




MEMORANDUM

To: Angela D. Marconi, P.E., BCEE 
Through: Karen A. Mattio, P.E. 
From: Bradley A. Klotz 
Subject: **Permit: APC-2020/0149-CONSTRUCTION(NSPS)-(FE)**
Department of Veterans Affairs Medical Center
One 600 kW Emergency Generator -Building 19

Date: May 8, 2020

I. Facility Information

Facility name: Department of Veterans Affairs Medical Center		NAICS/SIC (primary code): 6221100/8062	
Mailing Address: 1601 Kirkwood Highway			
P.O. box:	City: <u>Wilmington</u>	State: <u>DE</u>	ZIP Code: <u>19805</u>
Contact Person: Shaikh A. Tayeb		Telephone Number: <u>302-994-2511, Ext. 5335</u>	
E-mail Address: Shaikh.Tayeb@va.gov			
Facility Status: <input type="checkbox"/> Natural Minor <input type="checkbox"/> Synthetic Minor <input checked="" type="checkbox"/> Major Source			
Comments	The Facility requested an air permit for one emergency generator to replace the previously existing 600 kW diesel fuel-fired unit, and the 1000 kW natural gas-fired portable replacement unit (Permit: APC-2020/0062-C/O). Per Permit: <u>APC-2020/0149-CONSTRUCTION(NSPS)-(FE)</u> , this memo describes the Caterpillar unit: Gen Set Model Cat C18 with a Maximum Rated Horsepower: 900 (600 kW).		

II. Engine Information

Engine Address (<i>if Different than above</i>): N/A	
City: N/A	State: N/A Zip Code: N/A
Date of Construction:	Date of Manufacture: 2020
Has the engine been modified? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, please provide the date of modification: N/A
Has the engine been reconstructed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, please provide the following information
	Date of reconstruction: N/A

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Engine Ignition: <input checked="" type="checkbox"/> Compression Ignition <input type="checkbox"/> Spark Ignition (Select one below) Displacement: 1106 in ³ <input type="checkbox"/> 2SLB <input type="checkbox"/> 4SLB <input type="checkbox"/> 4SRB	
Engine Model No: Cat C18	Maximum Rated Horsepower: 900 HP
Engine Manufacturer: Caterpillar	Engine Type: 4 Cycle, 6 Cylinder
Is the engine manufacturer certified? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, please attach the certification along with the memo.	
Will the engines be located at a facility that is a major source of HAPs? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Will the engines be located at a residential, commercial, or institutional facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Is the engine a National Fire Protection Association certified fire pump? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Fuel Type: <input type="checkbox"/> Gasoline <input type="checkbox"/> Natural Gas <input type="checkbox"/> Biodiesel <input type="checkbox"/> Other, <input checked="" type="checkbox"/> Diesel <input type="checkbox"/> Dual Fuel	
Comments	Based on the model year and maximum engine power, the engine must meet EPA Tier II standards. A certificate of conformity was not provided with the application. However, this engine model is listed in EPA's database as a certified Tier II engine.

III. Emissions Calculations (Caterpillar Generator)

Pollutant	Emission Factor	E.F. Unit	Emission Factor Source	Emission Rate ^[4] (lb/hr)	PTE ^[2] Emissions (ton/yr)
PM ₁₀	0.03	g/bhp-hr	EPA Tier II Standard	0.06	0.015
SO ₂			Material Balance ^[1]	0.004	0.001
NO _x	5.50	g/bhp-hr	EPA Tier II Standard ^[3]	10.91	2.73
CO	0.30	g/bhp-hr	EPA Tier II Standard	0.60	0.15
NMHC	0.01	g/bhp-hr	EPA Tier II Standard ^[3]	0.02	0.005
^[1] Calculated using material balance @ fuel flow rate 35.4 gallons/hour; 0.0015% Sulfur by wt. 35.4 gallons/hour X 7.67 lb/gallon x 0.000015 = 0.004 lb/hr					
^[2] PTE calculations assume 500 hrs operation per year based on EPA guidance for EGENs.					
^[3] NO _x emissions estimated as 95% of 5.50 g/bhp-hr standard; NMHC as 5% of 0.01 g/bhp-hr standard.					

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[4] Sample calculation for PM₁₀ : 0.03 g/bhp-hr X 900 BHP ÷ 453.59 g/lb = 0.06 lb/hr.

IV. Aerscreen Modelling

Stack parameters		
Stack Height Above Grade	13.6	ft
Stack Exit Diameter	7.92	in
Stack Exit Temperature	994	°F
Exhaust Gas Flow Rate	4,784	ACFM
Distance of MDC	10.00	m

	MDC (1 lb/hr)	47.0			
Pollutant	Emission Rate (lb/hr)	MDC (µg/m³)	MDC 8-hr (mg/m³)	TLV (mg/m³)	TLV:MDC Ratio
PM	0.06	2.82	2.82 E-03	3 ^[4]	1064
SO₂	0.004	0.188	1.88 E-04	0.49 ^[3]	2606
NO^[2]	0.59	27.73	2.77 E-02	31	1119
NO₂^[2]	0.03	1.41	1.41 E-03	0.38	270
CO	0.60	28.2	2.82 E-02	29	1028
NMHC^[1]	0.02	0.94	9.40 E-04	1.6 ^[1]	1702

[1] TLV of 1.6 mg/m³ conservatively assumes all NMHCs are Benzene.

