288			
							Acrolein	0.0034	0.0034	0.0034	0.0034			
							Naphthalene	0.0032	0.0032	0.0032	0.0032			

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

[1] Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (ie., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/wk).

[2] List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS_2, VOCs, H_2S, Inorganics, Lead, Organics, O_3, NO, NO_2, SO_2, SO_3, etc. DO NOT LIST CO_2, H_2, H_2O, N_2, O_2, and Noble Gases.

[3] Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[4] Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[5] Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

[6] Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m^3) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO_2, use units of ppmv (See 45CSR10)

EMISSION POINTS DATA SUMMARY SHEET

Table 2: Release Parameter Data

Emission Point ID No. *(Must match Equipment List Form)*	Inner Diameter (ft.)	Exit Gas			Emission Point Elevation (ft)		UTM Coordinates (km)	
		Temp. (°F)	Volumetric Flow [1] (acfm) *at operating conditions*	Velocity (fps)	Ground Level *(Height above mean sea level)*	Stack Height [2] *(Release height of emissions above ground level)*	Northing	Easting
S1	NA	975	2,400	NA	NA	NA	4247.59	449.02
S2	NA	995	3,780	NA	NA	NA	4247.77	448.97

[1] Give at operating conditions. Include inerts.
[2] Release height of emissions above ground level.

ATTACHMENT L

EMISSION UNIT DATA SHEET(S)

EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): G1 and G2

1. Name or type and model of proposed affected source:

   2 Cummins Power Generators – DQKC-5693975 2,000kW Diesels. There are two identical units (G1 and G2)

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   N/A

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   N/A

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   NAP

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

Diesel Fuel - 137.3 gallons/hour

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

ASTM D975 No. 2 diesel fuel with 0.03-0.05% sulfur by weight and 40-48 cetane number

(c) Theoretical combustion air requirement (ACF/unit of fuel):

6150 scfm @ 77 °F and 14.5 psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

NAP

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

NAP

(g) Proposed maximum design heat input: 18.76 $\times 10^6$ BTU/hr.

7. Projected operating schedule: G1 and G2 not to exceed 4000 hrs/yr combined.

Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ 77 °F and 14.5 psia

a.	NO_X	91.48	lb/hr	grains/ACF
b.	SO_2	9.14	lb/hr	grains/ACF
c.	CO	12.88	lb/hr	grains/ACF
d.	PM	2.70	lb/hr	grains/ACF
e.	HC (VOC)	6.44	lb/hr	grains/ACF
f.	Pb	N/A	lb/hr	N/A grains/ACF
g.	Specify other(s) Hazardous Air Pollutants (HAPS) AP-42 Section 3.3 Parameters			
h.	Benzene	0.035	lb/hr	grains/ACF
i.	Toluene	0.0154	lb/hr	grains/ACF
j.	Xylenes	0.0106	lb/hr	grains/ACF
k.	Propylene	0.0968	lb/hr	grains/ACF
l.	1,3- Butadiene	0.0048	lb/hr	grains/ACF
m.	Formaldehyde	0.324	lb/hr	grains/ACF
n.	Acetaldehyde	0.0288	lb/hr	grains/ACF
o.	Acrolein	0.0034	lb/hr	grains/ACF
p.	Naphthalene	0.0032	lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
None	A person designated by a Responsible official shall maintain records of hours of operation and quantity of fuel burned. The quantity of fuel burnt will be estimated based on the maximum burn rate of 137.3 gallons/hour multiplied by the actual recorded hours of operation.
REPORTING	TESTING
None	None

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

None provided.

ATTACHMENT N

SUPPORTING EMISSIONS CALCULATIONS

AND

MANUFACTURERS INFORMATION

Attachment N
Supporting Emission Calculations

Two (2) Diesel powered, 2000 kW, 60 Hz Diesel Generators

Specifications

Manufacturer:	Cummins
Model Number:	DQKC-5693975
Engine Type:	4 Cycle 60°V 16 Cylinder
Aspiration:	Turbocharged and Low Temperature Aftercooled
Displacement:	60.2 L
Fuel Consumption:	137.3 gallons/hour
Assumed Heating Value of Diesel Fuel:	136,600 Btu/gallon
Maximum Horsepower:	2922 HP
Maximum Fuel Input:	18.76 MMBtu/hour
Power Rating:	2000 kW

Emission rates determined using manufacturer test emission factors or emission factors from AP-42, Section 3.3, Table 3.3-1., updated October 1996.

