



## Temporary Permit

**Permit No:** TP-B-0555

**Date Issued:** January 5, 2009

This certifies that:

**Dartmouth-Hitchcock Medical Center  
1 Medical Center Drive  
Lebanon, New Hampshire 03756**

has been granted a State Permit to Operate for a:

**Emergency Generator**

at the following facility and location:

**Dartmouth-Hitchcock Medical Center  
1 Medical Center Drive  
Lebanon, New Hampshire**

Facility ID No: **3300900003**

Application No: **08-0453**, received September 11, 2008 - Temporary Permit

which includes devices that emit air pollutants into the ambient air as set forth in the permit application referenced above which was filed with the New Hampshire Department of Environmental Services, Air Resources Division (Division) in accordance with RSA 125-C of the New Hampshire Laws. Request for permit renewal is due to the Division at least 90 days prior to expiration of this permit and must be accompanied by the appropriate permit application forms.

This permit is valid upon issuance and expires on **July 31, 2010**.

 **COPY**

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Director  
Air Resources Division

**Abbreviations and Acronyms**

AAL	Ambient Air Limit
acf	actual cubic foot
ags	above ground surface
ASTM	American Society of Testing and Materials
Btu	British thermal units
CAS	Chemical Abstracts Service
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CO	Carbon Monoxide
DER	Discrete Emission Reduction
DES	New Hampshire Department of Environmental Services
Env-A	New Hampshire Code of Administrative Rules – Air Related Programs
ERC	Emission Reduction Credit
ft	foot or feet
ft <sup>3</sup>	cubic feet
gal	gallon
HAP	Hazardous Air Pollutant
hp	horsepower
hr	hour
kW	kilowatt
lb	pound
LPG	Liquified Petroleum Gas
MM	million
MSDS	Material Safety Data Sheet
MW	megawatt
NAAQS	National Ambient Air Quality Standard
NG	Natural Gas
NO <sub>x</sub>	Oxides of Nitrogen
NSPS	New Source Performance Standard
PM <sub>10</sub>	Particulate Matter < 10 microns
ppm	parts per million
psi	pounds per square inch
RACT	Reasonably Available Control Technology
RSA	Revised Statutes Annotated
RTAP	Regulated Toxic Air Pollutant
scf	standard cubic foot
SO <sub>2</sub>	Sulfur Dioxide
TSP	Total Suspended Particulate
tpy	tons per consecutive 12-month period
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

## I. Facility Description

The Dartmouth-Hitchcock Medical Center (DHMC) is a 1.9 million square foot health-care facility that includes the Mary Hitchcock Memorial Hospital (Hospital), the Hitchcock Clinic (Lebanon site), and the Dartmouth Medical School (Lebanon site). The three facilities share the same infrastructure, including three boilers and four emergency generators (designated as emissions units EU01 through EU07 in the Title V permit). DHMC is currently operating under Title V Operating Permit TV-OP-011. The current operating permit requirements are administered by the Hospital's Facilities Management office. This Temporary Permit is for the installation of a new emergency generator.

## II. Emission Unit Identification

This permit covers the devices identified in Table 1:

<b>Table 1 - Emission Unit Identification</b>				
Emission Unit ID	Device Identification	Manufacturer Model Number Serial Number	Installation Date	Maximum Design Capacity and Fuel Type(s) <sup>1</sup>
EU08	Emergency Generator	Caterpillar C27 not available	TBD	8.1 MMBtu/hr Diesel - equivalent to 59.2 gal/hr

## III. Operating and Emission Limitations

The Owner or Operator shall be subject to the operating and emission limitations identified in Table 2:

<b>Table 2 - Operating and Emission Limitations</b>			
Item #	Requirement	Applicable Emission Unit	Regulatory Basis
1	<u>Visible Emission Standard for Fuel Burning Devices Installed After May 13, 1970</u> The average opacity from fuel burning devices installed after May 13, 1970 shall not exceed 20 percent for any continuous 6-minute period.	EU08	Env-A 2002.02
2	<u>Activities Exempt from Visible Emission Standards</u> The average opacity shall be allowed to be in excess of those standards specified in Env-A 2002.02 for one period of 6 continuous minutes in any 60 minute period during startup, shutdown and malfunction.	EU08	Env-A 2002.04(c)
3	<u>Particulate Emission Standards for Fuel Burning Devices Installed on or After January 1, 1985</u> The particulate matter emissions from fuel burning devices installed on or after January 1, 1985 shall not exceed 0.30 lb/MMBtu.	EU08	Env-A 2002.08

<sup>1</sup> The hourly fuel rates presented in Table 1 are set assuming a heating value of 137,000 Btu/gal for Diesel.