[2] Assume NO_x composition 95% NO; 5% NO₂.

[3] TLV = ACGIH (STEL) x (0.737) = (0.25 ppm) x (0.737) = 0.18 ppm = 0.49 mg/m³

[4] Use TLV of 3 mg/m³ to conservatively assume all PM is PM_{2.5}.

For all the air pollutants the results indicate that the TLV:MDC ratio is greater than the 100:1 minimum level criteria established by the Department to ensure acceptable conditions for public health and safety.

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Please note that the emissions were modeled assuming continuous operation of the generator (8760 hr/yr). Per page 11 of EPA guidance memorandum dated March 1, 2011 from Tyler Fox, Leader Air Quality Modeling Group, regarding modeling and the 1-hour NO₂ NAAQS standard, the intermittent emissions of an emergency generator can be represented by multiplying the maximum hourly emission rate times 500 hrs/8760 hrs. The modeled emissions were modified based on the above EPA Guidance and the generator meets the Department criteria.

V. Regulatory Review

- ☒ 7 DE Admin. Code 1102: Permits
- ☒ 7 DE Admin. Code 1104: Fuel Burning Equipment
- ☒ 7 DE Admin. Code 1108: Sulfur Dioxide Emissions from Fuel Burning Equipment
- ☒ 7 DE Admin. Code 1114: Visible Emissions
- ☒ 7 DE Admin. Code 1119: Control of Odorous Air Contaminants
- ☒ 7 DE Admin. Code 1120: New Source Performance Standards

☐ 7 DE Admin. Code 1124: Control of Volatile Organic Compound Emissions:

☐ 7 DE Admin. Code 1125: Requirements for Preconstruction Review:
Section 2 and 3

The Facility is a major source of NO_x. The installation is not subject to these sections of the regulation because the emissions are insufficient to exceed the thresholds of significance.

Section 4

The 600 kW generator has the potential to emit 2.73 tons of NO_x per year which does not exceed the 5 ton per year threshold for Minor New Source Review. Therefore, this section is not applicable.

☒ 7 DE Admin. Code 1130: Title V State Operating Permit Program:

The facility is a Major Source and is subject to the Title V Operating Permit Program. The unit will be incorporated into the Facility's Title V Permit upon completion of construction, and the facility has requested the permit be federally enforceable to incorporate its requirements into **Permit: AQM-003/00077-Renewal 4** via an administrative amendment.

☐ 7 DE Admin. Code 1138: Emission Standards for Hazardous Air Pollutants for Source Categories

☒ 7 DE Admin. Code 1144: Control of Stationary Generator Emissions

The gen set generates emergency electric power to operate the hospital using an internal combustion engine. It meets the definition of generator in this regulation and is therefore applicable to the unit. The requirements of the regulation have been incorporated in the permit.

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- ☐ 40 CFR Part 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines
As described below under 40 CFR Part 60 Subpart IIII, the diesel engine is a nonroad engine and not a stationary reciprocating internal combustion engine (RICE) at a source of HAP emissions. Therefore, this regulation is not applicable.
- ☒ 40 CFR Part 60, Subpart IIII – New Source Performance Standards (NSPS) for Stationary Internal Combustion Engines
The engine is Tier II certified as required by both 7 DE Admin. Code 1144 and this regulation and the requirements have been incorporated in the permit.
- ☐ 40 CFR 60.4230, Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
This regulation applies to spark ignition internal combustion engines which use gasoline or liquified petroleum gas. Since this unit utilizes diesel fuel, this regulation does not apply.

RECOMMENDATION

It is recommended that the attached draft/proposed **Permit: APC-2020/0149-CONSTRUCTION(NSPS)-(FE)** be advertised for 30 days beginning on Sunday, May 24, 2020 and that a copy of draft/proposed permit be sent to the EPA and the Company for review.

ADM:KAM:BAK:bak

F:\EngAnd Compliance\BAK\bak20057

pc: Dover File

Documents				
	Dated	File Number	DNREctory DEN Permit I.D.	DNREctory Document Handle
Application	3/18/2020	N/A	60768008	51342
Application Ad	*Proposed for (5/17/2020)	bak20058	60768008	TBD
"Draft/Proposed" Permit	TBD	bak20056	60768008	TBD
"Draft/Proposed" Technical Memorandum	5/8/2020	bak20057	60768008	TBD
"Draft/Proposed" Letter to Company	TBD	bak20055	60768008	TBD
(Reference) Title V Permit AQM-003/00077-R4	4/27/2018	bak18043	60768008	18178



STATE OF DELAWARE

**DEPARTMENT OF NATURAL RESOURCES AND
ENVIRONMENTAL CONTROL**

DIVISION OF AIR QUALITY

STATE STREET COMMONS

100 W. WATER STREET, SUITE 6A

DOVER, DELAWARE 19904

ENGINEERING &
COMPLIANCE

PHONE

(302) 739-9402

May 22, 2020

Department of Veterans Affairs Medical Center
1601 Kirkwood Highway
Wilmington, DE 19904

