

AIR EMISSION PERMIT NO. 05300061- 001

IS ISSUED TO

Allina Hospitals & Clinics

ABBOTT NORTHWESTERN HOSPITAL

800 28th Street East

Minneapolis, Hennepin County, MN 55407

The emission units, control equipment and emission stacks at the stationary source authorized in this permit are as described in the following permit application(s):

Permit Type
Total Facility Operating Permit

Application Date
December 7, 1995 and April 24, 2002

This permit authorizes the Permittee to operate the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Permit Type: State; Limits to Avoid Pt 70/Limits to Avoid NSR

Issue Date: December 15, 2005

Expiration: Nonexpiring
All Title I Conditions do not expire.

Richard J. Sandberg, Manager
Air Quality Permits Section
Industrial Division

for Sheryl A. Corrigan
Commissioner
Minnesota Pollution Control Agency

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NOTICE TO THE PERMITTEE:

Your stationary source may be subject to the requirements of the Minnesota Pollution Control Agency's (MPCA) solid waste, hazardous waste, and water quality programs. If you wish to obtain information on these programs, including information on obtaining any required permits, please contact the MPCA general information number at:

Metro Area	(651) 296-6300
Outside Metro Area	1-800-657-3864
TTY	(651) 282-5332

The rules governing these programs are contained in Minn. R. chs. 7000-7105. Written questions may be sent to: Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194.

Questions about this air emission permit or about air quality requirements can also be directed to the telephone numbers and address listed above.

PERMIT SHIELD:

Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition. Subject to the limitations of Minn. R. 7007.1800 and 7017.0100, subp. 2, notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

In addition, prior to any future modification related activities that may increase the emissions of Particulate Matter less than 10 um in size (PM₁₀), a thorough National Ambient Air Quality Standards (NAAQS) modeling analysis for PM₁₀ must be completed and approved by MPCA.

FACILITY DESCRIPTION:

Abbott Northwestern Hospital provides a variety of medical services. The Permittee operates boilers and diesel engine-generators to provide steam heat and standby electrical energy to its hospital campus in South Minneapolis.

Abbott Northwestern Hospital's air emission permit No. 253-93-OT-2 (issued in May 1993) contains a fuel usage limit of 600,000 gallons of No. 6 residual oil (sulfur content is less than 1.5 percent by weight) per year to limit the Potential To Emit (PTE) from the source to minor levels for Criteria Pollutants. Through the permit No. 253-98-OT-1 (issued in September 1998), this facility was authorized to increase the No. 6 residual oil in the four boilers to 800,000 gallons per year. Permit No. 253-03-I/O-1 (issued June 6, 2003) amended the previous permit as follows:

Boilers 1 (Group 1) with Natural Gas as Primary fuel:

- Decreased No. 6 fuel oil limit to 755,000 gallons per year for backup use.
- Established limit for natural gas use to 525,000 cubic feet per year for the existing boilers.

Boilers 2 (Group 3) with Natural Gas as Primary fuel:

- Added four new boilers (each of 9 MM Btu/hr rated capacity) and limited the Diesel fuel usage (No. 2 fuel oil) to 137,000 gallons per year for back up use.

Electric Generators 2 (Group4): for emergency purposes only

- Added three 750 kilowatts electric power generators with an operational limit of 300 hours per year each.

This facility is currently a non-major under the federal Prevention of Significant Deterioration (PSD) and Non-attainment Area regulations, 40 CFR pt. 52; also classified as a synthetic minor source under Part 70 permit program.

Air Emission Permit No. 253-04-I/O-1 (issued August 3, 2004) amended the permit as follows:

- Added one 250 kilowatt electric power generator with an operational limit of 300 hours per year.

A 500-gallon above ground storage tank was constructed to store diesel fuel for the generator (EU 18).

