



VA
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Department of Veterans Affairs
Medical Center
1601 Kirkwood Highway
Wilmington, DE 19805

In Reply Refer To: 460/00

March 11, 2020

Attn: David Fees, P.E.
Director, Division of Air Quality, DNREC
State Street Commons
100 W Water Street, Suite 6A
Dover, DE 19904

Subject: Replacement of a diesel-fired emergency generator unit at Building 19
Department of Veterans Affairs Medical Center (VAMC)-Wilmington
Title V Permit: AQM-003/00077-Renewal 4

Dear Mr. Fees:

Attached please find our construction permit application for a diesel-fired Caterpillar 600 eKW (900 hp) emergency generator (EG) unit for Building 19. The proposed unit will replace an existing 600 KW Cummins EG unit. The Cummins EG unit is currently not operational.

Please note that Building 19 currently has a 1000 KW temporary mobile EG unit to support facility's emergency need. This was notified to the Department on December 5, 2019. The temporary mobile unit will be removed from the site once the proposed new EG unit is operational.

If you have questions or need additional information, please contact me at shaikh.tayeb@va.gov or by phone at (302) 994-2511, Ext. 5335.

Sincerely,


Shaikh A. Tayeb
Environmental Engineer/GEMS Coordinator

Attachments:

- AQM forms 1, 2, 3.3 and 5
- Manufacturer's specification
- DNREC permit application and advertisement fees (Check # 124 for \$215 & Check # 125 for \$325)

cc: US EPA (3AP00)
Bradley A. Klotz (DNREC)
Edward J. Gannon III (VAMC-Wilmington)
Marshall J. Murdaugh (VAMC-Wilmington)



DNREC – Division of Air Quality
Application to Construct, Operate, or Modify
Stationary Sources

Form AQM-1
Page 1 of 4

Administrative Information

One original and one copy of All Application Forms Should Be Mailed To:

*Division of Air Quality
100 West Water Street, Suite 6A
Dover, DE 19904*

*All Checks Should Be Made Payable To:
State of Delaware*

Company and Site Information	
1.	Company Name: Dept. of Veterans Affairs Medical Center ("VA Medical Center-Wilmington")
2.	Company Mailing Address: 1601 Kirkwood Hwy City: Wilmington State: DE Zip Code: 19805
3.	Site Name: VA Medical Center-Wilmington
4.	Site Mailing Address: Same as above (if different from above) City: State: Zip Code:
5.	Physical Location of Site: Same as above (if different from above) City: State: Zip Code:
6.	Site Billing Address: Same as above (if different from above) City: State: Zip Code:
7.	Air Quality Management Facility ID Number: 1000300077
8.	Site NAICS Code: 6221100 (list all that apply)
9.	Site SIC Code: 8062 (list all that apply)
10.	Site Location Coordinates: Latitude: 39 ° 44' 24.35" Longitude: 75 ° 36' 22.91"
11.	Is the Facility New or Existing? <input type="checkbox"/> NEW <input checked="" type="checkbox"/> EXISTING
<i>If the Facility is an Existing Facility, Complete the Rest of Question 11. If Not, Proceed to Question 12.</i>	
11.1.	Does the Facility Have Active Air Permits? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
12.	Is this Application For New Equipment or a Modification to Existing Equipment? <input checked="" type="checkbox"/> New Equipment <input type="checkbox"/> Modification of Existing Equipment <input type="checkbox"/> Other (Specify): Note: The proposed EG unit will replace an existing unit.
<i>If the application is for the modification of existing equipment, complete the rest of Question 12. If not, proceed to Question 13.</i>	



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Company and Site Information

12.1. Does the Equipment Have an Active Air Permit? ☐ YES ☒ NO

If the equipment has an active air permit, complete the rest of Question 12. If not, proceed to Question 13.

12.2. Permit Number of Existing Equipment:

13. Status of Equipment Being Applied For: ☒ Natural Minor Source
☐ Synthetic Minor Source
☐ Major Source
☐ Federally Enforceable Restrictions

14. Facility Status: ☐ Natural Minor Facility ☐ Synthetic Minor Facility ☒ Major Facility

If the facility is a Major Source, complete the rest of Question 14. If not, proceed to Question 15.

14.1. Responsible Official Name: **Vincent Kane**

14.2. Responsible Official Title: **Director**

Contact Information

15. Name of Owner or Facility Manager: **Edward J. Gannon III**

16. Title of Owner or Facility Manager: **Asst. Chief, Facilities & Engineering Services**

17. Permit Contact Name: **Shaikh A. Tayeb**

18. Permit Contact Title: **Environmental Engineer/GEMS Coordinator**

19. Permit Contact Telephone Number: **302-994-2511, X5335**

20. Permit Contact Fax Number: **302-633-5475**

21. Permit Contact E-Mail Address: **shaikh.tayeb@va.gov**

22. Billing Contact Name: **Edward J. Gannon II**

23. Billing Contact Title: **Asst. Chief, Facilities & Engineering Services**

24. Billing Contact Telephone Number: **302-994-2511, X 4554**

25. Billing Contact Fax Number: **302-633-5475**

26. Billing Contact E-Mail Address: **Edward.GannonIII@va.gov@va.gov**

Proposed Construction and Operating Schedule

27. When Will the Proposed Construction/Installation/Modification Occur: **July 2020**

28. Proposed Operating Schedule: **Emergency use as needed** hours/day days/week
weeks/year

28.1. Is There Any Additional Information Regarding the Operating Schedule? ☐ YES ☒ NO

If YES, complete the rest of Question 28. If NO, proceed to Question 29.



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Proposed Construction and Operating Schedule

28.2. Describe the Additional Information:

Coastal Zone Information

29. Is the Facility Located in the Coastal Zone? ☐ YES ☒ NO

If the facility is located in the Coastal Zone complete the rest of Question 29. If not, proceed to Question 30.

29.1. Is a Coastal Zone Permit Required for Construction or
Operation of the Source Being Applied for? ☐ YES ☐ NO

Attach a copy of the Coastal Zone Determination if it has not been previously submitted

If a Coastal Zone Permit is required complete the rest of Question 29. If not, proceed to Question 30.

29.2. Has a Coastal Zone Permit Been Issued? ☐ YES ☐ NO

Attach a copy of the Coastal Zone Permit if it has not been previously submitted

Local Zoning Information

30. Parcel Zoning:

Attach Proof of Local Zoning if it has not been previously submitted

Application Information

31. Is the Appropriate Application Fee Attached? ☒ YES ☐ NO

32. Is the Advertising Fee Attached? ☒ YES ☐ NO

For help determining your application and advertising fees see:

<http://www.dnrec.state.de.us/DNREC2000/Library/Fees/DE%20Permit%20Fees.htm>

Attach the appropriate fees. Note that your Application will not be considered complete if the appropriate fees are not included.

33. Is a Cover Letter Describing the Process Attached? ☒ YES ☐ NO

Attach a brief cover letter describing your Application.

If the Facility is a New Facility complete Question 34. If not, proceed to Question 35.

34. Is a Copy of the Applicant Background Information
Questionnaire on Record at the Department? ☒ YES ☐ NO

If NO, complete the rest of Question 34. If YES, process to Question 35.

34.1 Is a Copy of the Applicant Background Information
Questionnaire Attached? ☐ YES ☒ NO

For a copy of the Applicant Background Information Questionnaire see

<http://www.dnrec.delaware.gov/services/Documents/Chapter79Form.pdf>

Attach a copy of the Applicant Background Information Questionnaire if applicable.

35. Check Which Application Forms are Attached:



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Form AQM-1
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Application Information

- | | | | | | | |
|---|----------------------------------|-----------------------------------|-----------------------------------|----------------------------------|---|--------------------------------|
| <input checked="" type="checkbox"/> AQM-1 | <input type="checkbox"/> AQM-3.4 | <input type="checkbox"/> AQM-3.9 | <input type="checkbox"/> AQM-3.14 | <input type="checkbox"/> AQM-4.4 | <input type="checkbox"/> AQM-4.9 | <input type="checkbox"/> AQM-6 |
| <input checked="" type="checkbox"/> AQM-2 | <input type="checkbox"/> AQM-3.5 | <input type="checkbox"/> AQM-3.10 | <input type="checkbox"/> AQM-3.15 | <input type="checkbox"/> AQM-4.5 | <input type="checkbox"/> AQM-4.10 | |
| <input type="checkbox"/> AQM-3.1 | <input type="checkbox"/> AQM-3.6 | <input type="checkbox"/> AQM-3.11 | <input type="checkbox"/> AQM-4.1 | <input type="checkbox"/> AQM-4.6 | <input type="checkbox"/> AQM-4.11 | |
| <input type="checkbox"/> AQM-3.2 | <input type="checkbox"/> AQM-3.7 | <input type="checkbox"/> AQM-3.12 | <input type="checkbox"/> AQM-4.2 | <input type="checkbox"/> AQM-4.7 | <input type="checkbox"/> AQM-4.12 | |
| <input checked="" type="checkbox"/> AQM-3.3 | <input type="checkbox"/> AQM-3.8 | <input type="checkbox"/> AQM-3.13 | <input type="checkbox"/> AQM-4.3 | <input type="checkbox"/> AQM-4.8 | <input checked="" type="checkbox"/> AQM-5 | |

36. Check Which Documents are Attached:

- | | |
|---|--|
| <input type="checkbox"/> Coastal Zone Determination | <input type="checkbox"/> Claim of Confidentiality |
| <input type="checkbox"/> Coastal Zone Permit | <input type="checkbox"/> Manufacturer Specification(s) |
| <input type="checkbox"/> Proof of Local Zoning | <input type="checkbox"/> Material Safety Data Sheets (MSDSs) |
| <input type="checkbox"/> Application Fee | <input type="checkbox"/> Supporting Calculations |
| <input type="checkbox"/> Advertising Fee | <input type="checkbox"/> Descriptive Cover Letter |
| <input type="checkbox"/> Applicant Background Information Questionnaire | <input type="checkbox"/> Other (Specify): |

Confidentiality Information

37. Do You Consider Any of the Information Submitted With this Application Confidential? ☐ YES ☒ NO

For help on how to submit a confidentiality claim see

<http://regulations.delaware.gov/register/december2011/final/15%20DE%20Reg%20864%2012-01-11.htm>

If a Claim of Confidentiality is made it MUST meet the requirements of Section 6 of DNREC's Freedom of Information ("FOIA") Regulation at the time the Application is submitted.

Signature Block

I, the undersigned, hereby certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all of its attachments as to the truth, accuracy, and completeness of this information. I certify based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete. By signing this form, I certify that I have not changed, altered, or deleted any portions of this application. I acknowledge that I cannot commence construction, alteration, modification or initiate operation until I receive written approval (i.e. permit, registration, or exemption letter) from the Department. I acknowledge that I may be required to perform testing of the equipment to receive construction or operation approval, and that if I do not receive approval to construct or operate that I may appeal the decision.

Vincent Kane

Owner or Operator

3/19/2020
Date

Signature of Owner or Operator

One Original and One Copy of All Application Forms Should Be Mailed To:
Division of Air Quality
100 W. Water Street, Suite 6A
Dover, Delaware 19904

All Checks Should Be Made Payable To:
State of Delaware

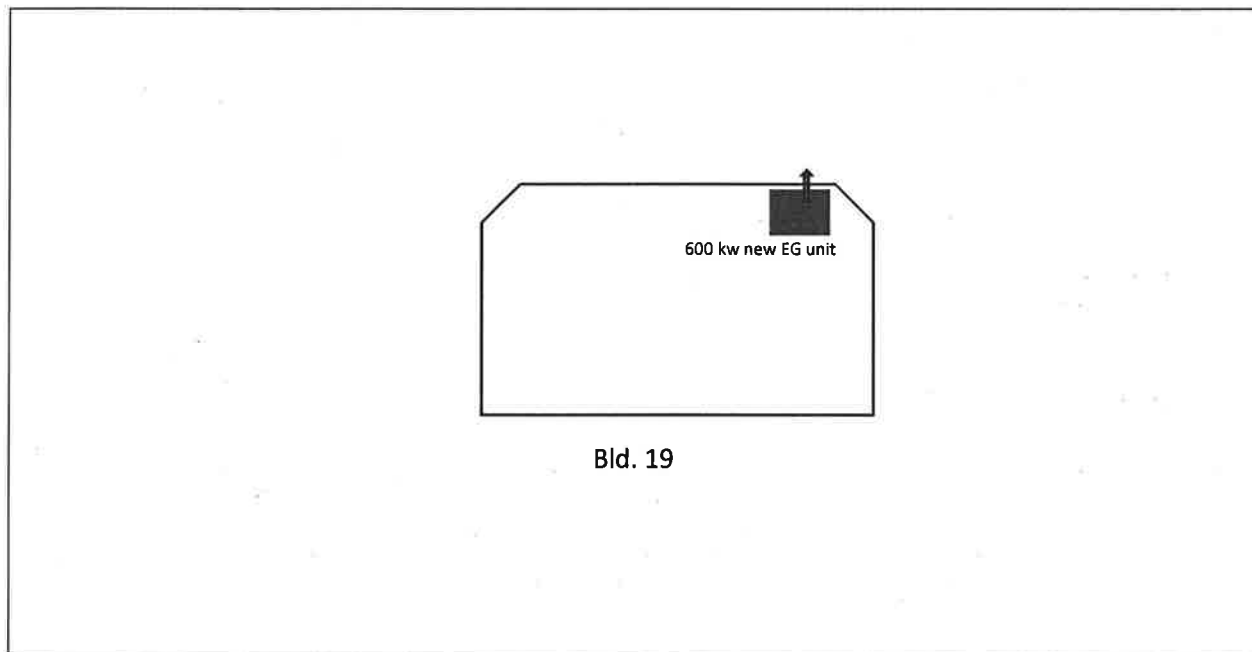


Form AQM-2 Page 1 of 1

**DNREC – Air Quality Management Section Application to Construct, Operate, or Modify
Stationary Sources**

Process Flow Diagram

Sketch the Process Flow Diagram for the equipment or process being applied for. Include each emission unit and control device (even existing emission units that will not be modified by this application). You may identify each emission unit with a simple shape. Label each emission unit and control device with a unique identifier. Show the relationship between each emission unit and/or control device by drawing arrows between them to indicate the flow of air pollutants. List which application forms are included for each emission unit or control device below the shape representing each emission unit or control device. See <http://www.delaware.gov/reg2/default.htm> for example Process Flow Diagrams for common processes. If you already have a Process Flow Diagram for the equipment or process being applied for, you may attach it to the application instead of using this form.