**Table 2 - Operating and Emission Limitations**

Item #	Requirement	Applicable Emission Unit	Regulatory Basis
4	<p><u>Maximum Sulfur Content Allowable in Liquid Fuels</u></p> <p>a. The sulfur content of diesel fuel burned in the emergency generator shall not exceed 500 ppm (0.05 percent sulfur by weight); and</p> <p>b. After October 1, 2010, the sulfur content of diesel fuel burned in the emergency generator shall not exceed 15 ppm (0.0015 percent sulfur by weight).</p>	EU08	40 CFR 60.4207 (Subpart III)
5	<p><u>Emergency Generators</u></p> <p>The emergency generator shall only operate:</p> <p>a. As a mechanical or electrical power source when the primary power source for the Facility has been lost during an emergency such as a power outage;</p> <p>b. During normal maintenance and testing as recommended by the manufacturer; or</p> <p>c. During periods in which ISO New England (ISO-NE) declares the implementation of Action 12 of ISO-NE Operating Procedure 4, Action During a Capacity Deficiency.</p>	EU08	Env-A 101.661
6	<p><u>Emergency Generators</u></p> <p>The emergency generator shall be limited to 100 hours of operation during any consecutive 12-month period for maintenance checks and readiness testing and total operation shall be limited to 500 hours of operation during any consecutive 12-month period.</p>	EU08	40 CFR 60.4211(e) (Subpart III) & Env-A 1211.11(b)
7	<p><u>Emission Standards and Control Options for Emergency Generators</u></p> <p>The Owner or Operator shall set and maintain the ignition timing of the engine 4 degrees retarded relative to standard timing, provided that the ignition timing shall not be retarded beyond the point that:</p> <p>a. The carbon monoxide (CO) emission concentration increases beyond 100 pmvd, corrected to 15% oxygen;</p> <p>b. The turbocharger speed is increased beyond the maximum operating speed recommended by the manufacturer;</p> <p>c. The exhaust port temperature increases beyond the manufacturer's recommended maximum operating temperature; or</p> <p>d. The opacity of the emissions from the engine exhaust is equal to or greater than 20% opacity;</p>	EU08	Env-A 1211.11(d)

#### IV. Monitoring and Testing Requirements

The Owner or Operator is subject to the monitoring and testing requirements as contained in Table 3:

Table 3 - Monitoring and Testing Requirements					
Item #	Parameter	Method of Compliance	Frequency	Applicable Unit	Regulatory Basis
1	To Be Determined	When conditions warrant, the Division may require the Owner or Operator to conduct stack testing in accordance with USEPA or other Division approved methods.	Upon request by the Division	Facility Wide	RSA 125-C:6, XI
2	Sulfur Content of Liquid Fuels	Conduct testing in accordance with appropriate ASTM test methods or retain delivery tickets in accordance with Table 4, Item 3 in order to demonstrate compliance with the sulfur content limitation provisions specified in this permit for liquid fuels.	For each delivery of diesel to the facility	EU08	Env-A 806.02 & Env-A 806.05
3	Hours of Operation	The emergency generator shall be equipped with a non-resettable hour meter.	Continuous	EU08	40 CFR 60.4209(a) (Subpart III) & Env-A 1211.11(d)(2)

#### V. Recordkeeping Requirements

The Owner or Operator shall be subject to the recordkeeping requirements identified in Table 4:

Table 4 - Recordkeeping Requirements				
Item #	Requirement	Duration/Frequency	Applicable Unit	Regulatory Basis
1	<u>Record Retention and Availability</u> Keep the required records on file. These records shall be available for review by the Division upon request.	Retain for a minimum of 5 years	Facility Wide	Env-A 902
2	<u>General Recordkeeping Requirements for Combustion Devices</u> Maintain the following records of fuel characteristics and utilization for the fuel used in the combustion devices: a. Type and amount of fuel burned in the device; and b. Hours of operation of the emergency generator.	Monthly	EU08	Env-A 903.03
3	<u>Liquid Fuel Oil Recordkeeping Requirements</u> The Owner or Operator shall obtain a written statement from the fuel supplier that the sulfur content of the fuel as delivered does not exceed federal standards for that fuel.	Whenever there is a change in fuel supplier but at least annually	EU08	Env-A 806.05