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/16/05

Facility Name: Abbott Northwestern Hospital
 Permit Number: 05300061 - 001

Table A contains limits and other requirements with which your facility must comply. The limits are located in the first column of the table (What To do). The limits can be emission limits or operational limits. This column also contains the actions that you must take and the records you must keep to show that you are complying with the limits. The second column of Table A (Why to do it) lists the regulatory basis for these limits. Appendices included as conditions of your permit are listed in Table A under total facility requirements.

Subject Item:	Total Facility
What to do	Why to do it
OPERATIONAL REQUIREMENTS	hdr
Ambient Air Quality Standards: The Permittee shall comply and demonstrate compliance with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50 and with Minnesota Ambient Air Quality Standards, Minn. R.7009.0010 to 7009.0080. The permittee may demonstrate compliance through modeling, monitoring or an alternative widely-accepted method approved in writing from the MPCA.	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, supbs. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0100-7009.0080.
The Permittee shall comply and upon written request demonstrate compliance, with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0080.	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, supbs. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0100-7009.0080.
Equipment Labeling: The Permittee shall permanently affix a unique number to each emissions unit for tracking purposes. The numbers shall correlate the unit to the appropriate EU and GP numbers used in this permit. The number can be affixed by placard, stencil, or other means. The number shall be maintained so that it is readable and visible at all times from a safe distance. If equipment is added, it shall be given a new unique number; numbers from replaced or removed equipment shall not be reused.	Minn. R. 7007.0800, subp.2.
Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020
Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment and practices, and the records kept to demonstrate plan implementation.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.	Minn. R. 7019.1000, subp. 4
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7030.0010 - 7030.0080
Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).	Minn. R. 7007.0800, subp. 9(A)
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
MONITORING REQUIREMENTS	hdr
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/16/05

Facility Name: Abbott Northwestern Hospital

Permit Number: 05300061 - 001

Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)
RECORDKEEPING	hdr
Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007. 1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007. 0800, subp. 5(B)
REPORTING/SUBMITTALS	hdr
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3. At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3
Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2. At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1
Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1
Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.	Minn. R. 7007.1150 through Minn. R. 7007.1500
Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)
Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance. To be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 through Minn. R. 7019.3100
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/16/05

Facility Name: Abbott Northwestern Hospital

Permit Number: 05300061 - 001

Subject Item: GP 001 No. 6 Fuel Oil Boilers

- Associated Items:** EU 001 Package Watertube Boiler 1
 EU 002 Package Watertube Boiler 2
 EU 003 Package Watertube Boiler 3
 EU 004 Package Watertube Boiler 4

What to do	Why to do it
Emission limits apply to each emission unit individually	hdr
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60% opacity.	Minn. R. 7011.0510, subp. 2
Permitted Fuels: No. 6 residual fuel oil with a sulfur content not exceeding 1.5% by weight and natural gas.	Title I Condition: to avoid major source status under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 2; meets SO2 requirement in Minn. R. 7011.0510, subp. 1
Fuel Usage: less than or equal to 755,000 gallons/year of No. 6 residual fuel oil and 525,000,000 cubic feet per year for the four boilers in GP001, calculated monthly as a 12-month Rolling Sum.	Title I Condition: limit to avoid major source status under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 2
Recordkeeping: On the third Tuesday of each month, calculate and record No. 6 fuel oil and natural gas usage during the previous month. By the third Tuesday of each month, calculate and record: the number of gallons of No. 6 oil and cubic feet of natural gas used during the previous 12-month period.	Title I Condition: recordkeeping to avoid major source status under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 5
Recordkeeping - Fuel Oil Supplier Certification: the Permittee shall obtain a certification from the fuel supplier for each fuel oil delivery specifying the sulfur content of the oil, in percent by weight. Certification records shall be maintained for a minimum of five years from the date of receipt.	Title I Condition: recordkeeping to avoid major source status under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/16/05

Facility Name: Abbott Northwestern Hospital

Permit Number: 05300061 - 001

Subject Item: GP 002 Emergency Generators 1

- Associated Items:** EU 005 Reciprocating Engine Generator 1
 EU 006 Reciprocating Engine Generator 2
 EU 007 Reciprocating Engine Generator 3
 EU 008 Reciprocating Engine Generator 4
 EU 009 Reciprocating Engine Generator 5
 EU 010 Reciprocating Engine Generator 6