ATTENTION: Vincent Kane
Director

SUBJECT: "Draft/Proposed" Permit: APC-2020/0149 – CONSTRUCTION(NSPS)-(FE)

Dear Mr. Kane:

Attached you will find a copy of "**Draft/Proposed" Permit: APC-2020/0149 – CONSTRUCTION(NSPS)-(FE)** for the construction of a 600 kW diesel-fired emergency generator to replace the existing 600 kW unit. This permit is being made federally enforceable so its terms and conditions can be transferred to your facility's Title V Operating Permit (**Permit: AQM-003/00077-Renewal 4**) via the administrative permit amendment process. Please reference 7 **DE Admin. Code** 1102 Sections 11.2.10, 12.4 and 12.5 for the requirements of this process.

In order to make the terms and conditions of this **Permit: APC-2020/0149 – CONSTRUCTION(NSPS)-(FE)** federally enforceable, notice has been sent to EPA and affected states, and a Public Notice was advertised in the *Sunday News Journal* and *Delaware State News* on Sunday, May 24, 2020 to commence a thirty (30) day comment period. The public comment period will be no less than thirty (30) days in accordance with 7 **DE Admin Code** 1130. The public comment period ends June 22, 2020. Any comments should be brought to the Department's attention on or before June 22, 2020 and mailed to the following address:

State of Delaware - DNREC
Division of Air Quality
State Street Commons
100 W. Water Street, Suite 6A
Dover, DE 19904
ATTN: David Fees, Division Director

The Department requests that you mail the original and one (1) copy if you submit comments.

The "Draft/Proposed" permit is being submitted to EPA for concurrent processing. Please note that the

Department of Veterans Affairs Medical Center

"Draft/Proposed" Permit: APC-2020/0149 – CONSTRUCTION(NSPS)-(FE)

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EPA can comment during the 30 day public notice period and can approve or deny the permit during the entire 45 day EPA review period.

If the Department receives significant comments on the "Draft/Proposed" permit, comments will be evaluated, responses will be prepared, and the permit will be revised as necessary. The permit will then be submitted to you and the EPA as "Proposed" as a standard consecutive forty-five (45) day review period.

Any questions concerning the attached "Draft/Proposed" permit may be directed to Bradley A. Klotz at (302)324-2088.

Sincerely,

A handwritten signature in black ink that reads "Karen Mattio". The signature is written in a cursive style and is placed on a light gray rectangular background.

Karen A. Mattio, P.E.
Managing Engineer
Engineering & Compliance Branch

ADM:KAM:BAK:bak
F:\EngAndCompliance\BAK\bak20055

pc: Dover Title V File
 Angela D. Marconi, P.E., BCEE
 Bradley A. Klotz



STATE OF DELAWARE

**DEPARTMENT OF NATURAL RESOURCES AND
ENVIRONMENTAL CONTROL**

DIVISION OF AIR QUALITY

STATE STREET COMMONS

100 W. WATER STREET, SUITE 6A
DOVER, DELAWARE 19904

ENGINEERING &
COMPLIANCE

PHONE

(302) 739-9402

DATE

**Draft/Proposed Permit: APC-2020/0149-CONSTRUCTION(NSPS)-(FE)
600 kW Caterpillar Emergency Generator for Emergency Use - Building 19**

Department of Veterans Affairs Medical Center
1601 Kirkwood Highway
Wilmington, DE 19904

ATTENTION: Vincent Kane
Director

Dear Mr. Kane:

Pursuant to 7 **DE Admin. Code** 1102, Section 2 and Section 11, approval of the Department of Natural Resources and Environmental Control (the Department) is hereby granted for the construction and operation of one (1) 600 kW Caterpillar Model Cat C18 diesel generator for emergency use located at the Department of Veterans Affairs Medical Center, 1601 Kirkwood Highway, Wilmington, Delaware, in accordance with the application submitted on Form Nos. AQM-1 and AQM-2, AQM-3.3, and AQM-5 dated March 18, 2010 signed by Vincent Kane, Director, and letter dated March 11, 2020 signed by Shaikh A. Tayeb, Environmental Engineer/GEMS Coordinator.

This permit is issued subject to the following conditions all of which are federally enforceable except Condition 6.1 and 2.3:

1. General Provisions

- 1.1 This permit expires on **<three (3) years from date of issuance>**. If the equipment covered by this permit will not be constructed by **<three (3) years from date of issuance>** a request to extend this construction permit must be submitted by **<expiration date minus 45 days>**. [Reference 7 **DE Admin. Code** 1102 Section 11.10 dated 06/11/2006]
- 1.2 The project shall be constructed in accordance with the information described above. If changes are necessary, revised plans must be submitted and a supplemental approval issued prior to actual construction. [Reference 7 **DE Admin. Code** 1102 Section 11 dated 06/11/2006]