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**Table 4 - Recordkeeping Requirements**

Item #	Requirement	Duration/ Frequency	Applicable Unit	Regulatory Basis
4	<p><u>General NO<sub>x</sub> Recordkeeping Requirements</u></p> <p>If the actual annual NO<sub>x</sub> emissions from all permitted devices located at the Facility are greater than or equal to 10 tpy, then record the following information:</p> <ol style="list-style-type: none"> <li>a. Identification of each fuel burning device;</li> <li>b. Operating schedule during the high ozone season (June 1 through August 31) for each fuel burning device identified in Table 4, Item 4.a, above, including: <ol style="list-style-type: none"> <li>1. Typical hours of operation per day;</li> <li>2. Typical days of operation per calendar month;</li> <li>3. Number of weeks of operation;</li> <li>4. Type and amount of each fuel burned;</li> <li>5. Heat input rate in MMBtu/hr;</li> <li>6. Actual NO<sub>x</sub> emissions for the calendar year and a typical high ozone day during that calendar year; and</li> <li>7. Emission factors and the origin of the emission factors used to calculate the NO<sub>x</sub> emissions.</li> </ol> </li> </ol>	Maintain Current Data	Facility Wide	Env-A 905.02
5	<p><u>NSPS Recordkeeping Requirements for Internal Combustion Engines</u></p> <p>Maintain documentation from the engine manufacturer certifying that the engine complies with the applicable emissions standards stated in 40 CFR 60 Subpart IIII.</p>	Maintain current data	EU08	40 CFR 60.4211 (Subpart IIII)
6	Maintain records to certify that the ignition timing of the engine has been inspected and adjusted (as specified in Table 2, Item 7) at least once every 3 years.	Once every 3 years	EU08	Env-A 1211.11(d)(4)

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**VI. Reporting Requirements**

The Owner or Operator shall be subject to the reporting requirements identified in Table 5 below. All emissions data submitted to the Division shall be available to the public. Claims of confidentiality for any other information required to be submitted to the Division pursuant to this permit shall be made at the time of submission in accordance with Env-A 103, *Claims of Confidentiality*.

<b>Table 5 - Reporting Requirements</b>				
<b>Item #</b>	<b>Requirement</b>	<b>Frequency</b>	<b>Applicable Emission Unit</b>	<b>Regulatory Basis</b>
1	<p><u><i>Annual Emissions Report</i></u> Submit an annual emissions report which shall include the following information:</p> <ul style="list-style-type: none"> <li>a. Actual calendar year emissions from each emission unit of NO<sub>x</sub>, CO, SO<sub>2</sub>, TSP, and VOCs;</li> <li>b. The methods used in calculating such emissions in accordance with Env-A 705.02, <i>Determination of Actual Emissions for Use in Calculating Emission-Based Fees</i>; and</li> <li>c. All information recorded in accordance with Table 4, Items 2 and 3.</li> </ul>	Annually (no later than April 15th of the following year)	Facility Wide	Env-A 907.01
2	<p><u><i>NO<sub>x</sub> Emission Statements Reporting Requirements</i></u> If the actual annual NO<sub>x</sub> emissions from all permitted devices located at the Facility are greater than or equal to 10 tpy, then include the following information with the annual emission report:</p> <ul style="list-style-type: none"> <li>a. A breakdown of NO<sub>x</sub> emissions reported pursuant to Table 5, Item 1 by month; and</li> <li>b. All data recorded in accordance with Table 4, Item 4.</li> </ul>	Annually (no later than April 15th of the following year)	Facility Wide	Env-A 909
3	<p><u><i>Permit Deviation Reporting Requirements</i></u> Report permit deviations that cause excess emissions in accordance with Condition VII.B.</p>	Within 24 hours of discovery of excess emission	Facility Wide	Env-A 911.04(b)
4	<p><u><i>Emission Based Fees</i></u> Pay emission-based fees in accordance with Condition IX.</p>	Annually (no later than April 15th of the following year)	Facility Wide	Env-A 700