Hours Per Year = 2,000

Regulated Pollutant	Emission Factor (grams/HP-Hour)	Hourly Emissions (grams/hour)	Hourly Emissions (lbs/hour)	Annual Emissions (tons/year) 2,000
HC (VOC)	0.5	1461.00	3.22	3.22
NOX	7.1	20746.20	45.74	45.74
CO	1	2922.00	6.44	6.44
PM	0.21	613.62	1.35	1.35
SO2	0.71	2074.62	4.57	4.57

Regulated Pollutant	Emission Factor (lb/MMBtu)	Hourly Emissions (lbs/hour)	Annual Emissions (tons/year) 2,000 hrs
Hazardous Air Pollutants (HAPS)			
Benzene*	0.000933	0.0175	0.0175
Toluene*	0.000409	0.0077	0.0077
Xylenes*	0.000285	0.0053	0.0053
Propylene*	0.00258	0.0484	0.0484
1,3-Butadiene*	0.0000391	0.0024	0.0024
Formaldehyde*	0.00118	0.162	0.1620
Acetaldehyde*	0.000767	0.0144	0.0144
Acrolein*	0.0000925	0.0017	0.0017
Naphthalene*	0.0000848	0.0016	0.0016
Total HAPS		0.261	0.261

Total Emissions[3] for Two Generators

Regulated Pollutant	Hourly Emissions (lbs/hour)	Annual Emissions (tons/year) 4,000 hrs
HC (VOC)	6.44	6.44
NOX	91.48	91.48
CO	12.88	12.88
PM	2.7	2.7
SO2	9.14	9.14
Hazardous Air Pollutants (HAPS)		
Benzene*	0.035	0.035
Toluene*	0.0154	0.0154
Xylenes*	0.0106	0.0106
Propylene*	0.0968	0.0968
1,3-Butadiene*	0.0048	0.0048
Formaldehyde*	0.324	0.324
Acetaldehyde*	0.0288	0.0288
Acrolein*	0.0034	0.0034
Naphthalene*	0.0032	0.0032
Total HAPS	0.522	0.522

Notes:
1. Annual emissions are based on a combined total of 4,000 hours.
2. * Indicates AP-42 emission factor used.
3. Two identical generators on site. Emissions from one generator are multiplied by two (2) for Total Emissions.

Comment: Permit required.

Power Generation

Exhaust Emission Data Sheet

2000DQKC

60 Hz Diesel Generator Set

Engine Information:

Model:	Cummins QSK60-G6	Bore:	6.25 in. (159 mm)
Type:	4 Cycle, 60°V, 16 Cylinder Diesel	Stroke	7.48 in. (190 mm)
Aspiration:	Turbocharged and Low Temperature Aftercooled	Displacement:	3673 cu. in. (60.2 liters)
		Compression Ratio:	14.5:1

Emission Control Device: Turbocharged and Low Temperature Aftercooled

PERFORMANCE DATA	1/4 Standby	1/2 Standby	3/4 Standby	Full Standby	Full Prime
BHP @ 1800 RPM (60 Hz)	731	1461	2190	2922	2647
Fuel Consumption (gal/Hr)	41.0	71.0	102.8	137.3	123.2
Exhaust Gas Flow (CFM)	6110	9130	12420	15810	14450
Exhaust Gas Temperature (°F)	705	785	820	890	860
EXHAUST EMISSION DATA					
HC (Total Unburned Hydrocarbons)	0.50	0.26	0.21	0.20	0.18
NOx (Oxides of Nitrogen as NO2)	5.40	6.20	6.40	7.00	7.10
CO (Carbon Monoxide)	0.70	0.70	0.80	0.90	1.00
PM (Particulate Matter)	0.21	0.09	0.05	0.04	0.04
SO2 (Sulfur Dioxide)	0.71	0.61	0.58	0.58	0.57
Smoke (Bosch)	0.7	0.4	0.3	0.4	0.4

All values are Grams per HP-Hour
Smoke is Bosch #

TEST CONDITIONS

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

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 subject to instrumentation and engine-to-engine variability. Field emissions 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 result in elevated emission levels.