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity once operating temperature have been obtained.	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input	Minn. R. 7011.2300, subp. 2
Permitted Fuel: distillate fuel oil with a sulfur content not exceeding 0.5% by weight.	Title I Condition: to avoid major source status under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 2
Operating Hours: less than or equal to 300 hours/year using 12-month Rolling Sum for each generator.	Title I Condition: limit to avoid major source status under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 2
<p>Recordkeeping:</p> <p>On the first day of each month, calculate and record the daily operating hours for each generator in GP002 during the previous month (in hours).</p> <p>By the 15th day of each month, calculate and record: the daily operating hours for each generator in GP002 during the previous 12-month period.</p>	Title I Condition: recordkeeping to avoid major source status under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 5
Minn. R. 7007.0800, Subp. 4.and Subp. 5.	Fuel Oil SupplierCertification: the Permittee shall obtain a certification from the fuel supplier for each fuel oil delivery specifying the sulfur content of the oil, in percent by weight.

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/16/05

Facility Name: Abbott Northwestern Hospital

Permit Number: 05300061 - 001

Subject Item: GP 003 No. 2 Distillate Fuel Oil Boilers

Associated Items: EU 011 Flexible Watertube Boiler 5

EU 012 Flexible Watertube Boiler 6

EU 013 Flexible Watertube Boiler 7

EU 014 Flexible Watertube Boiler 8

What to do	Why to do it
Emission limits apply to each emission unit individually	hdr
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60% opacity.	Minn. R. 7011.0510, subp. 2
Permitted Fuels: No. 2 fuel oil with a sulfur content not exceeding 0.5% by weight and natural gas.	Title I Condition: to avoid major source status under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 2; meets SO2 requirement in Minn. R. 7011.0510, subp. 1
Fuel Usage: less than or equal to 137,000 gallons/year of No. 2 distillate fuel oil for the four boilers in GP003, calculated monthly as a 12-month Rolling Sum.	Title I Condition: limit to avoid major source status under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 2
<p>Recordkeeping:</p> <p>On the third Tuesday of each month, calculate and record No. 2 fuel oil usage during the previous month (in gallons).</p> <p>By the third Tuesday of each month, calculate and record: the number of gallons of No. 2 oil used during the previous 12-month period.</p>	Title I Condition: recordkeeping to avoid major source status under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 5
Recordkeeping - Fuel Oil Supplier Certification: the Permittee shall obtain a certification from the fuel supplier for each fuel oil delivery specifying the sulfur content of the oil, in percent by weight. Certification records shall be maintained for a minimum of five years from the date of receipt.	Title I Condition: recordkeeping to avoid major source status under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/16/05

Facility Name: Abbott Northwestern Hospital

Permit Number: 05300061 - 001

Subject Item: GP 004 Emergency Generators 2

Associated Items: EU 015 Reciprocating Engine Generator 7

EU 016 Reciprocating Engine Generator 8

EU 017 Reciprocating Engine Generator 9

EU 018 Reciprocating Engine Generator 10

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity once operating temperature have been obtained.	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input	Minn. R. 7011.2300, subp. 2
Permitted Fuel: distillate fuel oil with a sulfur content not exceeding 0.5% by weight.	Title I Condition: to avoid major source status under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 2
Fuel Supplier Certification: Obtain and maintain a fuel supplier certification for each shipment of No. 2 distillate fuel oil, certifying that the sulfur content does not exceed 0.5% by weight.	Minn. R. 7007.0800, subp. 4 and subp. 5
Operating Hours: less than or equal to 300 hours/year using 12-month Rolling Sum for each generator.	Title I Condition: limit to avoid major source status under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 2
Recordkeeping -- Hours of Operation: The Permittee shall maintain documentation on-site that the unit is an emergency diesel generator by design that qualifies under the EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995.	Minn. R. 7007.0800, subp. 4 and subp. 5
Recordkeeping: On the first day of each month, calculate and record the operating hours for each generator in GP004 during the previous month (in hours). By the 15th day of each month, calculate and record: the operating hours for each generator in GP004 during the previous 12-month period.	Title I Condition: recordkeeping to avoid major source status under 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 5