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- 1.3 Upon presentation of identification, the Company shall authorize officials of the Department to:
 - 1.3.1 Enter upon the Company's premises where a source is located or an emissions-related activity is conducted, or where records that must be kept under the terms and conditions of this permit are located. **(This condition was taken from Permit: AQM-003/00077-Renewal 4) [Reference 7 DE Admin. Code 1130 Section 6.3.2.1 dated 12/11/2000]**
 - 1.3.2 Have access to and copy, at reasonable times, any record(s) that must be kept under the terms and conditions of this permit. **(This condition was taken from Permit: AQM-003/00077-Renewal 4) [Reference 7 DE Admin. Code 1130 Section 6.3.2.2 dated 12/11/2000]**
 - 1.3.3 Inspect, at reasonable times, any record(s) that must be kept under the terms and conditions of this permit. **(This condition was taken from Permit: AQM-003/00077-Renewal 4) [Reference 7 DE Admin. Code 1130 Section 6.3.2.3 dated 12/11/2000]**
 - 1.3.4 Sample or monitor, at reasonable times, any substance or parameter for the purposes of assuring compliance with this permit or any applicable requirement. **(This condition was taken from Permit: AQM-003/00077-Renewal 4) [Reference 7 DE Admin. Code 1130 Section 6.3.2.4 dated 12/11/2000]**
- 1.4 This permit may not be transferred to another location or to another piece of equipment or process. *[Reference 7 DE Admin. Code 1102 Section 7.1 dated 06/01/1997]*
- 1.5 This permit may not be transferred to another person, owner, or operator unless the transfer has been approved in advance by the Department. Approval (or disapproval) of the permit transfer will be provided by the Department in writing. A request for a permit transfer shall be received by the Department at least thirty (30) days before the date of the requested permit transfer. This request shall include: *[Reference 7 DE Admin. Code 1102 Section 7.1 dated 06/01/1997 and 7 Del. C., Chapter 79]*
 - 1.5.1 Signed letters from each person stating the permit transfer is agreeable to each person; and
 - 1.5.2 An Applicant Background Information Questionnaire pursuant to 7 Del. C., Chapter 79 if the person receiving the permit has not been issued any permits by the Department in the previous five (5) years.
- 1.6 The Company shall, upon completion of the construction, installation, or alteration of each emission unit, request in writing that the Department transfer the terms and conditions of this construction permit into the 7 DE Admin. Code 1130 operating permit. *[Reference 7 DE Admin. Code 1102 Section 11.5 dated 06/11/2006]*
- 1.7 The request shall contain the following information, and shall contain the following language from the responsible official: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete." *[Reference 7 DE Admin. Code 1102 Section 11.5.1 dated 06/11/2006]*

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- 1.7.1 A description of the compliance status, a complete schedule, and a certification of compliance for the equipment, facility, or air contaminant control device with respect to all applicable requirements, in accordance with 7 **DE Admin. Code** 1130 Section 5.4.8 and 5.4.9; and
 - 1.7.2 A statement of the methods used to determine compliance, including a description of the monitoring, record keeping, and reporting requirements and test methods.
- 1.8 Upon satisfactory demonstration that the equipment, facility, or air contaminant control device complies with all applicable requirements and all terms and conditions of the construction permit, and not prior to the expiration of the EPA review period provided for in 7 **DE Admin. Code** 1102, Section 12.5, the Department shall transfer the specified terms and conditions to the 7 **DE Admin. Code** 1130 permit via the administrative amendment process specified in 7 **DE Admin. Code** 1130. *[Reference 7 DE Admin. Code 1102 Section 11.5.2 dated 06/11/2006]*
- 1.9 The provisions of 7 **DE Admin. Code** 1102 Sections 2.1, 11.3, and 11.5 shall not apply to the operation of equipment or processes for the purpose of initially demonstrating satisfactory performance to the Department following construction, installation, modification, or alteration of the equipment or processes. The Company shall notify the Department sufficiently in advance of the demonstration and shall obtain the Department's prior concurrence of the operating factors, time period, and other pertinent details relating to the demonstration. *[Reference 7 DE Admin. Code 1102 Section 11.12 dated 06/11/2006]*
- 1.10 The owner or operator shall not initiate construction, install, or alter any equipment or facility or air contaminant control device which will emit or prevent the emission of an air contaminant prior to submitting an application to the Department pursuant to 7 **DE Admin. Code** 1102, and, when applicable, 7 **DE Admin. Code** 1125, and receiving approval of such application from the Department; except as exempted in 7 **DE Admin. Code** 1102 Section 2.2. *[Reference 7 DE Admin. Code 1102 Section 2.1 dated 06/11/2006]*

2. Emission Limitations

- 2.1 The emergency generator shall meet the applicable emissions standards set by the *US EPA* for non-road engines (Title 40 CFR Part 89, Section 89.112(a), dated July 1, 2007). **(This condition will be transferred to Permit: AQM-003/00077-Renewal 4).**
- 2.2 No person shall cause or allow the emission of visible air contaminants and/or smoke from a stationary or mobile source, the shade or appearance of which is greater than twenty percent (20%) opacity for an aggregate of more than three (3) minutes in any one (1) hour or more than fifteen (15) minutes in any twenty-four (24) hour period. **(This condition was taken from Permit: AQM-003/00077-Renewal 4)** *[Reference 7 DE Admin. Code 1114 Section 2.0 dated 11/11/2013]*
- 2.3 Odors from this source shall not be detectable beyond the plant property line in sufficient quantities such as to cause a condition of air pollution. **(This condition was taken from Permit: AQM-003/00077-Renewal 4)** *[Reference 7 DE Admin. Code 1119 Section 2.0 dated 02/01/1981]*