Power Generation

Generator Set Data Sheet	Model: DQKC Frequency: 60 Fuel Type: Diesel Emissions Level: EPA Nonroad

Exhaust Emission Data Sheet:	EDS-169
EPA Tier 1 Exhaust Emission Compliance Sheet:	EPA1CS-1006
Measured Sound Performance Data Sheet:	MSP-174
Measured Cooling Performance Data Sheet:	MCP-109
Prototype Test Summary Data Sheet:	PTS-143
Standard Set-Mounted Radiator Cooling Outline:	500-3379
Optional Set-Mounted Radiator Cooling Outline:	500-3380
Optional Heat Exchanger Cooling Outline:	500-3293
Optional Remote Radiator Cooling Outline:	500-3292

Fuel Consumption	Standby				Prime				Continuous
	kW (kVA)				kW (kVA)				kW (kVA)
Ratings	2000 (2500)				1825 (2281)				1600 (2000)
Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full	Full
US gph	43	71	103	135	41	67	94	122	108
L/hr	163	272	385	510	154	252	356	462	408

Engine	Standby Rating	Prime Rating	Continuous Rating
Engine Manufacturer	Cummins		
Engine Model	QSK60-G6		
Configuration	Cast Iron, 60°V 16 cylinder		
Aspiration	Turbocharged and Low Temperature Aftercooled		
Gross Engine Power Output, kWm (bhp)	2179 (2922)	1975 (2647)	1739 (2332)
BMEP at Set Rated Load, kPa (psi)	2420 (351)	2185 (317)	1924 (279)
Bore, mm (in.)	159 (6.25)		
Stroke, mm (in.)	190 (7.48)		
Rated Speed, rpm	1800		
Piston Speed, m/s (ft/min)	11.4 (2243)		
Compression Ratio	14.5:1		
Lube Oil Capacity, L (qt)	280 (296)	397 (420)	397 (420)
Overspeed Limit, rpm	2100 ±50		
Regenerative Power, kW	207		
Fuel Flow			
Maximum Fuel Flow, L/hr (US gph)	1893 (500)		
Maximum Fuel Inlet Restriction, kPa (in. Hg)	8.4 (2.5)		
Maximum Fuel Inlet Temperature, °C (°F)	71 (160)		
Air			
Combustion Air, m^3/min (scfm)	173 (6150)	160 (5690)	148 (5275)
Maximum Air Cleaner Restriction, kPa (in. H_2O)	6.2 (25)		
Alternator Cooling Air, m^3/min (cfm)	289 (10200)		
Exhaust			
Exhaust Gas Flow at Set Rated Load, m^3/min (cfm)	439 (15500)	398 (14070)	348 (12305)
Exhaust Gas Temperature, °C (°F)	477 (890)	460 (860)	446 (835)
Maximum Exhaust Back Pressure, kPa (in. H_2O)	6.7 (27)		