TABLE B: SUBMITTALS

12/16/05

Facility Name: Abbott Northwestern Hospital
Permit Number: 05300061 - 001

Table B lists most of the submittals required by this permit. Please note that some submittal requirements may appear in Table A or, if applicable, within a compliance schedule located in Table C. Table B is divided into two sections in order to separately list one-time only and recurrent submittal requirements.

Each submittal must be postmarked or received by the date specified in the applicable Table. Those submittals required by parts 7007.0100 to 7007.1850 must be certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Other submittals shall be certified as appropriate if certification is required by an applicable rule or permit condition.

Send any application for a permit or permit amendment to:

AQ Permit Technical Advisor
Industrial Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Also, where required by an applicable rule or permit condition, send to the Permit Technical Advisor notices of:

- accumulated insignificant activities,
- installation of control equipment,
- replacement of an emissions unit, and
- changes that contravene a permit term.

Unless another person is identified in the applicable Table, send all other submittals to:

AQ Compliance Tracking Coordinator
Industrial Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Send submittals that are required to be submitted to the U.S. EPA regional office to:

Mr. George Czerniak
Air and Radiation Branch
EPA Region V
77 West Jackson Boulevard
Chicago, Illinois 60604

Send submittals that are required by the Acid Rain Program to:

U.S. Environmental Protection Agency
Clean Air Markets Division
1200 Pennsylvania Avenue NW (6204N)
Washington, D.C. 20460

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

12/16/05

Facility Name: Abbott Northwestern Hospital

Permit Number: 05300061 - 001

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Computer Dispersion Modeling Protocol	due 60 days after Permit Issuance PM10. This protocol will describe the proposed modeling methodology and input data, in accordance with MPCA modeling guidance for Title V air dispersion modeling analyses. <The protocol will be based on projected operating conditions under the next permit term.> This is a state-only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Total Facility
Computer Dispersion Modeling Results	due 60 days after Computer Dispersion Modeling Protocol for PM10. To be submitted after the MPCA has reviewed and approved the modeling protocol. The submittal should adhere to MPCA modeling guidance for Title V air dispersion modeling analyses. This is a state-only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Total Facility

TABLE B: RECURRENT SUBMITTALS

12/16/05

Facility Name: Abbott Northwestern Hospital

Permit Number: 05300061 - 001

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. If no deviations have occurred, the Permittee shall submit the report stating no deviations.	Total Facility
Compliance Certification	due 31 days after end of each calendar year following Permit Issuance (for the previous calendar year). To be submitted to the Commissioner on a form approved by the Commissioner. This report covers all deviations experienced during the calendar year.	Total Facility

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 05300061-001

This Technical Support Document (TSD) is intended for all parties interested in the permit and to meet the requirements that have been set forth by the federal and state regulations (40 CFR § 70.7(a)(5) and Minn. R. 7007.0850, subp.1). The purpose of this document is to provide the legal and factual justification for each applicable requirement or policy decision considered in the preliminary determination to issue the permit.

1. General Information

1.1. Applicant and Stationary Source Location:

Applicant/Address	Stationary Source/Address (SIC Code: 8062)
Allina Hospitals & Clinics 710 East 24 th Street Suite # 303 Minneapolis, MN 55343	800 East 28th Street Minneapolis, MN 55407 Hennepin County.
Contact: Bob Hallman Jr. Phone: (612)863-4161	

1.2. Description of the Permit Action

Abbott Northwestern Hospital provides a variety of medical services. The Permittee operates boilers and diesel engine-generators to provide steam heat and standby electrical energy to its hospital campus in South Minneapolis.