3. Operational Limitations

- 3.1 The emergency generator may only operate for an unlimited number of hours during an emergency as described in Condition 3.4. **(This condition will be transferred to Permit: AQM-003/00077-Renewal 4)**
- 3.2 The owner or operator shall operate the generator for the purpose of maintenance checks and readiness testing except as restricted by Condition 3.5, and provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of each unit is limited to 100 hours per year. The owner or operator may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, local, and manufacturer standards and recommendations require maintenance and testing of the emergency generators beyond 100 hours per year. **(This condition will be transferred to Permit: AQM-003/00077-Renewal 4)**
- 3.3 Diesel fuel or biodiesel blend for use in the emergency generator shall have a sulfur content equal to or less than 0.0015% by weight. **(This condition was taken from Permit: AQM-003/00077-Renewal 4)** [Reference: 40 CFR Part 60, Subpart IIII dated July 11, 2006]
- 3.4 The emergency generator may operate only during an emergency as defined below: **(This condition was taken from Permit: AQM-003/00077-Renewal 4)** [Reference: 7 DE Admin. Code 1144, Section 4.2 dated 1/11/06]
- 3.4.1 An electrical power outage due to: a failure of the electrical grid; on-site disaster; local equipment failure; or public service emergencies such as flood, fire, natural disaster, or severe weather conditions (e.g. hurricane, tornado, blizzard, etc.); or
- 3.4.2 When there is a deviation of voltage or frequency from the electrical provider to the premises of 3% or greater above, or 5% or greater below, standard voltage or frequency.
- 3.5 The emergency generators shall not be operated for testing or maintenance purposes before 5 p.m. on any day which has a Ground Level Ozone Pollution Forecast or Particulate Forecast of "Code Purple," "Code Red," or "Code Orange" as announced by the Department. The owner or operator may receive "Code Purple," "Code Red," or "Code Orange" announcements a day in advance by subscribing to the DNREC Ozone Alert List: **(This condition was taken from Permit: AQM-003/00077-Renewal 4)** [Reference: 7 DE Admin. Code 1144, Section 4.4 dated 1/11/06]
<https://dnrec.alpha.delaware.gov/dnrec-e-mail-lists/>
- 3.6 Despite Condition 3.5, the emergency generator may be tested on any day that such testing is required to meet National Fire Protection Association (NFPA) or The Joint Commission Standards. **(This condition was taken from Permit: AQM-003/00077-Renewal 4)** [Reference: 7 DE Admin. Code 1144, Section 4.5 dated 1/11/06]
- 3.7 The emergency generator shall not be operated in conjunction with a voluntary demand-reduction program or any other interruptible power supply arrangement with a utility, other market participant, or system operator (e.g. Delmarva Power, Delaware Electric

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Cooperative, PJM, etc.). **(This condition was taken from Permit: AQM-003/00077-Renewal 4)**
[Reference: 7 DE Admin. Code 1144, Section 4.2 dated 1/11/06]

- 3.8 The emergency generator shall be equipped with a properly functioning non-resettable hour metering device. **(This condition was taken from Permit: AQM-003/00077-Renewal 4)**
[Reference: 7 DE Admin. Code 1144, Section 6.1.1 dated 1/11/06]
- 3.9 The emergency generator shall be serviced annually by a manufacturer's representative or by personnel trained to perform maintenance according to the manufacturer's recommendations. **(This condition will be transferred to Permit: AQM-003/00077-Renewal 4)**
[Reference 7 DE Admin. Code 1101 Section 3 11/01/2013 and 7 DE Admin. Code 1102 Section 11.6 dated 06/11/2006]
- 3.10 The owner or operator shall operate the emergency generator in conformance with the generator manufacturer's instructions, such as following maintenance and operating requirements to help minimize emissions. **(This condition will be transferred to Permit: AQM-003/00077-Renewal 4)** *[Reference 7 DE Admin. Code 1101 Section 3 11/01/2013 and 7 DE Admin. Code 1102 Section 11.6 dated 06/11/2006]*
- 3.11 At all times, including periods of startup, shutdown, and malfunction, the owner or operator shall, to the extent practicable, maintain and operate the facility, including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determinations of whether acceptable operating procedures are being used will be based on information available to the Department, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. **(This condition will be transferred to Permit: AQM-003/00077-Renewal 4)** *[Reference 7 DE Admin. Code 1101 Section 3 11/01/2013 and 7 DE Admin. Code 1102 Section 11.6 dated 06/11/2006]*
- 3.11.1 All structural and mechanical components of the equipment covered by this permit and in use shall be maintained in proper operating condition. **(This condition was taken from Permit: AQM-003/00077-Renewal 4)** *[Reference 7 DE Admin. Code 1101 Section 3 dated 11/01/2013 and 7 DE Admin. Code 1102 Section 11.6 dated 06/11/2006]*