Standard Set-Mounted Radiator Cooling	Standby Rating	Prime Rating	Continuous Rating
Ambient Design, °C (°F)	40 (104)		
Fan Load, KW_m (HP)	50 (67)		
Coolant Capacity (with Radiator), L (US Gal.)	454 (120)		
Cooling System Air Flow, m^3/min (scfm)	1996 (70500)		
Total Heat Rejection, MJ/min (BTU/min)	94.1 (89164)	83.2 (78882)	73.9 (70030)
Maximum Cooling Air Flow Static Restriction, kPa (in. H_2O)	0.12 (0.5)		
Maximum Fuel Return Line Restriction, kPa (in. Hg)	23.7 (7)		
Optional Set-Mounted Radiator Cooling			
Ambient Design, °C (°F)	50 (122)		
Fan Load, kWm (HP)	57.4 (77)		
Coolant Capacity (with radiator), L (US Gal.)	492 (130)		
Cooling System Air Flow, m^3/min (scfm)	2294 (81000)		
Total Heat Rejection, MJ/min (BTU/min)	94.1 (89164	83.2 (78882)	73.9 (70030)
Maximum Cooling Air Flow Static Restriction, kPa (in. H_2O)	0.12 (0.5)		
Maximum Fuel Return Line Restriction, kPa (in. Hg)	23.7 (7)		
Optional Heat Exchanger Cooling			
Set Coolant Capacity, L (US Gal.)	454 (120)		
Heat Rejected, Jacket Water Circuit, MJ/min (BTU/min)	37.1 (35150)	33.1 (31410)	28.7 (27260)
Heat Rejected, After-cooler Circuit, MJ/min (BTU/min)	37.3 (35380)	32.3 (30600)	28.1 (26620)
Heat Rejected, Fuel Circuit, MJ/min (BTU/min)	2.1 (2000)		
Total Heat Radiated to Room, MJ/min (BTU/min)	17.5 (16634)	15.7 (14872)	13.9 (13150)
Maximum Raw Water Pressure, Jacket Water Circuit, kPa (psi)	1034 (150)		
Maximum Raw Water Pressure, Aftercooler Circuit, kPa (psi)	1034 (150)		
Maximum Raw Water Pressure, Fuel Circuit, kPa (psi)	1034 (150)		
Maximum Raw Water Flow, Jacket Water Circuit, L/min (US Gal/min)	1363 (360)		
Maximum Raw Water Flow, Aftercooler Circuit, L/min (US Gal/min)	1363 (360)		
Maximum Raw Water Flow, Fuel Circuit, L/min (US Gal/min)	144 (38)		
Minimum Raw Water Flow @ 27°C (80°F) Inlet Temp, Jacket Water Circuit, L/min (US Gal/min)	288 (76)		
Minimum Raw Water Flow @ 27°C (80°F) Inlet Temp, After-Cooler Circuit, L/min (US Gal/min)	416 (110)		
Minimum Raw Water Flow @ 27°C (80°F) Inlet Temp, Fuel Circuit, L/min (US Gal/min)	38 (10)		
Raw Water Delta P @ Min Flow, Jacket Water Circuit, kPa (psi)	2.4 (0.35)		
Raw Water Delta P @ Min Flow, After-cooler Circuit, kPa (psi)	4.1 (0.6)		
Raw Water Delta P @ Min Flow, Fuel Circuit, kPa (psi)	4.8 (0.7)		
Maximum Jacket Water Outlet Temp, °C (°F)	104 (220)	100 (212)	100 (212)
Maximum After-Cooler Inlet Temp, °C (°F)	66 (150)	66 (150)	66 (150)
Maximum After-Cooler Inlet Temp @ 11°C (77°F) Ambient, °C (°F)	49 (120)		
Maximum Fuel Return Line Restriction, kPa (in. Hg)	23.7 (7)		

Optional Remote Radiator Cooling[1]	Standby Rating	Prime Rating	Continuous Rating
Set Coolant Capacity, L (US Gal.)	193 (51)		
Max Flow Rate @ Max Friction Head, Jacket Water Circuit, L/min (US Gal/min)	1817 (480)		
Max Flow Rate @ Max Friction Head, Aftercooler Circuit, L/min (US Gal/min)	503 (133)		
Heat Rejected, Jacket Water Circuit, MJ/min (BTU/min)	37.1 (35150)	33.1 (31410)	28.7 (27260)
Heat Rejected, Aftercooler Circuit, MJ/min (BTU/min)	37.3 (35380)	32.3 (30600)	28.1 (26620)
Heat Rejected, Fuel Circuit, MJ/min (BTU/min))	2.1 (2000)		
Total Heat Radiated to Room, MJ/min (BTU/min)	17.5 (16634)	15.7 (14872)	13.9 (13150)
Maximum Friction Head, Jacket Water Circuit, kPa (psi)	69 (10)		
Maximum Friction Head, Aftercooler Circuit, kPa (psi)	48 (7)		
Maximum Static Head, Jacket Water Circuit , m (ft)	18 (60)		
Maximum Static Head, Aftercooler Circuit , m (ft)	18 (60)		
Maximum Jacket Water Outlet Temp, °C (°F)	104 (220)	100 (212)	100 (212)
Maximum After-Cooler Inlet Temp @ 11°C (77°F) Ambient, °C (°F)	49 (120)		
Maximum After-Cooler Inlet Temp, °C (°F)	66 (150)		
Maximum Fuel Flow, L/hr (US gph)	1893 (500)		
Maximum Fuel Return Line Restriction, kPa (in. Hg)	30.5 (9)		

Weights[2]	
Unit Dry Weight kgs (lbs.)	14702 (32413)
Unit Wet Weight kgs (lbs.)	15188 (33485)