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Application to Construct, Operate, or Modify
Stationary Sources

Form AQM-3.3
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Generator/Engine Application

If you are using this form electronically, press F1 at any time for help

General Information	
1.	Facility Name: Dept. of Veterans Affairs Medical Center ("VA Medical Center Wilmington")
2.	Equipment ID: Bld. 19 EG
3.	Manufacturer: Caterpillar
4.	Model: Cat C18 (engine model)
5.	Serial Number:
6.	Maximum Power Rating of Engine: 900 horsepower
7.	Standby Power Rating of Generator: 600 kilowatt
8.	Date of Manufacture: 2020
9.	Installation Date: July 2020
10.	Is the Equipment Being Applied For a Generator or an Engine? <input checked="" type="checkbox"/> Generator <input type="checkbox"/> Engine
<i>If the equipment is a Generator, complete the rest of Question 10. If not, proceed to Question 11.</i>	
10.1.	Is the Generator Existing or New? <input type="checkbox"/> Existing <input checked="" type="checkbox"/> New
10.2.	Will the Generator Be Classified as an Emergency Generator or a Distributed Generator? <input checked="" type="checkbox"/> Emergency <input type="checkbox"/> Distributed
10.3.	Has an Initial Notification Pursuant to 7 DE Admin. Code 1144 Been Submitted for this Generator? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
<i>If NO, include a copy of the Initial Notification with this application.</i>	
10.4.	Have the Emissions From the Generator Been Certified to Meet the Currently Applicable US EPA Non-Road Emission Standards? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
<i>If YES, attach a copy of the Manufacturer's Certification. If NO, attach copies of any/all of the following: any maintenance or operating requirements/instructions provided by the generator manufacturer; the type, or a description, of any emission control equipment use; and/or emissions test data for the generator (such as a manufacturer's technical data sheet), any supporting documentation for any emission control equipment used, any supporting calculations, any quality control or assurance information, and any other information needed to demonstrate compliance with the requirements. Proceed to Question 11.</i>	
11.	Primary Fuel: <input type="checkbox"/> Natural Gas <input checked="" type="checkbox"/> Diesel <input type="checkbox"/> Propane <input type="checkbox"/> Biodiesel <input type="checkbox"/> Other (specify):
11.1.	Maximum Annual Primary Fuel Consumption: 17,700 gal
11.2.	Heat Content of Primary Fuel: 137,000 BTU/gal
11.3.	Maximum Firing Rate: 35.4 gallons/hr
11.4.	Percent Sulfur of Primary Fuel: 0.0015 %
12.	Secondary Fuel: <input type="checkbox"/> Natural Gas <input type="checkbox"/> Diesel <input type="checkbox"/> Propane <input type="checkbox"/> Biodiesel <input type="checkbox"/> Other (specify):



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Stationary Sources

Form AQM-3.3
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General Information

- 12.1. Maximum Annual Secondary Fuel Consumption: **MMCF**
- 12.2. Heat Content of Secondary Fuel: **BTU/CF**
- 12.3. Maximum Firing Rate: **MMCF/hr**
- 12.4. Percent Sulfur of Secondary Fuel: **%**
13. Is SCR/NSCR/SNCR/Ammonia Injection Used: ☐ YES ☐ NO

Stack Information

14. How Does the Process Equipment Vent:
(check all that apply)
☒ Directly to the Atmosphere
☐ Through a Control Device Covered by Forms AQM-4.1 through 4.12

If any of the process equipment vents directly to the atmosphere proceed to Question 15. If the process equipment vents through a control device, provide the stack parameters on the control device form and proceed to Question 16.

15. Emission Point Name: **Bld. 19 EG stack**
- 15.1. Stack Height Above Grade: **13.6 feet**
- 15.2. Stack Exit Diameter: **0.66 feet**
(Provide Stack Dimensions If Rectangular Stack)
- 15.3. Is a Stack Cap Present? ☒ YES ☐ NO
- 15.4. Stack Configuration: ☒ Vertical ☐ Horizontal ☐ Downward-Venting
(check all that apply) ☐ Other (Specify):
- 15.5. Stack Exit Gas Temperature: **994 °F**
- 15.6. Stack Exit Gas Flow Rate: **4784 ACFM**
- 15.7. Distance to Nearest Property Line: **250 ft**
- 15.8. Describe Nearest Obstruction: **Bld. 19**
- 15.9. Height of Nearest Obstruction: **22 ft**
- 15.10. Distance to Nearest Obstruction: **45 ft**
- 15.11. Are Stack Sampling Ports Provided? ☐ YES ☒ NO

Monitoring Information

16. Will Emissions Data be Recorded by a Continuous Emission Monitoring System? ☐ YES ☒ NO
- If Yes, Attach a Copy of the Continuous Emission Monitoring System Manufacturer's Specification Sheets**
- If YES, complete the rest of Question 16. If NO, proceed to Question 17.*
- 16.1. Pollutants Monitored: ☐ VOCs ☐ HAPs ☐ PM ☐ PM₁₀ ☐ PM_{2.5} ☐ NO_x ☐ SO_x ☐ Metals
☐ Other (Specify):
- 16.2. Describe the Continuous Emission Monitoring System:



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Form AQM-3.3
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Monitoring Information

16.3. Manufacturer:

16.4. Model:

16.5. Serial Number:

16.6. Will Multiple Emission Units Be Monitored at the Same Point? ☐ YES ☐ NO

If YES, complete the rest of Question 16. If NO, proceed to Question 17.

16.7. Emission Units Monitored:

16.8. Will More Than One Emission Unit be Emitting From the Combined Point At Any Time? ☐ YES ☐ NO

If YES, complete the rest of Question 15. If NO, proceed to Question 17.

16.9. Emission Units Emitting Simultaneously:

Visible Emissions Monitoring Information

For Primary Fuel

17. Proposed Technique Used to Monitor Visible Emissions: ☐ Opacity Monitor (COM)
☐ Manual (Method 9)
☐ Manual (Method 22)
☒ Other (Describe): **Presence or absence- 5**

min VE monitoring when in operation

If an Opacity Monitor (COM) is used, complete the rest of Question 17. If not, proceed to Question 18.

17.1. Describe the Continuous Opacity Monitoring System:

17.2. Manufacturer:

17.3. Model:

17.4. Serial Number:

18. Proposed Frequency of Opacity Monitoring:

For Secondary Fuel. If no Secondary Fuel is used, proceed to Question 20.

19. Proposed Technique Used to Monitor Visible Emissions: ☐ Opacity Monitor (COMs)
☐ Manual (Method 9)
☐ Manual (Method 22)
☐ Other (Describe): **N/A**

If an Opacity Monitor (COMs) is used, complete the rest of Question 19. If not, proceed to Question 20.

19.1. Describe the Continuous Opacity Monitoring System: **N/A**

19.2. Manufacturer:

19.3. Model:

19.4. Serial Number:

20. Proposed Frequency of Opacity Monitoring:



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Voluntary Emission Limitation Request Information

21. Are You Requesting Any Voluntary Emission Limitations to Avoid Major Source Status, Minor New Source Review, MACT, NSPS, etc.? ☐ YES ☒ NO

If YES, complete the rest of Question 21. If NO, proceed to Question 22.

- 21.1. Describe Any Proposed Emission Limitations: **N/A**

Voluntary Operating Limitation Request Information

22. Are You Requesting Any Voluntary Operating Limitations to Avoid Major Source Status, Minor New Source Review, MACT, NSPS, etc.? ☐ YES ☒ NO

If YES, complete the rest of Question 22. If NO, proceed to Question 23.

- 22.1. Describe Any Proposed Operating Limitations: **The proposed EG unit will be operated for emergency need. The proposed unit will replace an existing 600 KW Cummins EG unit (designated as EG-04 per page 3 of Title V permit) at Bld. 19.**

Additional Information

23. Is There Any Additional Information Pertinent to this Application? ☒ YES ☐ NO

If YES, complete the rest of Question 23.

- 22.1. Describe: **The proposed unit is not subject to MNSR per emissions information shown on AQM-5.**



**DNREC – Division of Air Quality
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Form AQM-5
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Emissions Information Application

If you are using this form electronically, press F1 at any time for help

Process Information	
1.	Number of Individual Pieces of Process Equipment in Process: 1
2.	Number of Individual Control Devices in Process: 0

Emissions Information for First Emission Point/Stack	
3.	Emission Point Name: Temp. EG stack
4.	Equipment ID Number for all Process Equipment and Control Devices Venting Through Emission Point/Stack: Temp. EG Cummins
5.	Pollutant Emissions

If more than 15 pollutants are emitted at this Emission Point/Stack, attach additional copies of this page as needed.

Pollutant Name (Specify VOCs and HAPs Individually in 5.10 through 5.18)	CAS Number (Not required for 5.1 through 5.10)	Maximum Uncontrolled Emission Rate at Design Capacity	Maximum Controlled Emission Rate at Design Capacity	Annual Potential to Emit (PTE)	Requested Permitted Annual Emissions
5.1. Particulate Matter (PM)		0.06 lbs/hour	lbs/hour	0.014 tons/year	tons/year
5.2. PM ₁₀		lbs/hour	lbs/hour	tons/year	tons/year
5.3. PM _{2.5}		lbs/hour	lbs/hour	tons/year	tons/year
5.4. Sulfur Oxides (SO _x)		0.011 lbs/hour	lbs/hour	0.0028 tons/year	tons/year
5.5. Nitrogen Oxides (NO _x)		10.88 lbs/hour	lbs/hour	2.72 tons/year	tons/year
5.6. Carbon Monoxide (CO)		0.58 lbs/hour	lbs/hour	0.147 tons/year	tons/year
5.7. Total Volatile Organic Compounds (VOCs)		0.02 lbs/hour	lbs/hour	0.005 tons/year	tons/year
5.8. Total Hazardous Air		lbs/hour	lbs/hour	tons/year	tons/year



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<u>Emissions Information for First Emission Point/Stack</u>					
Pollutants (HAPs)					
5.9. CO ₂		lbs/hour	lbs/hour	tons/year	tons/year
5.10. CO _{2e}		lbs/hour	lbs/hour	tons/year	tons/year
5.11.		lbs/hour	lbs/hour	tons/year	tons/year
5.12.		lbs/hour	lbs/hour	tons/year	tons/year
5.13.		lbs/hour	lbs/hour	tons/year	tons/year
5.14.		lbs/hour	lbs/hour	tons/year	tons/year
5.15.		lbs/hour	lbs/hour	tons/year	tons/year
6. Provide Any Additional Information Necessary to Understanding the Emission Rates Provided Above:					
Attach the Basis of Determination or Calculations for each Emission Rate provided above.					

<u>Emissions Information for Second Emission Point/Stack</u>					
7. Emission Point Name: N/A					
8. Equipment ID Number for all Process Equipment and Control Devices Venting Through Emission Point/Stack:					
9. Pollutant Emissions					
If more than 15 pollutants are emitted at this Emission Point/Stack, attach additional copies of this page as needed.					
Pollutant Name (Specify VOCs and HAPs Individually in 9.10 through 9.18)	CAS Number (Not required for 9.1 through 9.10)	Maximum Uncontrolled Emission Rate at Design Capacity	Maximum Controlled Emission Rate at Design Capacity	Annual Potential to Emit (PTE)	Requested Permitted Annual Emissions
9.1. Particulate Matter (PM)		lbs/hour	lbs/hour	tons/year	tons/year
9.2. PM ₁₀		lbs/hour	lbs/hour	tons/year	tons/year



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<u>Emissions Information for Second Emission Point/Stack</u>				
		lbs/hour	lbs/hour	tons/year
9.3.	PM _{2.5}			tons/year
9.4.	Sulfur Oxides (SO _x)	lbs/hour	lbs/hour	tons/year
9.5.	Nitrogen Oxides (NO _x)	lbs/hour	lbs/hour	tons/year
9.6.	Carbon Monoxide (CO)	lbs/hour	lbs/hour	tons/year
9.7.	Total Volatile Organic Compounds (VOCs)	lbs/hour	lbs/hour	tons/year
9.8.	Total Hazardous Air Pollutants (HAPs)	lbs/hour	lbs/hour	tons/year
9.9.	CO ₂	lbs/hour	lbs/hour	tons/year
9.10.	CO _{2e}	lbs/hour	lbs/hour	tons/year
9.11.		lbs/hour	lbs/hour	tons/year
9.12.		lbs/hour	lbs/hour	tons/year
9.13.		lbs/hour	lbs/hour	tons/year
9.14.		lbs/hour	lbs/hour	tons/year
9.15.		lbs/hour	lbs/hour	tons/year
10. Provide Any Additional Information Necessary to Understanding the Emission Rates Provided Above:				
Attach the Basis of Determination or Calculations for each Emission Rate provided above.				