4. Testing and Monitoring Requirements

- 4.1 The Department reserves the right to require that the owner or operator perform emission tests using methods approved in advance by the Department. **(This condition was taken from Permit: AQM-003/00077-Renewal 4)** *[Reference: 7 DE Admin. Code 1117 Section 2.2 dated 7/17/84]*
- 4.2 If the emergency generator is not certified by the manufacturer to meet the applicable emissions standards set by the US EPA for non-road engines (Title 40 CFR Part 89, Section 89.112(a), dated July 1, 2007), the owner or operator shall demonstrate compliance with 7 DE Admin. Code 1144 through testing using the applicable EPA Reference Methods, California Air Resources Board methods, or equivalent test methods approved in advance by the Department. *[Reference: 7 DE Admin. Code 1117 Section 2.2 dated 7/17/84]*
- 4.3. The owner or operator shall perform the following visible emission testing: **(This condition was modified from Permit: AQM-003/00077-Renewal 4)** *[Reference: 7 DE Admin. Code 1144 Section 2.0 dated 1/11/2006]*
- 4.3.1 Within 5 days of the issuance of this permit and once every 30 days thereafter each emergency generator shall be observed for the presence or absence of visible emissions for at least five minutes while the equipment is operating.

The five-minute observation window must start as soon as generator power is stabilized. Compliance with this condition shall be demonstrated by the maintenance of a bound log of visible emissions. If visible emissions are observed during the five-minute observation period, the owner or operator shall take actions per the manufacturer's recommendations to correct the problem as soon as possible. After corrective actions are taken, the owner or operator shall observe visible emissions while the equipment is next operated or tested. If visible emissions still persist, these steps (observe, correct, document) shall be repeated until visible emissions are not observed.

- 4.3.2 The procedure outlined in Condition 4.3.1 does not require that the opacity of the emissions be determined. Since the procedure requires only the determination of whether visible emissions occur and does not require the determination of opacity levels, observer certification according to the procedures of EPA Reference Method 9 (40 CFR 60, Appendix A) is not required. However, it is necessary that the observer is educated on the general procedures for determining the presence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor).

- 4.4 The sulfur content of each shipment of diesel fuel or biodiesel blend shall be determined using the following sampling and testing methods as described in 40 CFR Section 80.580 (July 1, 2007): **(This condition was taken from Permit: AQM-003/00077-Renewal 4)** [Reference: 7 DE Admin. Code 1144 Section 7.5.2.1 dated 1/11/2006]

4.4.1 Manual Sampling: American Society for Testing and Materials (ASTM) method D4057-95 or D5842-95 if there is no contamination present that could affect the sulfur testing requirements;

4.4.2 Automatic Sampling: ASTM method D4177-95;

4.4.3 Sulfur Testing Method: ASTM method D2622-03;

4.4.4 Alternative Sulfur Testing Method: ASTM methods D4294-03, D5453-03a, or D6920-03, provided that the refiner or importer test result is correlated with the appropriate method specified in Condition 4.4.3; or

4.4.5 Alternative Sulfur Testing Method: Sulfur content may be determined using any test method approved under 40 CFR Part 80, Subpart I, Section 80.585.

- 4.5 As an alternative to 4.4, the owner or operator may have the fuel in the emergency generator's associated storage tank certified by a third party laboratory after each shipment of fuel. This certification shall identify the percentage of sulfur (by weight dry basis) and the method used to determine the sulfur content. **(This condition was taken from Permit: AQM-003/00077-Renewal 4)** [Reference: 7 DE Admin. Code 1144 Section 7.5.2.1 dated 1/11/2006]

- 4.6 The owner or operator shall monitor the following information: **(This condition was taken from Permit: AQM-003/00077-Renewal 4)** [Reference: 7 DE Admin. Code 1130 Section 6.0 dated 1/11/2010]

4.6.1 The date, time, duration, and reason for each emergency generator startup; and

4.6.2 The monthly fuel usage for each emergency generator.

5. Record Keeping Requirements

5.1 The Company shall maintain, at a minimum, all of the information required by this permit for a minimum of five (5) years from such information's date of record. **(This condition was taken from Permit: AQM-003/00077-Renewal 4) [Reference: 7 DE Admin. Code 1144 Section 6.0 dated 1/11/2006]**

5.2 The following information shall be recorded, initialed and maintained in a log as follows: **(This condition will be transferred to Permit: AQM-003/00077-Renewal 4) [Reference 7 DE Admin. Code 1130 Section 6.1.3.2.2 dated 12/11/00]**

5.2.1 The date, time, duration, and reason for each start-up of the emergency generator. The log shall include the dates and descriptions of inspections, testing, operator training, and maintenance performed;

5.2.2 The total hours of operation for each month and the cumulative 12 month rolling period shall be calculated and recorded within 15 days of the end of each calendar month;

5.2.3 The total hours during which testing or maintenance occurred shall be calculated for each month and the cumulative 12 month rolling period and recorded within 15 days of the end of each calendar month. A brief description of each testing or maintenance performed shall be included;

5.2.4 The total fuel usage for each month and the cumulative 12 month rolling period shall be calculated and recorded within 15 days of the end of each calendar month;