Abbott Northwestern Hospital's Air Emission Permit No. 253-93-OT-2 (issued May 1993) contains a fuel usage limit of 600,000 gallons of No. 6 residual oil (sulfur content is less than 1.5 percent by weight) per year to limit the Potential To Emit (PTE) from the source to minor levels for Criteria Pollutants. Through permit No. 253-98-OT-1 (issued September 1998, this facility was authorized to increase the No. 6 residual oil in the four boilers to 800,000 gallons per year. Air Emission Permit No. 253-03-I/O-1 (issued June 6, 2003) amended the previous permit as follows:

Boilers 1 (Group 1) with Natural Gas as Primary fuel.

- Decrease No. 6 fuel oil limit from the existing permit of 800,000 gallons per year to 755,000 gallons per for backup use.
- Establish a limit for natural gas use to 525,000 cubic feet per year for the existing boilers.

Boilers 2 (Group3) with Natural Gas as Primary fuel.

- Added four new boilers (each of 9 MM Btu/hr rated capacity) and limited the Diesel fuel usage (No. 2 fuel oil) to 137,000 gallons per year for backup use.

Electric Generators 2 (Group 4), for emergency purposes only.

- Added three 750 kilowatts electric power generators with an operational limit of 300 hours per year each.

Major Amendment to the permit dated August 3, 2004.

- Added a new Electric Generator (EU 18) to Electric Generators 2 (Group 4), for emergency purposes only.
- Added a 500-gallon above ground storage tank to store diesel fuel for generator (EU 18).

The fuel usage limits and operational limits serve to keep the facility a non-major source under PSD and also to avoid the requirements of the New Source Review for this facility.

1.3 Description of any Changes Allowed with this Permit Issuance

This permit is for a total facility Federally Enforceable State Operating Permit (FESOP), and is non-major under federal Prevention of Significant Deterioration (PSD) and is classified as a synthetic minor source under Part 70 permit program.

There are no changes allowed with this permit issuance, all conditions contained in the previous permit No. 253-03-I/O dated June 6, 2003, and the major amendment No. 253-04-I/-1 dated August 3, 2004 still apply to the facility.

1.4 Description of All Amendments Issued Since the Issuance of the Last Total Facility Permit, and Permit History

Permit Number and Issuance Date	Action Authorized
253-93-OT-2 May 21, 1993	Fuel usage limit.
253-98-I/O-1 September 9, 1998	Fuel usage limit.
253-03-I/O June 6, 2003	Boilers and Electric Generators, Natural Gas Primary fuel.
253-04-I/O-1 August 3, 2004	New Electric Generator and 500 gallon storage tank.

1.5. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary

	PM tpy	PM ₁₀ tpy	SO ₂ tpy	NO _x tpy	CO tpy	VOC tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential Emissions	59.4	39.0	98.3	98.7	44.0	5.8	0.0125	0.0589
Total Facility Actual Emissions (2003, Emission Inventory)	7.3	5.5	67.3	23.3	8.8	0.90	HAPs not reported in emission inventory	

Table 2. Facility Classification

Classification	Major/Affected Source	* Synthetic Minor	Minor
PSD	None	SO ₂ , NO _x	CO, VOC
Part 70 Permit Program	None	SO ₂ , NO _x	CO, VOC
Part 63 NESHAP	None	None	All HAPS

* Refers to potential emissions that are less than those specified as major by 40 CFR pt. 51 Appendix S, and 40 CFR pt 70.

2. Regulatory and/or Statutory Basis

New Source Review

The facility is an existing non-major source under New Source Review regulations. No changes are authorized by this permit.

Part 70 Permit Program

The facility is a non- major source under the Part 70 permit program.

New Source Performance Standards (NSPS)

There are no New Source Performance Standards applicable to the operations at this facility.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility has accepted limits on HAP usage such that it is a non-major source under 40 CFR pt. 63. Thus, no NESHAPs apply.