<u>Emissions Information for Third Emission Point/Stack</u>	
11.	Emission Point Name: N/A
12.	Equipment ID Number for all Process Equipment and Control Devices Venting Through Emission Point/Stack:
13.	Pollutant Emissions



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Emissions Information for Third Emission Point/Stack					
If more than 15 pollutants are emitted at this Emission Point/Stack, attach additional copies of this page as needed.					
Pollutant Name (Specify VOCs and HAPs Individually in 13.10 through 13.18)	CAS Number (Not required for 13.1 through 13.10)	Maximum Uncontrolled Emission Rate at Design Capacity	Maximum Controlled Emission Rate at Design Capacity	Annual Potential to Emit (PTE)	Requested Permitted Annual Emissions
13.1. Particulate Matter (PM)		lbs/hour	lbs/hour	tons/year	tons/year
13.2. PM ₁₀		lbs/hour	lbs/hour	tons/year	tons/year
13.3. PM _{2.5}		lbs/hour	lbs/hour	tons/year	tons/year
13.4. Sulfur Oxides (SO _x)		lbs/hour	lbs/hour	tons/year	tons/year
13.5. Nitrogen Oxides (NO _x)		lbs/hour	lbs/hour	tons/year	tons/year
13.6. Carbon Monoxide (CO)		lbs/hour	lbs/hour	tons/year	tons/year
13.7. Total Volatile Organic Compounds (VOCs)		lbs/hour	lbs/hour	tons/year	tons/year
13.8. Total Hazardous Air Pollutants (HAPs)		lbs/hour	lbs/hour	tons/year	tons/year
13.9. CO ₂		lbs/hour	lbs/hour	tons/year	tons/year
13.10. CO _{2e}		lbs/hour	lbs/hour	tons/year	tons/year
13.11.		lbs/hour	lbs/hour	tons/year	tons/year
13.12.		lbs/hour	lbs/hour	tons/year	tons/year
13.13.		lbs/hour	lbs/hour	tons/year	tons/year
13.14.		lbs/hour	lbs/hour	tons/year	tons/year
13.15.		lbs/hour	lbs/hour	tons/year	tons/year
14. Provide Any Additional Information Necessary to Understanding the Emission Rates Provided Above:					



**DNREC – Division of Air Quality
Application to Construct, Operate, or Modify
Stationary Sources)**

Form AQM-5
Page 5 of 8

<u>Emissions Information for Third Emission Point/Stack</u>
Attach the Basis of Determination or Calculations for each Emission Rate provided above.

<u>Emissions Information for Fourth Emission Point/Stack</u>					
15. Emission Point Name: N/A					
16. Equipment ID Number for all Process Equipment and Control Devices Venting Through Emission Point/Stack:					
17. Pollutant Emissions					
If more than 15 pollutants are emitted at this Emission Point/Stack, attach additional copies of this page as needed.					
Pollutant Name (Specify VOCs and HAPs Individually in 17.10 through 17.18)	CAS Number (Not required for 17.1 through 17.10)	Maximum Uncontrolled Emission Rate at Design Capacity	Maximum Controlled Emission Rate at Design Capacity	Annual Potential to Emit (PTE)	Requested Permitted Annual Emissions
17.1. Particulate Matter (PM)		lbs/hour	lbs/hour	tons/year	tons/year
17.2. PM ₁₀		lbs/hour	lbs/hour	tons/year	tons/year
17.3. PM _{2.5}		lbs/hour	lbs/hour	tons/year	tons/year
17.4. Sulfur Oxides (SO _x)		lbs/hour	lbs/hour	tons/year	tons/year
17.5. Nitrogen Oxides (NO _x)		lbs/hour	lbs/hour	tons/year	tons/year
17.6. Carbon Monoxide (CO)		lbs/hour	lbs/hour	tons/year	tons/year
17.7. Volatile Organic Compounds (VOCs)		lbs/hour	lbs/hour	tons/year	tons/year
17.8. Total Hazardous Air Pollutants (HAPs)		lbs/hour	lbs/hour	tons/year	tons/year
17.9. CO ₂		lbs/hour	lbs/hour	tons/year	tons/year
17.10. CO _{2e}		lbs/hour	lbs/hour	tons/year	tons/year
17.11.		lbs/hour	lbs/hour	tons/year	tons/year
17.12.		lbs/hour	lbs/hour	tons/year	tons/year



**DNREC – Division of Air Quality
Application to Construct, Operate, or Modify
Stationary Sources)**

Form AQM-5
Page 6 of 8

Emissions Information for Fourth Emission Point/Stack				
	lbs/hour	lbs/hour	tons/year	tons/year
17.13.				
17.14.				
17.15.				
18. Provide Any Additional Information Necessary to Understanding the Emission Rates Provided Above:				
Attach the Basis of Determination or Calculations for each Emission Rate provided above.				
If there are more than four Emission Points/Stacks, attach additional copies of this form as needed.				

Overall Process Emissions					
19. Pollutant Emissions					
If more than 15 pollutants are emitted from this Process, attach additional copies of this page as needed.					
Pollutant Name (Specify VOCs and HAPs Individually in 19.10 through 19.18)	CAS Number (Not required for 19.1 through 19.10)	Maximum Uncontrolled Emission Rate at Design Capacity	Maximum Controlled Emission Rate at Design Capacity	Annual Potential to Emit (PTE)	Requested Permitted Annual Emissions
19.1. Particulate Matter (PM)		lbs/hour	lbs/hour	tons/year	tons/year
19.2. PM ₁₀		lbs/hour	lbs/hour	tons/year	tons/year
19.3. PM _{2.5}		lbs/hour	lbs/hour	tons/year	tons/year
19.4. Sulfur Oxides (SO _x)		lbs/hour	lbs/hour	tons/year	tons/year
19.5. Nitrogen Oxides (NO _x)		lbs/hour	lbs/hour	tons/year	tons/year
19.6. Carbon Monoxide (CO)		lbs/hour	lbs/hour	tons/year	tons/year
19.7. Total Volatile Organic Compounds (VOCs)		lbs/hour	lbs/hour	tons/year	tons/year
19.8. Total Hazardous Air Pollutants (HAPs)		lbs/hour	lbs/hour	tons/year	tons/year



DNREC – Division of Air Quality
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Stationary Sources)

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Page 7 of 8

Overall Process Emissions				
		lbs/hour	lbs/hour	tons/year
19.9.	CO ₂			tons/year
19.10.	CO _{2e}			tons/year
19.12.				tons/year
19.13.				tons/year
19.14.				tons/year
19.15.				tons/year
20. Provide Any Additional Information Necessary to Understanding the Emission Rates Provided Above:				
Attach the Basis of Determination or Calculations for each Emission Rate provided above.				

Minor New Source Review Information	
21.	Does the Process Have the Potential to Emit More Than Five Tons Per Year of Any Pollutant? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
22.	Is the Source New or Existing? <input checked="" type="checkbox"/> NEW <input type="checkbox"/> EXISTING <small>See Question 11 of AQM-1</small> If the Process has the Potential to Emit more than five tons per year of any pollutant, and is a New Source, a Control Technology Analysis pursuant to Regulation No. 1125 Section 4 must be conducted and attached to this application.

Major New Source Review Information	
23.	Does the Process Have the Potential to Emit More Than the Significance Level for Any Pollutant? (Check All That Apply)



DNREC – Division of Air Quality
Application to Construct, Operate, or Modify
Stationary Sources)

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Page 8 of 8

- ☐ Greater Than 25 Tons Per Year of Particulate Matter (PM)
☐ Greater Than 15 Tons Per Year of PM₁₀
☐ Greater Than 10 Tons Per Year of PM_{2.5}
☐ Greater Than 40 Tons Per Year of Sulfur Dioxide (SO₂)
☐ Greater Than 25 Tons Per Year of Nitrogen Oxides (NO_x) in New Castle and Kent County
☐ Greater Than 100 Tons Per Year of Nitrogen Oxides (NO_x) in Sussex County
☐ Greater Than 100 Tons Per Year of Carbon Monoxide (CO)
☐ Greater Than 25 Tons Per Year of Total Volatile Organic Compounds (VOCs) in New Castle and Kent County
☐ Greater Than 50 Tons Per Year of Total Volatile Organic Compounds (VOCs) in Sussex County
☐ Greater Than 75,000 Tons Per Year of Equivalent Carbon Dioxide (CO_{2e})

If the Process has the Potential to Emit greater than any of the amounts listed above 7 DE Admin. Code 1125 Sections 2 and/or 3 apply. Contact the Department at (302) 323-4542 or (302) 739-9402 for additional information

Additional Information

24. Is There Any Additional Information Pertinent to this Application? ☐ YES ☒ NO

If YES, complete the rest of Question 24.

24.1. Describe: 1) This is a replacement EG unit at Bld. 19.

2) MNSR is not applicable per the PTE calculations. See PTE info, Section 5, Page 1 of AQM-5.

Example calculation for NOx:

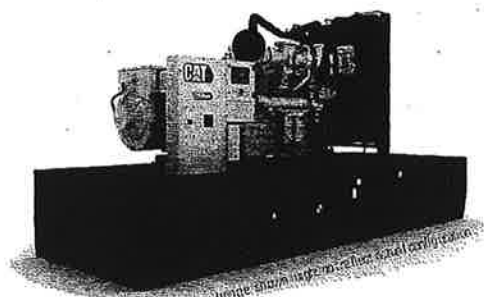
Emission factor: 5.5 gm/hp-hr (manufacturer's spec); Conversion factor: 1 gm=0.0022 lb

NOx PTE @ 500 hrs/yr = (5.5 gm/hp-hr x 0.0022 lbs/1 gm) x 900 hp x 500 hrs/yr x 1 ton/2000 lbs = 2.72 tpy

Cat® C18 GC DIESEL GENERATOR SETS



Standby: 60Hz, 480V & 600V



Engine Model	Cat® C18 ACERT™ In-line 6, 4-cyclediesel
Bore x Stroke	145mm x 183mm (5.7in x 7.2in)
Displacement	18.1 L (1106 in³)
Compression Ratio	14.5:1
Aspiration	Turbocharged Air-to-Air Aftercooled
Fuel Injection System	MEUI
Governor	ElectronicADEM™ A4

PACKAGE PERFORMANCE

Standby	Performance Strategy
600 ekW, 750kVA	EPA Certified for Stationary Emergency Application

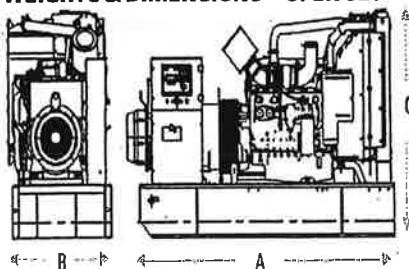
Performance	Standby	
Frequency	60 Hz	
Genset Power Rating	750 kVA	
Gen set power rating with fan @ 0.8 power factor	600 ekW	
Fuelling strategy	TIER II	
Performance Number	DM8518	
Fuel Consumption		
100% load with fan	161.1 L/hr	35.4 gal/hr
75% load with fan	129.6 L/hr	28.5 gal/hr
50% load with fan	91.7 L/hr	20.2 gal/hr
25% load with fan	46.8 L/hr	12.3 gal/hr
Cooling System¹		
Radiator air flow restriction(system)	0.12 kPa	0.48 in. Water
Radiator air flow	803 m³/min	28357 cfm
Engine coolant capacity	20.8 L	5.5 gal
Radiator coolant capacity	61 L	16 gal
Total coolant capacity	82 L	22 gal
Inlet Air		
Combustion air inlet flow rate	47.8 m³/min	994.3 cfm
Max. Allowable Combustion Air Inlet Temp	49 ° C	122 ° F
Exhaust System		
Exhaust stack gas temperature	534.6 ° C	994.3 ° F
Exhaust gas flow rate	135.5 m³/min	4784.4 cfm
Exhaust system backpressure (maximum allowable)	10.0 kPa	40.0 in. water
Heat Rejection		
Heat rejection to jacket water	180 kW	10236 Btu/min
Heat rejection to exhaust (total)	595 kW	33837 Btu/min
Heat rejection to aftercooler	141 kW	8019 Btu/min
Heat rejection to atmosphere from engine	77 kW	4379 Btu/min
Heat rejection from alternator	33 kW	1854 Btu/min

Cat® C18 GC DIESEL GENERATOR SETS



Emissions(Nominal) ²		Standby			
NOx		2703.5 mg/Nm³		5.5 g/hp-hr	
CO		161.0 mg/Nm³		0.3 g/hp-hr	
HC		4.6 mg/Nm³		0.01 g/hp-hr	
PM		13.2 mg/Nm³		0.03 g/hp-hr	
Alternator ³		Standby			
Voltages		480V		600V	
Motor Starting Capability @ 30% Voltage Dip		1199		1292	
Current		902.1		721.7	
Frame Size		M3175L4		M3156L4	
Excitation		PMG		AREP	
Temperature Rise		105°C	189°	130°	234°F

WEIGHTS & DIMENSIONS – OPEN SET



Base	Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Generator Set Weight kg (lb)
Skid (Wide Base)	4980 (196.1)	1865 (73.4)	2009 (79.1)	4064 (8959.6)
Integral Tank base	4815 (189.6)	1630 (64.2)	2560 (100.8)	5283 (11647.0)

FUEL TANK CAPACITY

Tank Design	Total Capacity		Useable Capacity	
	Litre	Gallon	Litre	Gallon
Integral	4292	1133.8	3889	1027.3

DEFINITIONS AND CONDITIONS:

¹For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.