5.2.5 Visible emission records in accordance with Condition 4.3.

5.2.6 The monthly and 12 month rolling total emissions for each of the following pollutants:

5.2.6.1 Non Methane Hydrocarbons (NMHCs)

5.2.6.2 Nitrogen Oxide (NO_x)

5.2.6.3 Carbon Monoxide (CO)

5.2.6.4 Sulfur Dioxide (SO₂)

5.2.6.5 Particulate Matter (PM)

5.3 The owner or operator (transferee) shall maintain an electronic or paper record provided by the deliverer (transferor) of fuel oil for each shipment. This record shall contain the

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following information: **(This condition was modified from Permit: AQM-003/00077-Renewal 4)**
[Reference: 7 DE Admin. Code 1144 Section 6.0 dated 1/11/2006]

- 5.3.1 Name, address and telephone number of the transferee, and the address where the fuel oil is delivered.
- 5.3.2 The volume of fuel being sold or delivered, and the date of sale or delivery.
- 5.3.3 The type of fuel and the sulfur content of the fuel as a delivered product, determined pursuant to Condition 4.4 or 4.5 of this permit, as applicable, and expressed as one of the following:
 - 5.3.3.1 The actual sulfur content in ppm or percent (%) by weight, or
 - 5.3.3.2 A statement that certifies the sulfur content of the shipment is equal to or below the applicable limit specified in Condition 3.3 of this Permit, or
 - 5.3.3.3 Except for a sale or delivery to an ultimate consumer, a product code or product description that identifies the sulfur content of the shipment as equal to or below the applicable limit specified in Condition 3.3 of this Permit, provided such code or description is standardized throughout the distribution system in which it is used, and each downstream party is given sufficient information to know its full meaning.
- 5.4 The owner or operator shall maintain a record of proper initial notification as required by 7 **DE Admin. Code 1144**. *[Reference: 7 DE Admin. Code 1144 Section 1.4 dated 1/11/2006]*
- 5.5 The owner or operator shall maintain a copy of the manufacturer's maintenance and operating recommendations at the facility. **(This condition was taken from Permit: AQM-003/00077-Renewal 4)** *[Reference: 7 DE Admin. Code 1130 Section 6.1.3.1.2 and 6.2.1 12/11/2010]*
- 5.6 The owner or operator shall maintain a copy of the manufacturer's certification that the engine has been certified to meet the currently applicable US EPA non-road emissions standards (Title 40 CFR Part 89, Section 89.112(a), dated July 1, 2007). If such certification is not available, the owner or operator shall maintain records of any testing conducted pursuant to Condition 4.2. **(This condition was taken from Permit: AQM-003/00077-Renewal 4)** *[Reference: 7 DE Admin. Code 1130 Section 6.1.3.1.2 and 6.2.1 dated 12/11/2010]*
- 5.7 The owner or operator shall maintain a copy of the emergency generator's annual maintenance service at the facility. **(This condition was taken from Permit: AQM-003/00077-Renewal 4)** *[Reference: 7 DE Admin. Code 1130 Section 6.1.3.1.2 and 6.2.1 dated 12/11/2010]*

6. Reporting Requirements

- 6.1 Emission in excess of any permit condition or emissions which create a condition of air pollution shall be reported to the Department:
 - 6.1.1 Immediately upon discovery and after activating the appropriate site emergency plan to the Department's 24-hour complaint line (1-800-662-8802) any deviation that poses an imminent and substantial danger to public health, safety, or the

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environment. **(This condition was taken from Permit: AQM-003/00077-Renewal 4)**
[Reference 7 DE Admin. Code 1130 Section 6.1.3.3.3.2 dated 12/11/00]

6.1.2 Immediately upon discovery by calling the Environmental Emergency Notification and Complaint number, (800) 662-8802. (State Enforceable Only) **(This condition was taken from Permit: AQM-003/00077-Renewal 4)** *[Reference 7 DE Admin. Code 1130 Section 6.1.3.3.3.3 dated 12/11/000]*

6.2 Discharges to the atmosphere in excess of any quantity specified 7 DE Admin. Code 1203 **"Reporting of a Discharge of a Pollutant or an Air Contaminant"** shall be reported, immediately upon discovery and after activating the appropriate site emergency plan, either in person or to the Department's 24-hour complaint line (1-800-662-8802). Discharges in compliance with this permit and excess emissions previously reported under Condition 6.1 of this permit are exempt from this reporting requirement. **(This condition was modified from Permit: AQM-003/00077-Renewal 4)** *[Reference 7 DE Admin. Code 1130 Section 6.1.3.3.3.5 dated 12/11/00 and 7 Del. C. Chapter 60, Section 6028]*

6.3 In addition to complying with Condition 6.1 and 6.2 of this permit, any reporting required by 7 DE Admin. Code 1203 **"Reporting of a Discharge of a Pollutant or an Air Contaminant"** and any other reporting requirements mandated by the State of Delaware, the owner or operator shall for each occurrence of excess emissions, within thirty (30) calendar days of becoming aware of such occurrence, supply the Department in writing with the following information: **(This condition was modified from and will be transferred to Permit: AQM-003/00077-Renewal 4)** *[Reference 7 DE Admin. Code 1112 Section 7.3 paragraphs 1, 2, 3, 4, and 5 dated 11/24/1993]*