Minnesota State Rules

Portions of the facility are subject to the following Minnesota Standards of Performance:

- Minn. R. 7011.0510 Standards of Performance for Existing Indirect Heating Equipment
- Minn. R. 7011.2300 Standards of Performance for Stationary Internal Combustion Engines

Table 3. Regulatory Overview of Facility

EU, GP, or SV	Applicable Regulations	Comments:
Total Facility	Minn. R. 7007.0800, subp. 2.	Generator Testing: The Permittee shall conduct diesel generator weekly and monthly testing according to the following procedures: <ol style="list-style-type: none"> 1. Stagger the routine testing of individual generators; 2. Conduct these routine tests when the meteorological conditions are “favorable” with respect to air dispersion.
GP 001 SV 001	40 CFR § 52.21 Minn. R. 7007.0800 subp. 2 and 5.	Title I Condition: Fuel usage limit – less than or equal to 755, 000 gallons of No. 6 fuel oil and 525,000,000 cubic feet of natural gas per year; recordkeeping.
GP 001 SV 001	Minn. R. 7001.0510, subp.2.	Opacity: less than or equal to 20 percent opacity except for one six minute period per hour of not more than 60% opacity.
GP 001 SV001	Minn. R. 7011.0510, subp. 1.	Sulfur Content in No. 6 Fuel Oil: 1.5 percent by weight (meets SO ₂ limit requirement in Minn. R. 7011.0515, subp.1).
GP 001 SV 001 GP 003 SV 008	Minn. R. 7011.0510 subp. 1.	Total Particulate Matter: less than or equal to 0.4 lb/MM.
GP 002 SV002	40 CFR § 52.21; Minn. R. 7007.800, subp. 2 and 5.	Operational limit (number of hours less than or equal to 300 hours per year): limit taken to keep the potential emissions of Criteria Pollutants from the generators to less than significant as defined by 40 CFR § 2.21, Recordkeeping.
GP 002 SV 002	Minn. R. 7011.2300 subp. 1.	Opacity: less than or equal to 20% once operating temperatures have been attained.

GP 002 SV 007 GP 004	Minn. R. 7011.2300, subp.2	Sulfur Dioxide: Less than or equal to 0.5 lb/MM Btu heat input.
GP 003 SV 008 GP 004	40 CFR § 52.21; Minn. R. 7007.0800, subp.2 and 5.	Title I Condition: Fuel Usage limit – less than or equal to 137,000 gallons per year of No. 2 fuel oil; recordkeeping.
GP 003 SV 008	Minn. R. 7011.0515, subp.2.	Opacity: less than or equal to 20 percent opacity except for one six –minute period per hour of not more than 60% opacity.
GP 003 SV 008	Minn. R. 7011.0515, subp. 1	Sulfur Content in No. 2 Fuel Oil: 0.5% by weight (meets SO ₂ limit requirement in Minn. R. 7011.0515, subp. 1).
GP 003 SV 008	Minn. R. 7011.0515 Subp. 1.	Total Particulate Matter: less than or equal to .4 lb/MM Btu.
GP 004 SV 009 to SV 012	40 CFR § 52.21; Minn. R. 7007.0800 subp. 2 and 5.	Operational limit (number of hours less than or equal to 300 per year): limit taken to keep the potential emissions of Criteria Pollutants from the generators to less than significant as defined by 40 CFR § 52.21.
GP 004 SV 009 to SV 012	Minn. R. 7011.2300, subp. 1	Opacity: less than or equal to 20% once operating temperatures have been attained.
GP 004 SV 009 to SV 012	Minn. R. 7011.2300, subp.2	Sulfur Dioxide: less than or equal to 0.5 lb./million Btu heat input.

GP 001 boilers: Emission Units 1, 2, 3, and 4.

GP 002 emergency generators: Emission Units 5, 6, 7, 8, 9, and 10.

GP 003 boilers: Emission Units 11, 12, 13, and 14.

GP 004 non-emergency generators: Emission Units 15, 16, 17 and 18.