²Emissions data measurement procedures are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state operating conditions of 77° F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 BTU/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.

³UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics. Generator temperature rise is based on a 40° C ambient per NEMA MG1-32.

APPLICABLE CODES AND STANDARDS:

AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200, NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG1-22, NEMA MG1-33, 2006/95/EC, 2006/42/EC, 2004/108/EC.

Note: Codes may not be available in all model configurations. Please consult your local Cat Dealer representative for availability.

STANDBY: Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

RATINGS: Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions.

Fuel Rates are based on fuel oil of 35° API (16° C (60° F)) gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/litre (7.001 lbsy/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Caterpillar representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.

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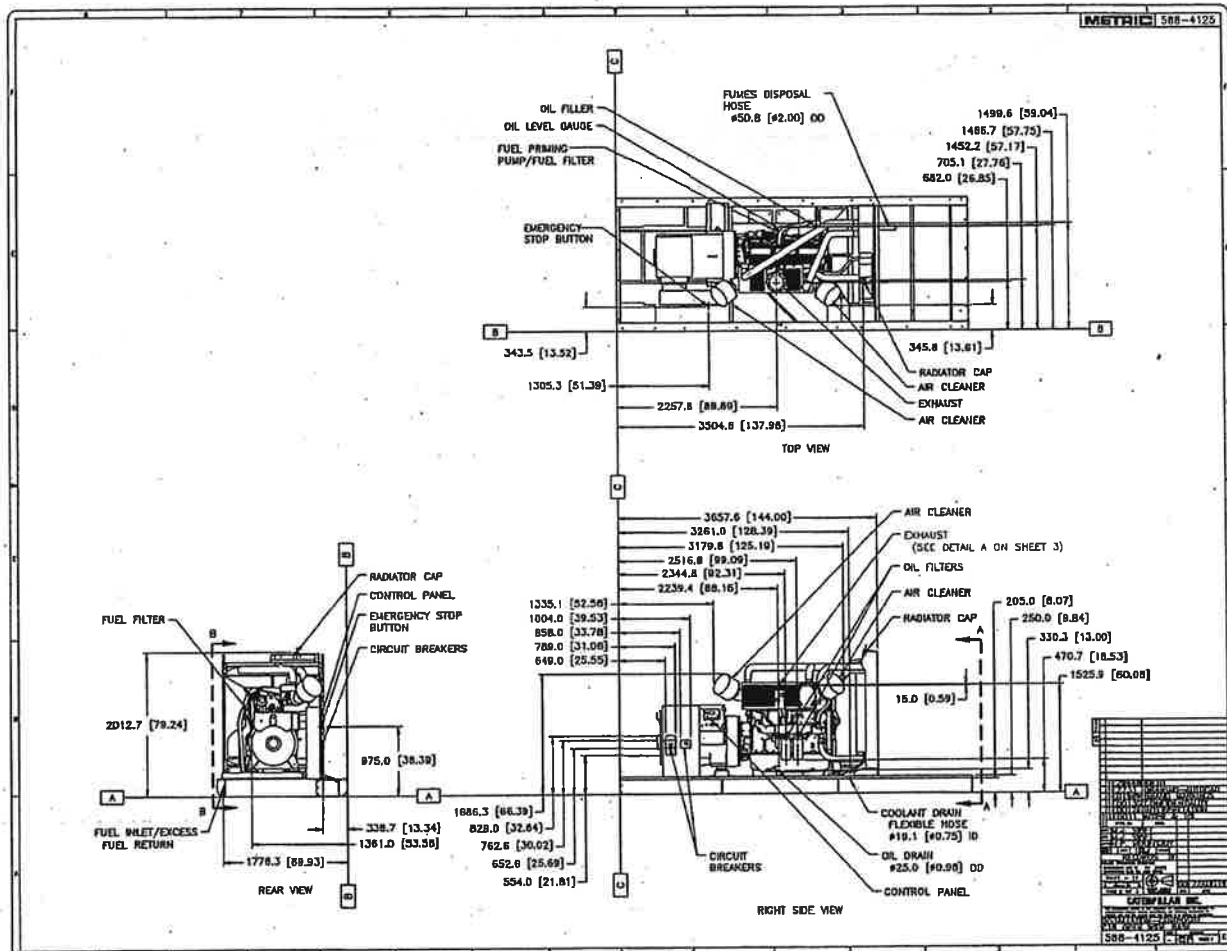
www.Cat.com/electrifypower

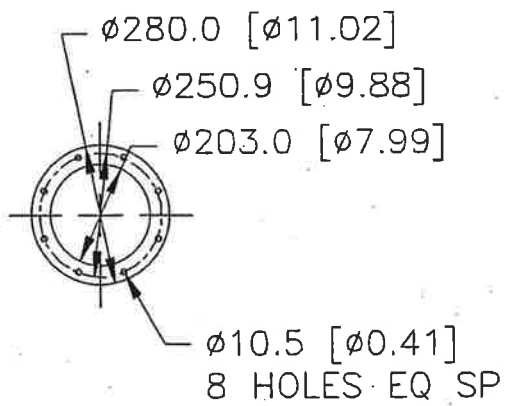
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FOLEY

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DIMENSIONAL DRAWINGS



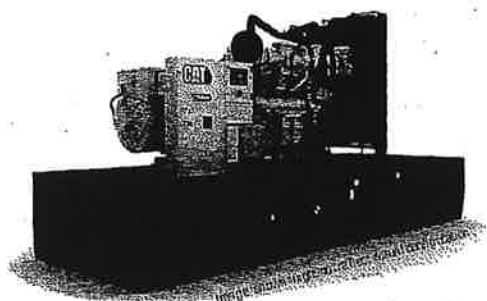


DETAIL A
SCALE 1=8

Cat® C18 GC DIESEL GENERATOR SETS



Standby: 60Hz, 480V & 600V



Engine Model	Cat® C18 ACERT™ In-line 6, 4-cycle diesel
Bore x Stroke	145mm x 183mm (5.7in x 7.2in)
Displacement	18.1 L (1106 in³)
Compression Ratio	14.5:1
Aspiration	Turbocharged Air-to-Air Aftercooled
Fuel Injection System	MEUI
Governor	Electronic ADEM™ A4

PACKAGE PERFORMANCE

Standby	Performance Strategy
600 kW, 750 kVA	EPA Certified for Stationary Emergency Application

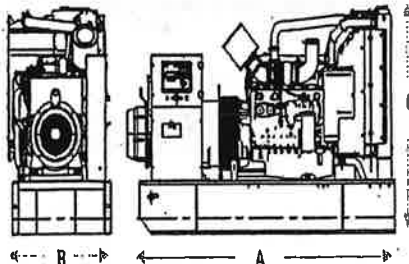
Performance		Standby	
Frequency	60 Hz		
Genset Power Rating	750 kVA		
Gen set power rating with fan @0.8 power factor	600 kW		
Fuelling strategy	TIER II		
Performance Number	DM8518		
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100% load with fan	161 L/hr	35.4 gal/hr	
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Cat® C18 GC DIESEL GENERATOR SETS



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NOx	2703.5 mg/Nm ³	5.5 g/hp-hr	
CO	161.0 mg/Nm ³	0.3 g/hp-hr	
HC	4.6 mg/Nm ³	0.01 g/hp-hr	
PM	13.2 mg/Nm ³	0.03 g/hp-hr	
Alternator ³		Standby	
Voltages	480V	600V	
Motor Starting Capability @ 30% Voltage Dip	1199	1292	
Current	902.1	721.7	
Frame Size	M3175L4	M3156L4	
Excitation	PMG	AREP	
Temperature Rise	105°C	189°	130° 234°F

WEIGHTS & DIMENSIONS – OPEN SET



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DEFINITIONS AND CONDITIONS:

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Note: Codes may not be available in all model configurations. Please consult your local Cat Dealer representative for availability.

STANDBY: Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

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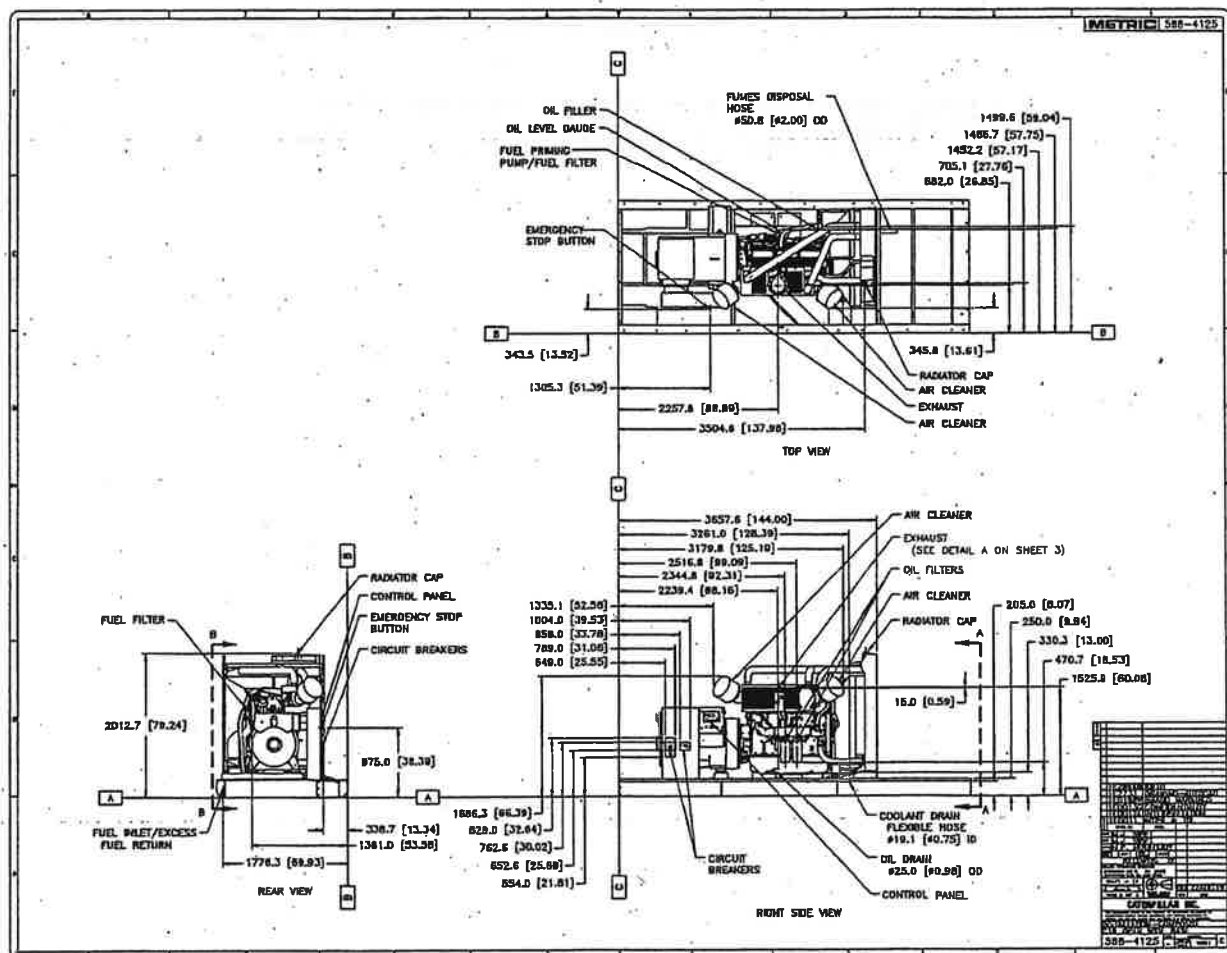
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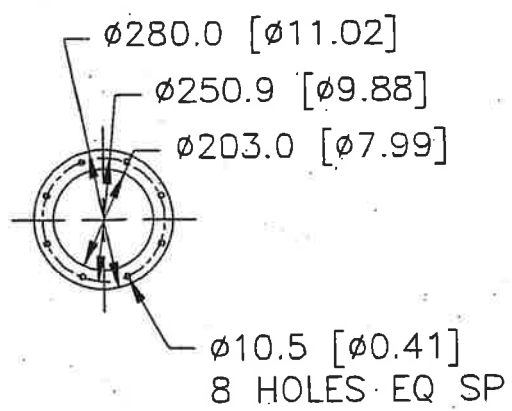
www.Cat.com/electrification

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DIMENSIONAL DRAWINGS





DETAIL A
SCALE 1=8



VA
HEALTH
CARE

Defining
EXCELLENCE
in the 21st Century

Department of Veterans Affairs
Medical Center
1601 Kirkwood Highway
Wilmington, DE 19805

In Reply Refer To: 460/00

March 11, 2020

Attn: David Fees, P.E.
Director, Division of Air Quality, DNREC
State Street Commons
100 W Water Street, Suite 6A
Dover, DE 19904

Subject: Replacement of a diesel-fired emergency generator unit at Building 19
Department of Veterans Affairs Medical Center (VAMC)-Wilmington
Title V Permit: AQM-003/00077-Renewal 4

Dear Mr. Fees:

Attached please find our construction permit application for a diesel-fired Caterpillar 600 eKW (900 hp) emergency generator (EG) unit for Building 19. The proposed unit will replace an existing 600 KW Cummins EG unit. The Cummins EG unit is currently not operational.