6.3.1 The name and location of the facility;

6.3.2 The subject source(s) that caused the excess emissions;

6.3.3 The time and date of first observation of the excess emissions;

6.3.4 The cause and expected duration of the excess emissions;

6.3.5 For sources subject to numerical emission limitations, the estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and calculations used in determining the magnitude of the excess emissions; and

6.3.6 The proposed corrective actions and schedule to correct the conditions causing the excess emissions.

6.4 If an emergency generator is to be reclassified from emergency generator to a distributed generator, the owner or operator shall submit to the Department a letter stating that the generator is to be reclassified. Reclassification shall not occur without written permission from the Department. **(This condition was modified from Permit: AQM-003/00077-Renewal 4)** *[Reference: 7 DE Admin. Code 1144 Section 1.3.3 dated 1/11/2006]*

6.5 Each document submitted to the Department/EPA pursuant to this permit shall be certified by a Responsible Official as to truth, accuracy, and completeness. Such certification shall be signed by a Responsible Official and shall contain the language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in

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the document are true, accurate, and complete.” (This condition was taken from Permit: AQM-003/00077-Renewal 4) [Reference 7 DE Admin. Code 1130 Section 5.6 dated 11/15/93 and 6.3.1 dated 12/11/2000]

- 6.6 Each document submitted to the Department/EPA pursuant to this permit shall be sent to the following addresses: (This condition was taken from Permit: AQM-003/00077-Renewal 4)

State of Delaware – DNREC Division of Air Quality State Street Commons 100 W. Water Street, Suite 6A Dover, DE 19904 ATTN: Division Director	U.S. Environmental Protection Agency Region III Enforcement and Compliance Assurance Division (3ED21) 1650 Arch Street Philadelphia, PA 19103-2029
No. of Originals: <u>1</u>	No. of Copies: <u>1</u>

7. Compliance Certification

- 7.1 Compliance with the terms and conditions of this permit shall be certified to the Department not later than the first day of February of each year unless the terms and conditions require Compliance Certifications to be submitted more frequently. Such certifications shall cover the previous calendar year and shall be submitted on Form AQM-1001BB. The Compliance Certification shall include the following information: (This condition was taken from Permit: AQM-003/00077-Renewal 4) [Reference 7 DE Admin. Code 1130 Section 6.3.5.3.1 dated 12/11/2000]
- 7.1.1 The identification of each term or condition of the permit that is the basis of the certification. (This condition was taken from Permit: AQM-003/00077-Renewal 4) [Reference 7 DE Admin. Code 1130 Section 6.3.5.3.1 dated 12/11/2000]
- 7.1.2 The Company's current compliance status, as shown by monitoring data and other information reasonably available to the Company. (This condition was taken from Permit: AQM-003/00077-Renewal 4) [Reference 7 DE Admin. Code 1130 Section 6.3.5.3.2 dated 12/11/2000]
- 7.1.3 Such certification shall indicate whether compliance was continuous or intermittent during the covered period. (This condition was taken from Permit: AQM-003/00077-Renewal 4) [Reference 7 DE Admin. Code 1130 Section 6.3.5.3.3 dated 12/11/2000]
- 7.1.4 The method(s) used for determining the compliance status of the Company, currently and over the reporting period as required by the monitoring, record keeping, and reporting required under Conditions 4, 5, and 6. (This condition was modified from Permit: AQM-003/00077-Renewal 4) [Reference 7 DE Admin. Code 1130 Section 6.3.5.3.4 dated 12/11/2000]
- 7.1.5 Such other facts that the Department may require to determine the compliance status of the source. (This condition was taken from Permit: AQM-003/00077-Renewal 4) [Reference 7 DE Admin. Code 1130 Section 6.3.5.3.5 dated 12/11/2000]
- 7.2 Each compliance certification shall be submitted to the Department and EPA and shall be certified in accordance with Condition 6.5 of this permit. (This condition was modified from Permit: AQM-003/00077-Renewal 4) [Reference 7 DE Admin. Code 1130 Section 6.3.5.4 dated 12/11/2000]

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- 7.3 Any additional information possessed by the Company that demonstrates noncompliance with any applicable requirement must also be used as the basis for Compliance Certifications. **(This condition was taken from Permit: AQM-003/00077-Renewal 4)** [Reference 62 FR 8314 dated 2/24/97]

8. Administrative Conditions

- 8.1 The Company shall have available at the facility at all times a copy of this permit and shall provide a copy of this permit to the Department upon request. **(This condition was taken from Permit: AQM-003/00077-Renewal 4)** [Reference 7 DE Admin. Code 1102 Section 8.1 dated 06/11/2006]
- 8.2 Failure to comply with the provisions of this permit may be grounds for suspension or revocation. [Reference 7 DE Admin. Code 1102 Section 6 dated 06/11/2006]

Sincerely,

Angela D. Marconi, P.E., BCEE
Program Manager
Engineering & Compliance Branch

ADM:KAM:BAK:bak
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pc: Dover (Title V) File
Karen A. Mattio, P.E.
Bradley A. Klotz

DRAFT/PROPOSED