The language 'This is a state-only requirement and is not enforceable by the U.S. Environmental Protection Agency's (EPA) Administrator and citizens under the Clean Air Act' refers to permit requirements that are mandated by state law rather than by the federal Clean Air Act. The language is to clarify the distinction between permit conditions that are required by federal law and those that are required by state law. State law requirements are not enforceable by EPA or by citizens under the federal Clean Air Act, but are fully enforceable by the MPCA and citizens under provisions of state law.

3. Technical Information

The facility has been identified as potentially exceeding the National Ambient Air Quality Standards (NAAQS) for the modeled pollutant Annual Particulate Matter (PM₁₀). This permit will continue to be processed and includes appropriate permit and modeling language to address the NAAQS issue.

3.1 Calculations of Potential to Emit

Attachment 1 to this TSD contains detailed spreadsheets and supporting information prepared by the MPCA and the Permittee, for this permit action and includes previous permit action emissions.

3.2 Periodic Monitoring

Table 4 summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

Table 4. Periodic Monitoring

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
GP 001 No. 6 Fuel Oil Boilers	Minn. R. 7007.0800, subp. 5	Recordkeeping: Fuel Oil Supplier Certification.	Title I Condition: recordkeeping to avoid major source status under Minn.R. 7007.800, subp. 5.
G002 Emergency Generators 1	Minn. R. 7007.0800, subp. 5.	Recordkeeping: calculate and record the operating hours for each generator.	Title 1 Condition: recordkeeping to avoid major source status under 40 CFR § 52.21; Minn. R. 7007.0800, subp. 5.
GP 003 No. 2 Distillate Fuel Oil Boilers	Minn. R. 7007.0800, subp. 5.	Recordkeeping: Fuel Oil supplier Certification.	Title 1 Condition: recordkeeping to avoid major source status under 40 CFR § 52.21; Minn. R. 7007.0800, subp. 5.
GP 004 No. 2 Distillate Fuel Oil Boilers	Minn. R. 7007.0800, subp. 5.	Recordkeeping: calculate and record the operating hours for each generator.	Title I Condition: recordkeeping to avoid major source status under 40 CFR § 52.21; Minn. R. 7007.0800, subp. 5.

3.3 Insignificant Activities

There are Insignificant Activities listed in the permit application, and attached as Appendix 2.

3.4 Permit Organization

One area where this permit deviates slightly from Delta guidance is in the use of appendices.

Comments Received

Public Notice Period: November 9, 2005 to December 9, 2005.

Comments were not received from the public during the public notice period.

4. Conclusion

Based on the information provided by Allina Health Systems, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 05300061-001, and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Frederick Jenness (permit writer/engineer)
Suzanne Venem (compliance)
Dave Beil (peer reviewer)

Attachments: 1. PTE Summary Calculations
2. Insignificant activities

APPENDIX MATERIAL

Facility Name: Abbott Northwestern/ Allina Hospitals & Clinics

Permit Number: 05300061-001

APPENDIX 1

Emission Calculations

Limited Potential-to-Emit (Facility):

The emissions of Criteria Pollutants due to the use of **755,000 gallons of No. 6 residual fuel oil per year** for the

entire facility: (Sulfur content = 1.5% by weight)

$$\text{PM} = (141.82 \text{ lb}/10^3 \text{ gals}) * (755,000 \text{ gals}/\text{yr}) * (\text{ton}/2000 \text{ lb}) = \mathbf{53.53 \text{ tons}}$$

$$\text{PM}_{10} = (87.89 \text{ lb}/10^3 \text{ gals}) * (755,000 \text{ gals}/\text{yr}) * (\text{ton}/2000 \text{ lb}) = \mathbf{33.2 \text{ tons}}$$

$$\text{SO}_2 = (235.5 \text{ lb}/10^3 \text{ gals}) * (755,000 \text{ gals}/\text{yr}) * (\text{ton}/2000 \text{ lb}) = \mathbf{88.9 \text{ tons}}$$

$$\text{NO}_x = (55 \text{ lb}/10^3 \text{ gals}) * (755,000 \text{ gals}/\text{yr}) * (\text{ton}/2000 \text{ lb}) = \mathbf{20.8 \text{ tons}}$$

$$\text{VOC} = (1.605 \text{ lb}/10^3 \text{ gals}) * (755,000 \text{ gals}/\text{yr}) * (\text{ton}/2000 \text{ lb}) = \mathbf{0.61 \text{ tons}}$$

$$\text{CO} = (5 \text{ lb}/10^3 \text{ gals}) * (755,000 \text{ gals}/\text{yr}) * (\text{ton}/2000 \text{ lb}) = \mathbf{1.89 \text{ tons}}$$