Please note that Building 19 currently has a 1000 KW temporary mobile EG unit to support facility's emergency need. This was notified to the Department on December 5, 2019. The temporary mobile unit will be removed from the site once the proposed new EG unit is operational.

If you have questions or need additional information, please contact me at shaikh.tayeb@va.gov or by phone at (302) 994-2511, Ext. 5335.

Sincerely,


Shaikh A. Tayeb
Environmental Engineer/GEMS Coordinator

Attachments:

- AQM forms 1, 2, 3.3 and 5
- Manufacturer's specification
- DNREC permit application and advertisement fees (Check # 124 for \$215 & Check # 125 for \$325)

cc: US EPA (3AP00)
Bradley A. Klotz (DNREC)
Edward J. Gannon III (VAMC-Wilmington)
Marshall J. Murdaugh (VAMC-Wilmington)



DNREC – Division of Air Quality
Application to Construct, Operate, or Modify
Stationary Sources

Form AQM-1
Page 1 of 4

Administrative Information

One original and one copy of All Application Forms Should Be Mailed To:
Division of Air Quality
100 West Water Street, Suite 6A
Dover, DE 19904

All Checks Should Be Made Payable To:
State of Delaware

<u>Company and Site Information</u>	
1.	Company Name: Dept. of Veterans Affairs Medical Center ("VA Medical Center-Wilmington")
2.	Company Mailing Address: 1601 Kirkwood Hwy City: Wilmington State: DE Zip Code: 19805
3.	Site Name: VA Medical Center-Wilmington
4.	Site Mailing Address: Same as above (if different from above) City: State: Zip Code:
5.	Physical Location of Site: Same as above (if different from above) City: State: Zip Code:
6.	Site Billing Address: Same as above (if different from above) City: State: Zip Code:
7.	Air Quality Management Facility ID Number: 1000300077
8.	Site NAICS Code: 6221100 (list all that apply)
9.	Site SIC Code: 8062 (list all that apply)
10.	Site Location Coordinates: Latitude: 39 ° 44' 24.35" Longitude: 75 ° 36' 22.91"
11.	Is the Facility New or Existing? <input type="checkbox"/> NEW <input checked="" type="checkbox"/> EXISTING
<i>If the Facility is an Existing Facility, Complete the Rest of Question 11. If Not, Proceed to Question 12.</i>	
11.1.	Does the Facility Have Active Air Permits? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
12.	Is this Application For New Equipment or a Modification to Existing Equipment? <input checked="" type="checkbox"/> New Equipment <input type="checkbox"/> Modification of Existing Equipment <input type="checkbox"/> Other (Specify): Note: The proposed EG unit will replace an existing unit.
<i>If the application is for the modification of existing equipment, complete the rest of Question 12. If not, proceed to Question 13.</i>	



DNREC – Division of Air Quality
Application to Construct, Operate, or Modify
Stationary Sources

Form AQM-1
Page 2 of 4

Company and Site Information

12.1. Does the Equipment Have an Active Air Permit? ☐ YES ☒ NO

If the equipment has an active air permit, complete the rest of Question 12. If not, proceed to Question 13.

12.2. Permit Number of Existing Equipment:

13. Status of Equipment Being Applied For: ☒ Natural Minor Source
☐ Synthetic Minor Source
☐ Major Source
☐ Federally Enforceable Restrictions

14. Facility Status: ☐ Natural Minor Facility ☐ Synthetic Minor Facility ☒ Major Facility

If the facility is a Major Source, complete the rest of Question 14. If not, proceed to Question 15.

14.1. Responsible Official Name: **Vincent Kane**

14.2. Responsible Official Title: **Director**

Contact Information

15. Name of Owner or Facility Manager: **Edward J. Gannon III**

16. Title of Owner or Facility Manager: **Asst. Chief, Facilities & Engineering Services**

17. Permit Contact Name: **Shaikh A. Tayeb**

18. Permit Contact Title: **Environmental Engineer/GEMS Coordinator**

19. Permit Contact Telephone Number: **302-994-2511, X5335**

20. Permit Contact Fax Number: **302-633-5475**

21. Permit Contact E-Mail Address: **shaikh.tayeb@va.gov**

22. Billing Contact Name: **Edward J. Gannon II**

23. Billing Contact Title: **Asst. Chief, Facilities & Engineering Services**

24. Billing Contact Telephone Number: **302-994-2511, X 4554**

25. Billing Contact Fax Number: **302-633-5475**

26. Billing Contact E-Mail Address: **Edward.GannonIII@va.gov@va.gov**

Proposed Construction and Operating Schedule

27. When Will the Proposed Construction/Installation/Modification Occur: **July 2020**

28. Proposed Operating Schedule: **Emergency use as needed** hours/day days/week
weeks/year

28.1. Is There Any Additional Information Regarding the Operating Schedule? ☐ YES ☒ NO

If YES, complete the rest of Question 28. If NO, proceed to Question 29.



DNREC – Division of Air Quality
Application to Construct, Operate, or Modify
Stationary Sources

Form AQM-1
Page 3 of 4

Proposed Construction and Operating Schedule

28.2. Describe the Additional Information:

Coastal Zone Information

29. Is the Facility Located in the Coastal Zone? ☐ YES ☒ NO

If the facility is located in the Coastal Zone complete the rest of Question 29. If not, proceed to Question 30.

29.1. Is a Coastal Zone Permit Required for Construction or Operation of the Source Being Applied for? ☐ YES ☐ NO

Attach a copy of the Coastal Zone Determination if it has not been previously submitted

If a Coastal Zone Permit is required complete the rest of Question 29. If not, proceed to Question 30.

29.2. Has a Coastal Zone Permit Been Issued? ☐ YES ☐ NO

Attach a copy of the Coastal Zone Permit if it has not been previously submitted

Local Zoning Information

30. Parcel Zoning:

Attach Proof of Local Zoning if it has not been previously submitted

Application Information

31. Is the Appropriate Application Fee Attached? ☒ YES ☐ NO

32. Is the Advertising Fee Attached? ☒ YES ☐ NO

For help determining your application and advertising fees see:

<http://www.dnrec.state.de.us/DNREC2000/Library/Fees/DE%20Permit%20Fees.htm>

Attach the appropriate fees.. Note that your Application will not be considered complete if the appropriate fees are not included.

33. Is a Cover Letter Describing the Process Attached? ☒ YES ☐ NO

Attach a brief cover letter describing your Application.

If the Facility is a New Facility complete Question 34. If not, proceed to Question 35.

34. Is a Copy of the Applicant Background Information Questionnaire on Record at the Department? ☒ YES ☐ NO

If NO, complete the rest of Question 34. If YES, process to Question 35.

34.1 Is a Copy of the Applicant Background Information Questionnaire Attached? ☐ YES ☒ NO

For a copy of the Applicant Background Information Questionnaire see

<http://www.dnrec.delaware.gov/services/Documents/Chapter79Form.pdf>

Attach a copy of the Applicant Background Information Questionnaire if applicable.

35. Check Which Application Forms are Attached:



DNREC – Division of Air Quality
Application to Construct, Operate, or Modify
Stationary Sources

Form AQM-1
Page 4 of 4

Application Information

- | | | | | | | |
|---|----------------------------------|-----------------------------------|-----------------------------------|----------------------------------|---|--------------------------------|
| <input checked="" type="checkbox"/> AQM-1 | <input type="checkbox"/> AQM-3.4 | <input type="checkbox"/> AQM-3.9 | <input type="checkbox"/> AQM-3.14 | <input type="checkbox"/> AQM-4.4 | <input type="checkbox"/> AQM-4.9 | <input type="checkbox"/> AQM-6 |
| <input checked="" type="checkbox"/> AQM-2 | <input type="checkbox"/> AQM-3.5 | <input type="checkbox"/> AQM-3.10 | <input type="checkbox"/> AQM-3.15 | <input type="checkbox"/> AQM-4.5 | <input type="checkbox"/> AQM-4.10 | |
| <input type="checkbox"/> AQM-3.1 | <input type="checkbox"/> AQM-3.6 | <input type="checkbox"/> AQM-3.11 | <input type="checkbox"/> AQM-4.1 | <input type="checkbox"/> AQM-4.6 | <input type="checkbox"/> AQM-4.11 | |
| <input type="checkbox"/> AQM-3.2 | <input type="checkbox"/> AQM-3.7 | <input type="checkbox"/> AQM-3.12 | <input type="checkbox"/> AQM-4.2 | <input type="checkbox"/> AQM-4.7 | <input type="checkbox"/> AQM-4.12 | |
| <input checked="" type="checkbox"/> AQM-3.3 | <input type="checkbox"/> AQM-3.8 | <input type="checkbox"/> AQM-3.13 | <input type="checkbox"/> AQM-4.3 | <input type="checkbox"/> AQM-4.8 | <input checked="" type="checkbox"/> AQM-5 | |

36. Check Which Documents are Attached:

- | | |
|---|--|
| <input type="checkbox"/> Coastal Zone Determination | <input type="checkbox"/> Claim of Confidentiality |
| <input type="checkbox"/> Coastal Zone Permit | <input type="checkbox"/> Manufacturer Specification(s) |
| <input type="checkbox"/> Proof of Local Zoning | <input type="checkbox"/> Material Safety Data Sheets (MSDSs) |
| <input type="checkbox"/> Application Fee | <input type="checkbox"/> Supporting Calculations |
| <input type="checkbox"/> Advertising Fee | <input type="checkbox"/> Descriptive Cover Letter |
| <input type="checkbox"/> Applicant Background Information Questionnaire | <input type="checkbox"/> Other (Specify): |

Confidentiality Information

37. Do You Consider Any of the Information Submitted With this Application Confidential? ☐ YES ☒ NO

For help on how to submit a confidentiality claim see

<http://regulations.delaware.gov/register/december2011/final/15%20DE%20Reg%20864%2012-01-11.htm>

If a Claim of Confidentiality is made it MUST meet the requirements of Section 6 of DNREC's Freedom of Information ("FOIA") Regulation at the time the Application is submitted.

Signature Block

I, the undersigned, hereby certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all of its attachments as to the truth, accuracy, and completeness of this information. I certify based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete. By signing this form, I certify that I have not changed, altered, or deleted any portions of this application. I acknowledge that I cannot commence construction, alteration, modification or initiate operation until I receive written approval (i.e. permit, registration, or exemption letter) from the Department. I acknowledge that I may be required to perform testing of the equipment to receive construction or operation approval, and that if I do not receive approval to construct or operate that I may appeal the decision.

Vincent Kane

Owner or Operator

3/18/2020
Date

Signature of Owner or Operator

One Original and One Copy of All Application Forms Should Be Mailed To:
Division of Air Quality
100 W. Water Street, Suite 6A
Dover, Delaware 19904

All Checks Should Be Made Payable To:
State of Delaware

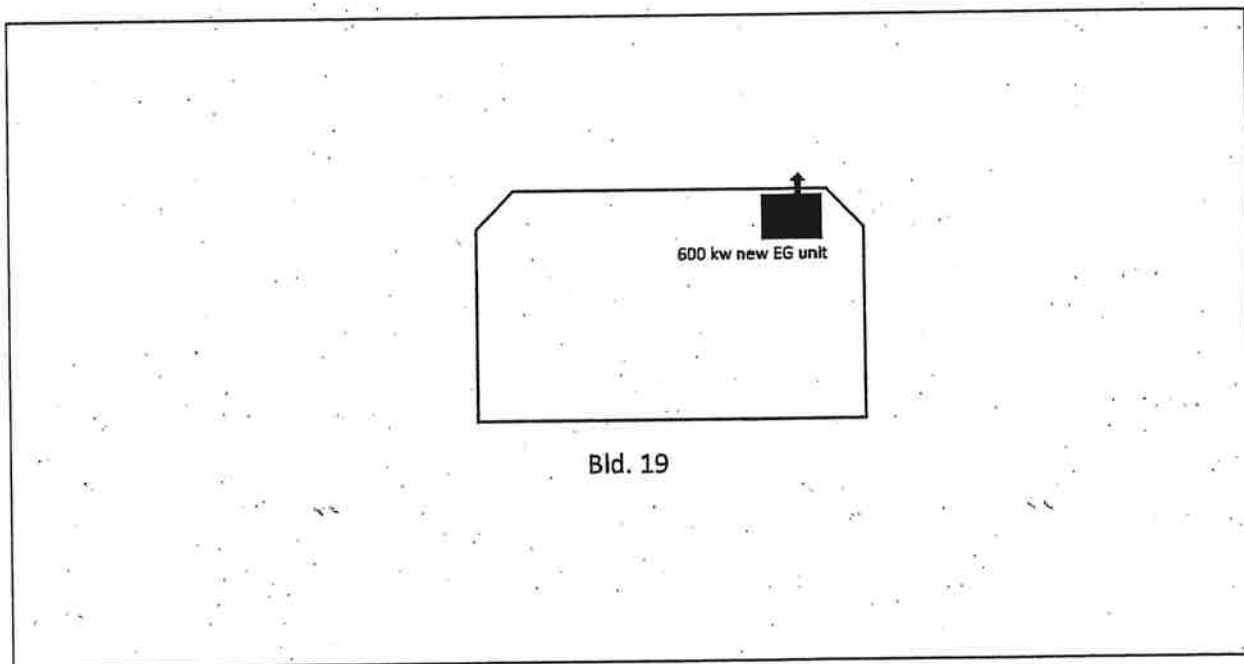


Form AQM-2 Page 1 of 1

DNREC – Air Quality Management Section Application to Construct, Operate, or Modify Stationary Sources

Process Flow Diagram

Sketch the Process Flow Diagram for the equipment or process being applied for. Include each emission unit and control device (even existing emission units that will not be modified by this application). You may identify each emission unit with a simple shape. Label each emission unit and control device with a unique identifier. Show the relationship between each emission unit and/or control device by drawing arrows between them to indicate the flow of air pollutants. List which application forms are included for each emission unit or control device below the shape representing each emission unit or control device. See <http://www.delaware.gov/reg2/default.htm> for example Process Flow Diagrams for common processes. If you already have a Process Flow Diagram for the equipment or process being applied for, you may attach it to the application instead of using this form.