## VII. Permit Deviation Reporting Requirements

- A. Env-A 101, *Definitions*:
1. A *permit deviation* is any occurrence that results in an excursion from any emission limitation, operating condition, or work practice standard as specified in either a Title V permit, state permit to operate, temporary permit or general state permit issued by the Division.
  2. An *excess emission* is an air emission rate that exceeds any applicable emission limitation.
- B. Env-A 911.04(b)(1), *Reporting Requirements*: In the event of a permit deviation that causes excess emissions, notify the Division of the permit deviation and excess emissions by telephone (603-271-1370), fax (603-271-7053) or e-mail (pdeviations@des.nh.gov), within 24 hours of discovery of the permit deviation, unless it is a Saturday, Sunday, or state or federal legal holiday, in which event, the Division shall be notified on the next day which is not a Saturday, Sunday, or state or federal legal holiday.

## VIII. Permit Amendments

- A. Env-A 612.01, *Administrative Permit Amendments*:
1. An administrative permit amendment includes the following:
    - a. Corrects typographical errors;
    - b. Requires more frequent monitoring or reporting; or
    - c. Allows for a change in ownership or operational control of a source provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the Division.
  2. The Owner or Operator may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request.
- B. Env-A 612.03, *Minor Permit Amendments: Temporary Permits and State Permits to Operate*:
1. The Owner or Operator shall submit to the Division a request for a minor permit amendment for any proposed change to any of the conditions contained in this permit which will not result in an increase in the amount of a specific air pollutant currently emitted by the emission units listed in Condition II and will not result in the emission of any air pollutant not emitted by the emission unit.
  2. The request for a minor permit amendment shall be in the form of a letter to the Division and shall include the following:
    - a. A description of the proposed change; and
    - b. A description of any new applicable requirements that will apply if the change occurs.
  3. The Owner or Operator may implement the proposed change immediately upon filing a request for the minor permit amendment.

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- C. Env-A 612.04, *Significant Permit Amendments: Temporary Permits and State Permits to Operate*:
1. The Owner or Operator shall submit a written request for a permit amendment to the Division at least 90 days prior to the implementation of any proposed change to the physical structure or operation of the emission units covered by this permit which increases the amount of a specific air pollutant currently emitted by such emission unit or which results in the emission of any regulated air pollutant currently not emitted by such emission unit.
  2. A request for a significant permit amendment shall include the following:
    - a. A complete application form, as described in Env-A 1703 through Env-A 1708, as applicable;
    - b. A description of:
      - i. The proposed change;
      - ii. The emissions resulting from the change; and
      - iii. Any new applicable requirements that will apply if the change occurs; and
      - iv. Where air pollution dispersion modeling is required for a device pursuant to Env-A 606.02, the information required pursuant to Env-A 606.03.
  3. The Owner or Operator shall not implement the proposed change until the Division issues the amended permit.

**IX. Emission-Based Fee Requirements**

- A. Env-A 705.01, Emission-based Fees: The Owner or Operator shall pay to the Division each year an emission-based fee for emissions from the emission units listed in Condition II.
- B. Env-A 705.02, Determination of Actual Emissions for use in Calculating of Emission-based Fees: The Owner or Operator shall determine the total actual annual emissions from the emission units listed in Condition II for each calendar year in accordance with the methods specified in Env-A 616, Determination of Actual Emissions. If the emissions are determined to be less than one ton, the emission-based fee shall be calculated using an emission-based multiplier of one ton.
- C. Env-A 705.03, Calculation of Emission-based Fees: The Owner or Operator shall calculate the annual emission-based fee for each calendar year in accordance with the procedures specified in Env-A 705.03 and the following equation:

$$FEE = E * DPT$$

where:

- FEE = The annual emission-based fee for each calendar year as specified in Env-A 705;  
 E = Total actual emissions as determined pursuant to Condition IX.B; and  
 DPT = The dollar per ton fee the Division has specified in Env-A 705.03(e).

- D. Env-A 705.04, Payment of Emission-based Fee: The Owner or Operator shall submit, to the Division, payment of the emission-based fee by April 15th for emissions during the previous calendar year. For example, the fees for calendar year 2008 shall be submitted on or before April 15, 2009.