Notes:

1. For non-standard remote installations contact your local Cummins Power Generation representative
2. Note: Weights represent a set with standard features. See outline drawing for weights of other configurations

Derating Factors	
Standby	Engine power available up to 1067 m (3500 ft) at ambient temperatures up to 40°C (104°F), and up to 168 m (550 ft) at 50°C (122°F). Above these elevations, derate at 4.3% per 305 m (1000 ft). Above 50°C (122°F) and 2800 m (9200 ft), derate an additional 4.3% per 305 m (1000 ft) and 12% per 10°C (18°F).
Prime	Engine power available up to 1067 m (3500 ft) at ambient temperatures up to 40°C (104°F), and up to 168 m (550 ft) at 50°C (122°F). Above these elevations, derate at 4.3% per 305 m (1000 ft). Above 50°C (122°F) and 2800 m (9200 ft), derate an additional 4.3% per 305 m (1000 ft) and 12% per 10°C (18°F).
Continuous	Engine power available up to 730 m (2400 ft) at ambient temperatures up to 40°C (104°F). Derate 2% at 0 m (0 ft) for 50°C (122°F) ambient temperature. Above these elevations, derate at 3.3% per 305 m (1000 ft). Above 50°C (122°F) and 2925 m (9600 ft), derate an additional 4.3% per 305 m (1000 ft) and 12% per 10°C (18°F).

Ratings Definitions

Standby:	Prime (Unlimited Running Time):	Base Load (Continuous):
Applicable for supplying emergency power for the duration of normal power interruption. No sustained overload capability is available for this rating.(Equivalent to Fuel Stop Power in accordance with ISO3046, AS2789, DIN6271 and BS5514). Nominally Rated.	Applicable for supplying power in lieu of commercially purchased power. Prime power is the maximum power available at a variable load for an unlimited number of hours. A 10% overload capability is available for limited time. (Equivalent to Prime Power in accordance with ISO8528 and Overload Power in accordance with ISO3046, AS2789, DIN6271, and BS5514). This rating is not applicable to all generator set models.	Applicable for supplying power continuously to a constant load up to the full output rating for unlimited hours. No sustained overload capability is available for this rating. Consult authorized distributor for rating. (Equivalent to Continuous Power in accordance with ISO8528, ISO3046, AS2789, DIN6271, and BS5514). This rating is not applicable to all generator set models.

Alternator Data

Voltage	Connection[1]	Temp Rise Degrees C	Duty[2]	Single Phase Factor[3]	Max Surge kVA[4]	Alternator Data Sheet	Feature Code
480	Wye, 3 Phase	150/125/105	S/P/C	N/A	7361	316	B453
480	Wye, 3 Phase	125/105/80	S/P/C	N/A	8942	401	B462
480	Wye, 3 Phase	125/105	S/P	N/A	7361	316	B276
480	Wye, 3 Phase	125/105	P/C	N/A	6716	315	B464
480	Wye, 3 Phase	105/80	S/P	N/A	8942	401	B463
600	Wye, 3 Phase	150/125/105	S/P/C	N/A	8942	401	B451
600	Wye, 3 Phase	125/105/80	S/P/C	N/A	8942	401	B465
600	Wye, 3 Phase	125/105	P/C	N/A	6716	315	B466
600	Wye, 3 Phase	105/80	S/P	N/A	8942	401	B301
4160	Wye, 3 Phase	125/105/80	S/P/C	N/A	9508	407	B467
4160	Wye, 3 Phase	105/80	S/P	N/A	9508	407	B313
4160	Wye, 3 Phase	105	P	N/A	8262	406	B468
4160	Wye, 3 Phase	105	C	N/A	7926	324	B502
13200	Wye, 3 Phase	105	S	N/A	9055	414	B501
13800	Wye, 3 Phase	125/105/80	S/P/C	N/A	7925	413	B486
13800	Wye, 3 Phase	105/80	S/P	N/A	9055	414	B500
13800	Wye, 3 Phase	105	C	N/A	6791	412	B460
12470-13800	Wye, 3 Phase	125/105/80	S/P/C	N/A	9055	414	B448
12470-13800	Wye, 3 Phase	105	C	N/A	7925	413	B484

Notes:

1. Limited single phase capability is available from some three phase rated configurations. To obtain single phase rating, multipy the three phase kW rating by the Single Phase Factor[3]. All single phase ratings are at unity power factor.
2. Standby (S), Prime (P) and (C) Continuous ratings.
3. Factor for the *Single Phase Output from Three Phase Alternator* formula listed below.
4. Maximum rated starting kVA that results in a minimum of 90% of rated sustained voltage during starting.