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Application to Construct, Operate, or Modify
Stationary Sources

Form AQM-3.3
Page 1 of 4

Generator/Engine Application

If you are using this form electronically, press F1 at any time for help

General Information	
1.	Facility Name: Dept. of Veterans Affairs Medical Center ("VA Medical Center Wilmington")
2.	Equipment ID: Bld. 19 EG
3.	Manufacturer: Caterpillar
4.	Model: Cat C18 (engine model)
5.	Serial Number:
6.	Maximum Power Rating of Engine: 900 horsepower
7.	Standby Power Rating of Generator: 600 kilowatt
8.	Date of Manufacture: 2020
9.	Installation Date: July 2020
10.	Is the Equipment Being Applied For a Generator or an Engine? <input checked="" type="checkbox"/> Generator <input type="checkbox"/> Engine
<i>If the equipment is a Generator, complete the rest of Question 10. If not, proceed to Question 11.</i>	
10.1.	Is the Generator Existing or New? <input type="checkbox"/> Existing <input checked="" type="checkbox"/> New
10.2.	Will the Generator Be Classified as an Emergency Generator or a Distributed Generator? <input checked="" type="checkbox"/> Emergency <input type="checkbox"/> Distributed
10.3.	Has an Initial Notification Pursuant to 7 DE Admin. Code 1144 Been Submitted for this Generator? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
<i>If NO, include a copy of the Initial Notification with this application.</i>	
10.4.	Have the Emissions From the Generator Been Certified to Meet the Currently Applicable US EPA Non-Road Emission Standards? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
<i>If YES, attach a copy of the Manufacturer's Certification. If NO, attach copies of any/all of the following: any maintenance or operating requirements/instructions provided by the generator manufacturer; the type, or a description, of any emission control equipment use; and/or emissions test data for the generator (such as a manufacturer's technical data sheet), any supporting documentation for any emission control equipment used, any supporting calculations, any quality control or assurance information, and any other information needed to demonstrate compliance with the requirements. Proceed to Question 11.</i>	
11.	Primary Fuel: <input type="checkbox"/> Natural Gas <input checked="" type="checkbox"/> Diesel <input type="checkbox"/> Propane <input type="checkbox"/> Biodiesel <input type="checkbox"/> Other (specify):
11.1.	Maximum Annual Primary Fuel Consumption: 17,700 gal
11.2.	Heat Content of Primary Fuel: 137,000 BTU/gal
11.3.	Maximum Firing Rate: 35.4 gallons/hr
11.4.	Percent Sulfur of Primary Fuel: 0.0015 %
12.	Secondary Fuel: <input type="checkbox"/> Natural Gas <input type="checkbox"/> Diesel <input type="checkbox"/> Propane <input type="checkbox"/> Biodiesel <input type="checkbox"/> Other (specify):



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Form AQM-3.3
Page 2 of 4

General Information

- 12.1. Maximum Annual Secondary Fuel Consumption: **MMCF**
- 12.2. Heat Content of Secondary Fuel: **BTU/CF**
- 12.3. Maximum Firing Rate: **MMCF/hr**
- 12.4. Percent Sulfur of Secondary Fuel: **%**
13. Is SCR/NSCR/SNCR/Ammonia Injection Used: ☐ YES ☐ NO

Stack Information

14. How Does the Process Equipment Vent:
(check all that apply)
☒ Directly to the Atmosphere
☐ Through a Control Device Covered by Forms AQM-4.1 through 4.12

If any of the process equipment vents directly to the atmosphere proceed to Question 15. If the process equipment vents through a control device, provide the stack parameters on the control device form and proceed to Question 16.

15. Emission Point Name: **Bld. 19 EG stack**
- 15.1. Stack Height Above Grade: **13.6 feet**
- 15.2. Stack Exit Diameter: **0.66 feet**
(Provide Stack Dimensions if Rectangular Stack)
- 15.3. Is a Stack Cap Present? ☒ YES ☐ NO
- 15.4. Stack Configuration: ☒ Vertical ☐ Horizontal ☐ Downward-Venting
(check all that apply) ☐ Other (Specify):
- 15.5. Stack Exit Gas Temperature: **994 °F**
- 15.6. Stack Exit Gas Flow Rate: **4784 ACFM**
- 15.7. Distance to Nearest Property Line: **250 ft**
- 15.8. Describe Nearest Obstruction: **Bld. 19**
- 15.9. Height of Nearest Obstruction: **22 ft**
- 15.10. Distance to Nearest Obstruction: **45 ft**
- 15.11. Are Stack Sampling Ports Provided? ☐ YES ☒ NO

Monitoring Information

16. Will Emissions Data be Recorded by a Continuous Emission Monitoring System? ☐ YES ☒ NO
- If Yes, Attach a Copy of the Continuous Emission Monitoring System Manufacturer's Specification Sheets**
- If YES, complete the rest of Question 16. If NO, proceed to Question 17.*
- 16.1. Pollutants Monitored: ☐ VOCs ☐ HAPs ☐ PM ☐ PM₁₀ ☐ PM_{2.5} ☐ NO_x ☐ SO_x ☐ Metals
☐ Other (Specify):
- 16.2. Describe the Continuous Emission Monitoring System:



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Form AQM-3.3
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Monitoring Information

16.3. Manufacturer:

16.4. Model:

16.5. Serial Number:

16.6. Will Multiple Emission Units Be Monitored at the Same Point? ☐ YES ☐ NO

If YES, complete the rest of Question 16. If NO, proceed to Question 17.

16.7. Emission Units Monitored:

16.8. Will More Than One Emission Unit be Emitting From the Combined Point At Any Time? ☐ YES ☐ NO

If YES, complete the rest of Question 15. If NO, proceed to Question 17.

16.9. Emission Units Emitting Simultaneously:

Visible Emissions Monitoring Information

For Primary Fuel

17. Proposed Technique Used to Monitor Visible Emissions: ☐ Opacity Monitor (COM)
☐ Manual (Method 9)
☐ Manual (Method 22)
☒ Other (Describe): **Presence or absence- 5 min VE monitoring when in operation**

If an Opacity Monitor (COM) is used, complete the rest of Question 17. If not, proceed to Question 18.

17.1. Describe the Continuous Opacity Monitoring System:

17.2. Manufacturer:

17.3. Model:

17.4. Serial Number:

18. Proposed Frequency of Opacity Monitoring:

For Secondary Fuel. If no Secondary Fuel is used, proceed to Question 20.

19. Proposed Technique Used to Monitor Visible Emissions: ☐ Opacity Monitor (COMs)
☐ Manual (Method 9)
☐ Manual (Method 22)
☐ Other (Describe): **N/A**

If an Opacity Monitor (COMs) is used, complete the rest of Question 19. If not, proceed to Question 20.

19.1. Describe the Continuous Opacity Monitoring System: **N/A**

19.2. Manufacturer:

19.3. Model:

19.4. Serial Number:

20. Proposed Frequency of Opacity Monitoring:



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Voluntary Emission Limitation Request Information

21. Are You Requesting Any Voluntary Emission Limitations to Avoid Major Source Status, Minor New Source Review, MACT, NSPS, etc.? ☐ YES ☒ NO

If YES, complete the rest of Question 21. If NO, proceed to Question 22.

21.1. Describe Any Proposed Emission Limitations: **N/A**

Voluntary Operating Limitation Request Information

22. Are You Requesting Any Voluntary Operating Limitations to Avoid Major Source Status, Minor New Source Review, MACT, NSPS, etc.? ☐ YES ☒ NO

If YES, complete the rest of Question 22. If NO, proceed to Question 23.

22.1. Describe Any Proposed Operating Limitations: **The proposed EG unit will be operated for emergency need. The proposed unit will replace an existing 600 KW Cummins EG unit (designated as EG-04 per page 3 of Title V permit) at Bld. 19.**

Additional Information

23. Is There Any Additional Information Pertinent to this Application? ☒ YES ☐ NO

If YES, complete the rest of Question 23.

22.1. Describe: **The proposed unit is not subject to MNSR per emissions information shown on AQM-5.**



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Form AQM-5
Page 1 of 8

Emissions Information Application

If you are using this form electronically, press F1 at any time for help

Process Information	
1.	Number of Individual Pieces of Process Equipment in Process: 1
2.	Number of Individual Control Devices in Process: 0

Emissions Information for First Emission Point/Stack					
3. Emission Point Name: Temp. EG stack					
4. Equipment ID Number for all Process Equipment and Control Devices Venting Through Emission Point/Stack: Temp. EG Cummins					
5. Pollutant Emissions					
If more than 15 pollutants are emitted at this Emission Point/Stack, attach additional copies of this page as needed.					
Pollutant Name (Specify VOCs and HAPs Individually in 5.10 through 5.18)	CAS Number (Not required for 5.1 through 5.10)	Maximum Uncontrolled Emission Rate at Design Capacity	Maximum Controlled Emission Rate at Design Capacity	Annual Potential to Emit (PTE)	Requested Permitted Annual Emissions
5.1. Particulate Matter (PM)		0.06 lbs/hour	lbs/hour	0.014 tons/year	tons/year
5.2. PM ₁₀		lbs/hour	lbs/hour	tons/year	tons/year
5.3. PM _{2.5}		lbs/hour	lbs/hour	tons/year	tons/year
5.4. Sulfur Oxides (SO _x)		0.011 lbs/hour	lbs/hour	0.0028 tons/year	tons/year
5.5. Nitrogen Oxides (NO _x)		10.88 lbs/hour	lbs/hour	2.72 tons/year	tons/year
5.6. Carbon Monoxide (CO)		0.58 lbs/hour	lbs/hour	0.147 tons/year	tons/year
5.7. Total Volatile Organic Compounds (VOCs)		0.02 lbs/hour	lbs/hour	0.005 tons/year	tons/year
5.8. Total Hazardous Air		lbs/hour	lbs/hour	tons/year	tons/year



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Emissions Information for First Emission Point/Stack					
Pollutants (HAPs)					
5.9. CO ₂		lbs/hour	lbs/hour	tons/year	tons/year
5.10. CO _{2e}		lbs/hour	lbs/hour	tons/year	tons/year
5.11.		lbs/hour	lbs/hour	tons/year	tons/year
5.12.		lbs/hour	lbs/hour	tons/year	tons/year
5.13.		lbs/hour	lbs/hour	tons/year	tons/year
5.14.		lbs/hour	lbs/hour	tons/year	tons/year
5.15.		lbs/hour	lbs/hour	tons/year	tons/year
6. Provide Any Additional Information Necessary to Understanding the Emission Rates Provided Above:					
Attach the Basis of Determination or Calculations for each Emission Rate provided above.					

Emissions Information for Second Emission Point/Stack					
7. Emission Point Name: N/A					
8. Equipment ID Number for all Process Equipment and Control Devices Venting Through Emission Point/Stack:					
9. Pollutant Emissions					
If more than 15 pollutants are emitted at this Emission Point/Stack, attach additional copies of this page as needed.					
Pollutant Name (Specify VOCs and HAPs Individually in 9.10 through 9.18)	CAS Number (Not required for 9.1 through 9.10)	Maximum Uncontrolled Emission Rate at Design Capacity	Maximum Controlled Emission Rate at Design Capacity	Annual Potential to Emit (PTE)	Requested Permitted Annual Emissions
9.1. Particulate Matter (PM)		lbs/hour	lbs/hour	tons/year	tons/year
9.2. PM ₁₀		lbs/hour	lbs/hour	tons/year	tons/year



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Emissions Information for Second Emission Point/Stack				
		lbs/hour	lbs/hour	tons/year
9.3.	PM _{2.5}			tons/year
9.4.	Sulfur Oxides (SO _x)			tons/year
9.5.	Nitrogen Oxides (NO _x)			tons/year
9.6.	Carbon Monoxide (CO)			tons/year
9.7.	Total Volatile Organic Compounds (VOCs)			tons/year
9.8.	Total Hazardous Air Pollutants (HAPs)			tons/year
9.9.	CO ₂			tons/year
9.10.	CO _{2e}			tons/year
9.11.				tons/year
9.12.				tons/year
9.13.				tons/year
9.14.				tons/year
9.15.				tons/year
10. Provide Any Additional Information Necessary to Understanding the Emission Rates Provided Above:				
Attach the Basis of Determination or Calculations for each Emission Rate provided above.				

Emissions Information for Third Emission Point/Stack	
11.	Emission Point Name: N/A
12.	Equipment ID Number for all Process Equipment and Control Devices Venting Through Emission Point/Stack:
13.	Pollutant Emissions



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Emissions Information for Third Emission Point/Stack					
If more than 15 pollutants are emitted at this Emission Point/Stack, attach additional copies of this page as needed.					
Pollutant Name (Specify VOCs and HAPs individually in 13.10 through 13.16)	CAS Number (Not required for 13.1 through 13.10)	Maximum Uncontrolled Emission Rate at Design Capacity	Maximum Controlled Emission Rate at Design Capacity	Annual Potential to Emit (PTE)	Requested Permitted Annual Emissions
13.1. Particulate Matter (PM)		lbs/hour	lbs/hour	tons/year	tons/year
13.2. PM ₁₀		lbs/hour	lbs/hour	tons/year	tons/year
13.3. PM _{2.5}		lbs/hour	lbs/hour	tons/year	tons/year
13.4. Sulfur Oxides (SO _x)		lbs/hour	lbs/hour	tons/year	tons/year
13.5. Nitrogen Oxides (NO _x)		lbs/hour	lbs/hour	tons/year	tons/year
13.6. Carbon Monoxide (CO)		lbs/hour	lbs/hour	tons/year	tons/year
13.7. Total Volatile Organic Compounds (VOCs)		lbs/hour	lbs/hour	tons/year	tons/year
13.8. Total Hazardous Air Pollutants (HAPs)		lbs/hour	lbs/hour	tons/year	tons/year
13.9. CO ₂		lbs/hour	lbs/hour	tons/year	tons/year
13.10. CO _{2e}		lbs/hour	lbs/hour	tons/year	tons/year
13.11.		lbs/hour	lbs/hour	tons/year	tons/year
13.12.		lbs/hour	lbs/hour	tons/year	tons/year
13.13.		lbs/hour	lbs/hour	tons/year	tons/year
13.14.		lbs/hour	lbs/hour	tons/year	tons/year
13.15.		lbs/hour	lbs/hour	tons/year	tons/year
14. Provide Any Additional Information Necessary to Understanding the Emission Rates Provided Above:					



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Emissions Information for Third Emission Point/Stack
Attach the Basis of Determination or Calculations for each Emission Rate provided above.

Emissions Information for Fourth Emission Point/Stack					
15. Emission Point Name: N/A					
16. Equipment ID Number for all Process Equipment and Control Devices Venting Through Emission Point/Stack:					
17. Pollutant Emissions					
If more than 15 pollutants are emitted at this Emission Point/Stack, attach additional copies of this page as needed.					
Pollutant Name (Specify VOCs and HAPs Individually in 17.10 through 17.18)	CAS Number (Not required for 17.1 through 17.10)	Maximum Uncontrolled Emission Rate at Design Capacity	Maximum Controlled Emission Rate at Design Capacity	Annual Potential to Emit (PTE)	Requested Permitted Annual Emissions
17.1. Particulate Matter (PM)		lbs/hour	lbs/hour	tons/year	tons/year
17.2. PM ₁₀		lbs/hour	lbs/hour	tons/year	tons/year
17.3. PM _{2.5}		lbs/hour	lbs/hour	tons/year	tons/year
17.4. Sulfur Oxides (SO _x)		lbs/hour	lbs/hour	tons/year	tons/year
17.5. Nitrogen Oxides (NO _x)		lbs/hour	lbs/hour	tons/year	tons/year
17.6. Carbon Monoxide (CO)		lbs/hour	lbs/hour	tons/year	tons/year
17.7. Volatile Organic Compounds (VOCs)		lbs/hour	lbs/hour	tons/year	tons/year
17.8. Total Hazardous Air Pollutants (HAPs)		lbs/hour	lbs/hour	tons/year	tons/year
17.9. CO ₂		lbs/hour	lbs/hour	tons/year	tons/year
17.10. CO _{2e}		lbs/hour	lbs/hour	tons/year	tons/year
17.11.		lbs/hour	lbs/hour	tons/year	tons/year
17.12.		lbs/hour	lbs/hour	tons/year	tons/year



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Emissions Information for Fourth Emission Point/Stack				
17.13.		lbs/hour	lbs/hour	tons/year
17.14.		lbs/hour	lbs/hour	tons/year
17.15.		lbs/hour	lbs/hour	tons/year
18. Provide Any Additional Information Necessary to Understanding the Emission Rates Provided Above:				
Attach the Basis of Determination or Calculations for each Emission Rate provided above.				
If there are more than four Emission Points/Stacks, attach additional copies of this form as needed.				

Overall Process Emissions					
19. Pollutant Emissions					
If more than 15 pollutants are emitted from this Process, attach additional copies of this page as needed.					
Pollutant Name (Specify VOCs and HAPs Individually in 19.10 through 19.18)	CAS Number (Not required for 19.1 through 19.10)	Maximum Uncontrolled Emission Rate at Design Capacity	Maximum Controlled Emission Rate at Design Capacity	Annual Potential to Emit (PTE)	Requested Permitted Annual Emissions
19.1. Particulate Matter (PM)		lbs/hour	lbs/hour	tons/year	tons/year
19.2. PM ₁₀		lbs/hour	lbs/hour	tons/year	tons/year
19.3. PM _{2.5}		lbs/hour	lbs/hour	tons/year	tons/year
19.4. Sulfur Oxides (SO _x)		lbs/hour	lbs/hour	tons/year	tons/year
19.5. Nitrogen Oxides (NO _x)		lbs/hour	lbs/hour	tons/year	tons/year
19.6. Carbon Monoxide (CO)		lbs/hour	lbs/hour	tons/year	tons/year
19.7. Total Volatile Organic Compounds (VOCs)		lbs/hour	lbs/hour	tons/year	tons/year
19.8. Total Hazardous Air Pollutants (HAPs)		lbs/hour	lbs/hour	tons/year	tons/year



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Overall Process Emissions					
		lbs/hour	lbs/hour	tons/year	tons/year
19.9.	CO ₂				
19.10.	CO _{2e}				
19.12.					
19.13.					
19.14.					
19.15.					
20. Provide Any Additional Information Necessary to Understanding the Emission Rates Provided Above:					
Attach the Basis of Determination or Calculations for each Emission Rate provided above.					

Minor New Source Review Information	
21. Does the Process Have the Potential to Emit More Than Five Tons Per Year of Any Pollutant?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
22. Is the Source New or Existing? <input checked="" type="checkbox"/> NEW <input type="checkbox"/> EXISTING	
See Question 11 of AQM-1	
If the Process has the Potential to Emit more than five tons per year of any pollutant, and is a New Source, a Control Technology Analysis pursuant to Regulation No. 1125 Section 4 must be conducted and attached to this application.	

Major New Source Review Information	
23. Does the Process Have the Potential to Emit More Than the Significance Level for Any Pollutant? (Check All That Apply)	



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- ☐ Greater Than 25 Tons Per Year of Particulate Matter (PM)
☐ Greater Than 15 Tons Per Year of PM₁₀
☐ Greater Than 10 Tons Per Year of PM_{2.5}
☐ Greater Than 40 Tons Per Year of Sulfur Dioxide(SO₂)
☐ Greater Than 25 Tons Per Year of Nitrogen Oxides (NO_x) in New Castle and Kent County
☐ Greater Than 100 Tons Per Year of Nitrogen Oxides (NO_x) in Sussex County
☐ Greater Than 100 Tons Per Year of Carbon Monoxide (CO)
☐ Greater Than 25 Tons Per Year of Total Volatile Organic Compounds (VOCs) in New Castle and Kent County
☐ Greater Than 50 Tons Per Year of Total Volatile Organic Compounds (VOCs) in Sussex County
☐ Greater Than 75,000 Tons Per Year of Equivalent Carbon Dioxide (CO_{2e})

If the Process has the Potential to Emit greater than any of the amounts listed above 7 DE Admin. Code 1125 Sections 2 and/or 3 apply. Contact the Department at (302) 323-4542 or (302) 739-9402 for additional information

Additional Information

24. Is There Any Additional Information Pertinent to this Application? ☐ YES ☒ NO

If YES, complete the rest of Question 24.

24.1. Describe: 1) This is a replacement EG unit at Bld. 19.

2) MNSR is not applicable per the PTE calculations. See PTE Info, Section 5, Page 1 of AQM-5.

Example calculation for NOx:

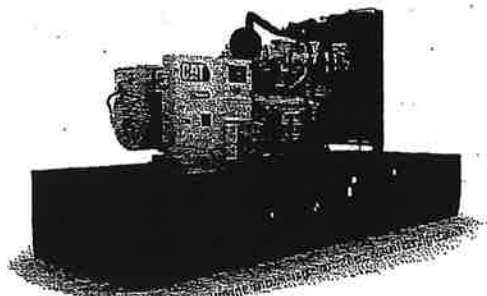
Emission factor: 5.5 gm/hp-hr (manufacturer's spec); Conversion factor: 1 gram=0.0022 lb

NOx PTE @ 500 hrs/yr = (5.5 gm/hp-hr x 0.0022 lbs/1 gm) x 900 hp x 500 hrs/yr x 1 ton/2000 lbs = 2.72 tpy

Cat® C18 GC DIESEL GENERATOR SETS



Standby: 60Hz, 480V & 600V



Engine Model	Cat® C18 ACERT™ In-line 6, 4-cyclediesel
Bore x Stroke	145mm x 183mm (5.7in x 7.2in)
Displacement	18.1 L (1106 in³)
Compression Ratio	14.5:1
Aspiration	Turbocharged Air-to-Air Aftercooled
Fuel Injection System	MEUI
Governor	Electronic ADEM™ A4

PACKAGE PERFORMANCE

Standby	Performance Strategy
600 ekW, 750 kVA	EPA Certified for Stationary Emergency Application

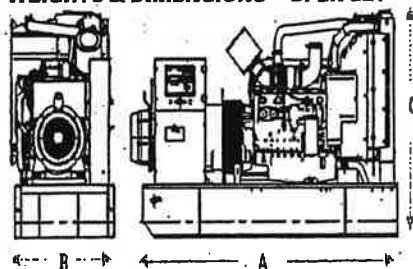
Performance		Standby
Frequency		60 Hz
Genset Power Rating		750 kVA
Gen set power rating with fan @ 0.8 power factor		600 ekW
Fuelling strategy		TIER II
Performance Number		DM8518
Fuel Consumption		
100% load with fan	161 L/hr	135.4 gal/hr
75% load with fan	129.6 L/hr	28.5 gal/hr
50% load with fan	91.7 L/hr	20.2 gal/hr
25% load with fan	46.8 L/hr	12.3 gal/hr
Cooling System¹		
Radiator air flow restriction (system)	0.12 kPa	0.48 in. Water
Radiator air flow	803 m³/min	28357 cfm
Engine coolant capacity	20.8 L	5.5 gal
Radiator coolant capacity	61 L	16 gal
Total coolant capacity	82 L	22 gal
Inlet Air		
Combustion air inlet flow rate	47.8 m³/min	994.3 cfm
Max. Allowable Combustion Air Inlet Temp	49° C	122° F
Exhaust System		
Exhaust stack gas temperature	534.6° C	994.3° F
Exhaust gas flow rate	135.5 m³/min	4784.4 cfm
Exhaust system backpressure (maximum allowable)	10.0 kPa	40.0 in. water
Heat Rejection		
Heat rejection to jacket water	180 kW	10236 Btu/min
Heat rejection to exhaust (total)	595 kW	33837 Btu/min
Heat rejection to aftercooler	141 kW	8019 Btu/min
Heat rejection to atmosphere from engine	77 kW	4379 Btu/min
Heat rejection from alternator	33 kW	1854 Btu/min

Cat® C18 GC DIESEL GENERATOR SETS



Emissions (Nominal) ²		Standby	
NOx	2703.5 mg/Nm ³	5.5 g/hp-hr	
CO	161.0 mg/Nm ³	0.3 g/hp-hr	
HC	4.6 mg/Nm ³	0.01 g/hp-hr	
PM	13.2 mg/Nm ³	0.03 g/hp-hr	
Alternator ³		Standby	
Voltages	480V	600V	
Motor Starting Capability @ 30% Voltage Dip	1199	1292	
Current	902.1	721.7	
Frame Size	M3175L4	M3156L4	
Excitation	PMG	AREP	
Temperature Rise	105°C	189°	130° 234°F

WEIGHTS & DIMENSIONS – OPEN SET



Base	Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Generator Set Weight kg (lb)
Skid (Wide Base)	4980 (196.1)	1865 (73.4)	2009 (79.1)	4064 (8959.6)
Integral Tank base	4815 (189.6)	1630 (64.2)	2560 (100.8)	5283 (11647.0)

FUEL TANK CAPACITY

Tank Design	Total Capacity		Useable Capacity	
	Litre	Gallon	Litre	Gallon
Integral	4292	1133.8	3889	1027.3

DEFINITIONS AND CONDITIONS:

¹ For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.

² Emissions data measurement procedures are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state operating conditions of 77° F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 BTU/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.

³ UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics. Generator temperature rise is based on a 40° C ambient per NEMA MG1-32.

APPLICABLE CODES AND STANDARDS:

ASTM A515, CSA C222 No100-04, UL142, UL489, UL689, UL2200, NFPA37, NFPA70, NFPA89, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG1-22, NEMA MG1-33, 2006/95/EC, 2006/42/EC, 2004/108/EC.

Note: Codes may not be available in all model configurations. Please consult your local Cat Dealer representative for availability.

STANDBY: Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

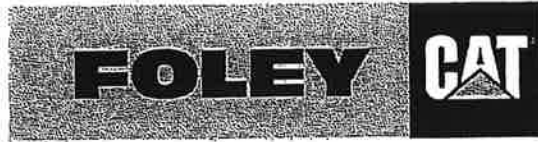
RATINGS: Ratings are based on SAE J1349 standard conditions. These ratings also apply to ISO3046 standard conditions.