Formulas for calculating full load currents:

Three Phase Output	Single Phase Output
$\frac{kWx1000}{Voltagex1.73x0.8}$	$\frac{kWxSinglePhaseFactorx1000}{Voltage}$

See your distributor for more information.

Power Generation

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E-Mail: mktg@sing.cummins.com

Important: 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.

ATTACHMENT O

MONITORING, RECORDKEEPING, REPORTING, TESTING PLANS

ATTACHMENT O

MONITORING/RECORDKEEPING/REPORTING/TESTING PLANS

Testing is not required unless designated by the Secretary of DAQ. If testing is required, reports will be submitted to DAQ and records of testing, analysis, techniques, methods and test company information, will be maintained on site for a period of five (5) years. Submissions will be certified by the Responsible Official. Records will also be maintained regarding the hours of operation, and quantity of fuel burned. The applicant proposes to estimate the quantity of fuel by multiplying the amount of fuel used per hour at maximum horsepower by the total hours of operation.

Attachment R
Authority Forms

STATE OF WEST VIRGINIA
OFFICE OF THE ADJUTANT GENERAL
1703 COONSKIN DRIVE
CHARLESTON, WEST VIRGINIA 25311-1085

James A. Hoyer
Major General, WVARNG
The Adjutant General

(304) 561-6317
DSN: 623-6317
FAX (304) 561-6327

DEC 3 0 2013

NGWV-TAG

MEMORANDUM FOR RECORD

SUBJECT: Delegation of Persons to use Authority Line "FOR THE ADJUTANT GENERAL"

1. Reference: AR 25-50, Preparing and Managing Correspondence, Chapter 6.

2. Purpose: To delegate specific individuals, by name, authority to sign correspondence using the authority line "FOR THE ADJUTANT GENERAL."

3. General:

a. The authority line indicates that the person signing the correspondence has the authority to express the will of the Adjutant General. The designees listed below will only use the authority line for correspondence within the area of responsibility listed beside their name.

b. The Adjutant General retains the authority to cancel or withdraw his delegated signature from any person named herein at any time wither verbally or in writing. The delegated signature authority is restricted to the names listed and not inherent to a position or job. A change of the Adjutant General automatically rescinds this delegating authority.

4. This memorandum does not supersede nor rescind letters, "Delegation of Authority to Authorize and Authenticate Travel Orders", DA Form 1687 (Notice of Delegation of Authority – Receipt for Supplies); nor DD Form 577 (Signature Card) which were signed and approved by me. Only individuals noted on this memorandum may send e-mail under Distribution "A".

5. I, Major General James A. Hoyer, The Adjutant General, State of West Virginia, delegate to the persons shown below the authority to use "FOR THE ADJUTANT GENERAL" for correspondence within the scope of their listed position.

Brig Gen David T. Buckalew	Director, Joint Staff
BG Russell A. Crane	AAG, Installations & HLD
Brig Gen Timothy L. Frye	AAG, Air
BG Charles R. Veit	AAG, Army
COL William E. Crane	Chief of Staff, Army
COL Harrison B. Gilliam	Vice Chief of Joint Staff

NGWV-TAG
SUBJECT: Delegation of Persons to use Authority Line "FOR THE ADJUTANT GENERAL"

COL David P. Shafer	MILPO
COL Joseph P. Stephens	CFMO
COL William G. Suver	G3/POTO
Col Michael O. Cadle	Director of Staff, Air
Col Paige P. Hunter	HRO
LTC Kelly D. Ambrose	JAG
LTC Joseph S. Peal	J3
Mr. Richard L. Dillon	Advisor
Mr. Johnnie L. Young	Director of Operations, WVMA
Mrs. Rhonda Combs Wick	Chief Financial Officer
End of List	

JAMES A. HOYER
Major General, WVARNG
The Adjutant General

DISTRIBUTION:
"A"
Each Individual Listed