Fuel Rates are based on fuel oil of 35° API (16° C (60° F)) gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/litre (7.001 lbs/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Caterpillar representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.

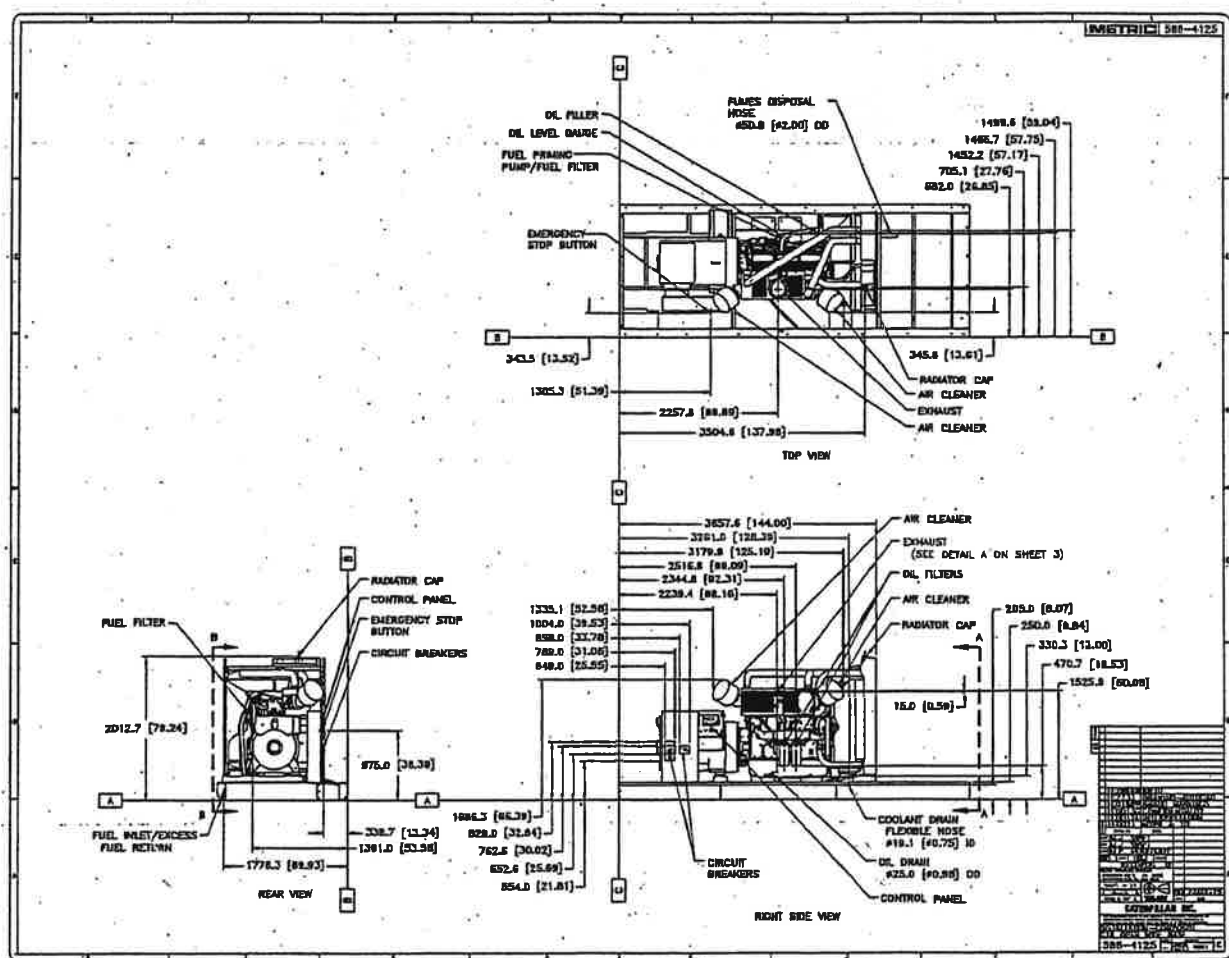
LEHE2013-04 (11-19)

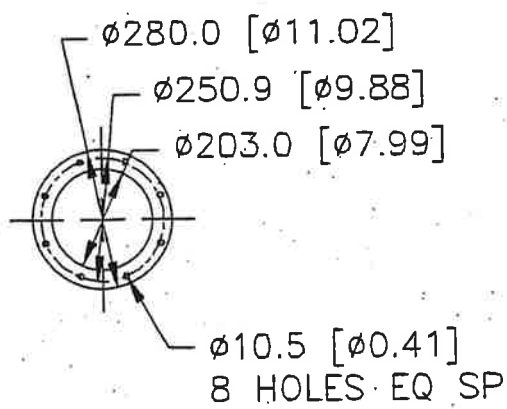
www.Cat.com/nbtchicpower

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DIMENSIONAL DRAWINGS





DETAIL A
SCALE 1=8



VA
HEALTH
CARE

Defining
EXCELLENCE
in the 21st Century

Department of Veterans Affairs
Medical Center
1601 Kirkwood Highway
Wilmington, DE 19805

In Reply Refer To: 460/00

March 11, 2020

Attn: David Fees, P.E.
Division of Air Quality (DAQ), DNREC
State Street Commons
100 W Water Street, Suite 6A
Dover, DE 19904

Subject: Addendum to CY2019 Annual Compliance Certification and Semi-annual Report dated 1/13/2020.

Title V Permit AQM-003/00077-Renewal 4

Department of Veterans Affairs Medical Center (VAMC)-Wilmington

Dear Mr. Fees:

Attached please find addendum to the above referenced annual compliance certification per discussions between VAMC's environmental engineer and DAQ Grantham Lane Office on March 5, 2020. The addendum includes pages 1 & 2 with a new signature from the responsible official and updates Table 4 of AQM-1001BB dated January 13, 2020.

If you have questions or need additional information, please contact me at shaikh.tayeb@va.gov or by phone at (302)994-2511, Ext. 5335.

Sincerely,

Shaikh A. Tayeb
GEMS Coordinator

Attachment: Pages 1&2 and Table 4 of AQM-1001BB

cc: US EPA (3AP00), Philadelphia
Marshall J. Murdaugh, VAMC-Wilmington
Jacob Spruance, VAMC-Wilmington

**Regulation No. 30
Title V State Operating Program
Air Quality Management Section**

AQM-1001BB
revised

COMPLIANCE CERTIFICATION

Form B

Updated July 1, 2008

For Permits Issued After May 12, 2008 Using New
Boilerplate Language

FOR DEPARTMENT USE, ONLY

DATE RECEIVED:

DATE REVIEWED:

REVIEWED BY:

An application for a permit, permit modification, or permit renewal must contain a certification of compliance signed by a *Responsible Official*. This form must be submitted with each application in addition to satisfying the compliance certification requirements of Regulation No. 30 (Title V) State Operating Permits. The Annual Compliance Certification report is due February 1 of each calendar year and covers the reporting period of January 1 through December 31 of the previous calendar year. This form also fulfills the requirement to certify compliance with applicable requirements at the time of the initial application request for a permit and for a significant or minor permit revision request. This form can also be used to certify compliance with the applicable requirements and terms and conditions of the operating permit as part of request for permit renewal.

This form has been designed for permits issued after May 12, 2008 that have new boilerplate language. Note: A limited number of permits issued soon after May 12, 2008 were in-process and contain the older language. If you are uncertain of which Compliance Certification form to use, ask your permitting engineer or scientist.

Part A: FACILITY INFORMATION

1. Facility Name: Dept. of Veterans Affairs Medical Center-Wilmington ("VAMC-Wilmington")

2. Facility Street Address: 1601 Kirkwood Highway

3. City: Wilmington

4. State: DE

5. Zip Code: 19805

6. Are you submitting: (check only one box)

A. Compliance Certification as part of an Initial Permit Application: ☐

B. Compliance Certification as part of an Application for Permit Renewal: ☐

C. Annual Compliance Certification: ☒

D. Compliance Certification as part of an Application for a Minor or Significant Permit Revision: ☐

7. Permit No.: AQM-003/00077R4

8. Facility ID No.: 1000300077
(10 digits)

9. Date Permit Issued: 04/27/2018

10. What is the reporting period?

A. Annual Compliance Certification: 01/01/2019 TO 12/31/2019

B. Semi-Annual Report:

Submitted using form AQM-1001BB: YES

If YES, Indicate the reporting period for the Semi-Annual Report:

07/01/2019 TO 12/31/2019

11. Date Form
Prepared:

03/11/2020

12. Technical Contact: Shaikh A Tayeb Title: GEMS Coordinator

Phone No.: (302) 994-2511 ext. 5335 Fax No.: (302) 633-5475 E-Mail Address: shaikh.tayeb@va.gov

Part B: COMPLIANCE STATUS

1. Complete Table 1 – Compliance Status: Indicate the compliance status with respect to the terms and conditions of the Regulation No. 30 (Title V) State Operating Permit.

2. Complete Table 2 – Compliance Status – General Conditions: Indicate the Compliance Status with the General Conditions of the Regulation No. 30 (Title V) State Operating Permit.

3. Has any of the information contained in Items 1 through 5 of Part A and/or Part D, Responsible Official, information changed from that contained in the issued Regulation No. 30 (Title V) State Operating Permit?
NO

If YES, submit a request for an administrative permit amendment per the requirements of Regulation No. 30 Section 7(c).

4. Semi-Annual Report: Completion of this section of the form fulfills the obligation of the facility to submit a Semi-Annual Report.

Complete Table 3, Report of Any Required Monitoring, and complete Table 4, Report of Deviations

Is the Responsible Official reporting any deviations for the reporting period? NO

**Regulation No. 30
(Title V) State Operating Permit Program
Air Quality Management Section**

AQM-1001BB
revised

COMPLIANCE CERTIFICATION

Part C: ADDITIONAL INFORMATION

1. Does the Company possess any additional information that demonstrates noncompliance with any term or condition of the Regulation No. 30 (Title V) State Operating Permit? NO

If YES, complete Table 5 – Additional Information

2. Is the Company submitting any attachments with the annual certification report? YES

If YES, complete Table 6 – Additional Information

Part D: CERTIFICATION BY RESPONSIBLE OFFICIAL

I, the undersigned, hereby certify under penalty of law that I am a Responsible Official and that I have personally examined and am familiar with the information submitted in the document and all of its attachments as to the truth, accuracy, and completeness of this information. I certify based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

I am submitting the Semi-Annual Report with the Annual Compliance Certification: YES

(Note: the Semi-Annual Report is due February 1st for the reporting period July 1st through December 31st and August 1st for the reporting period January 1st through June 30th of each calendar year.)

By signing this form, I certify that I have not changed, altered, or deleted any portions of this form.

Responsible Official Signature: _____

Responsible Official Name: Vincent Kane

Responsible Official Title: Director

Phone Number: (302) 994-2511 ext. 5201

Part E: SUBMITTAL INFORMATION

1. The Annual Compliance Certification report is due February 1 of each calendar year.

2. The Annual Compliance Certification should be submitted to the following locations:

Original and one (1) copy:

State of Delaware – DNREC
Division of Air Quality
655 S Bay Road, Suite 5N
Dover, DE 19901
Attention: Director

One (1) copy:

United States Environmental Protection Agency
Associate Director of Enforcement (3AP12)
1650 Arch Street
Philadelphia, PA 19103

Regulation No. 30 (Title V) State Operating Permit Program Air Quality Management Section COMPLIANCE CERTIFICATION (continued)	AQM-1001BB revised
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Facility Name: VA-Wilmington Operating Permit Number: AQM-003/000777R4 Reporting Period: 07/01/2019 TO 12/31/2019

TABLE 4 – SEMI-ANNUAL REPORT – IDENTIFICATION OF DEVIATION			
1. Permit Term or Condition for which there is a Deviation	2. Emission Unit Identification	3. Deviation Description	
See Section 5 below	Emission Unit 2 (Bld. 19)	The facility has a temporary potable 1000KW diesel-fired emergency generator at the site (Bld. 19) since 12/04/2019. This was notified to the Department on 12/5/2019 via an email correspondence and was reported through 2019 Annual Compliance Certification. The temporary EG unit's permit is pending with the Dept. Note: The 1000 KW temporary mobile EG unit as well as the existing 600 KW EG unit will be removed from the site once the proposed 600 KW replacement unit is installed to support hospital's emergency need.	
4. Deviation Duration			
4.1 Date (month/day/year) Beginning: 12/04/2019 Ending: / /	4.2 Time (hr:min) Start: : End: :	4.3 Duration (hr:min) :	
5. Probable Cause of Deviation			
Temporary EG unit does not have a permit. However, the presence of the unit was notified to the Dept. through email and Annual Compliance Certification. The temporary EG unit's permit is pending with the Dept. The emergency need of the hospital is unpredictable. It can be a sensitive issue by not having an EG unit at the site at all time.			
7. Deviation Reporting			
7.1 Was this deviation required by your permit to be reported previously?		NO	
7.2 Was this deviation reported previously?		YES	
7.2(a) If yes, provide the date the report was submitted:		12/05/2019	

AQM-1001BB
revised

Facility Name: VAMC-Wilmington Operating Permit Number: AQM-003/00077-R4 Reporting Period: 01/01/19 TO 12/31/19

Additional Information

[illegible]