Using AP-42 emission factors - Uncontrolled (Natural Gas Combustion). Proposed limit of **525,000,000 cf per year**

for the Boilers 1-4

$$\text{PM emissions} = (7.6 \text{ lb}/10^6 \text{ scf}) * (525,000,000 \text{ cf}/\text{yr}) * \text{ton}/2000 \text{ lb} = \mathbf{2.0 \text{ tons}}$$

$$\text{PM}_{10} \text{ emissions} = (7.6 \text{ lb}/10^6 \text{ scf}) * (525,000,000 \text{ cf}/\text{yr}) * \text{ton}/2000 \text{ lb} = \mathbf{2.0 \text{ tons}}$$

$$\text{NO}_x \text{ emissions} = (100 \text{ lb}/10^6 \text{ scf}) * (525,000,000 \text{ cf}/\text{yr}) * \text{ton}/2000 \text{ lb} = \mathbf{26.3 \text{ tons}}$$

$$\text{CO} = (84 \text{ lb}/10^6 \text{ scf}) * (525,000,000 \text{ cf}/\text{yr}) * \text{ton}/2000 \text{ lb} = \mathbf{22.1 \text{ tons}}$$

$$\text{SO}_2 = (0.6 \text{ lb}/10^6 \text{ scf}) * (525,000,000 \text{ cf}/\text{yr}) * \text{ton}/2000 \text{ lb} = \mathbf{0.16 \text{ tons}}$$

$$\text{VOC} = (5.5 \text{ lb}/10^6 \text{ scf}) * (525,000,000 \text{ cf}/\text{yr}) * \text{ton}/2000 \text{ lb} = \mathbf{1.44 \text{ tons}}$$

Boilers: There are four boilers with a Total Maximum Fuel Input of 36.0 MM Btu/hr, and limits to use 137,000

gallons per year of No. 2 fuel oil for these boilers

$$\text{PM emissions} = (0.002 \text{ lb}/\text{gal}) * 137,000 \text{ gallons per year} * \text{ton}/2000 \text{ lb} = \mathbf{0.14 \text{ tons}}$$

$$\text{PM}_{10} \text{ emissions} = (0.001 \text{ lb}/\text{gal}) * 137,000 \text{ gallons per year} * \text{ton}/2000 \text{ lb} = \mathbf{0.07 \text{ tons}}$$

$$\text{NO}_x \text{ emissions} = (0.02 \text{ lb}/\text{gal}) * 137,000 \text{ gallons per year} * \text{ton}/2000 \text{ lb} = \mathbf{1.37 \text{ tons}}$$

$$\text{CO emissions} = (0.005 \text{ lb}/\text{gal}) * 137,000 \text{ gallons per year} * \text{ton}/2000 \text{ lb} = \mathbf{0.34 \text{ tons}}$$

$$\text{SO}_2 \text{ emissions} = (0.072 \text{ lb}/\text{gal}) * 137,000 \text{ gallons per year} * \text{ton}/2000 \text{ lb} = \mathbf{4.93 \text{ tons}}$$

$$\text{VOC emissions} = (0.0002 \text{ lb}/\text{gal}) * 137,000 \text{ gallons per year} * \text{ton}/2000 \text{ lb} = \mathbf{0.01 \text{ tons}}$$

$$\text{PM emissions} = (7.6 \text{ lb}/10^6 \text{ scf}) * (282,000,000 \text{ cf}/\text{yr}) * \text{ton}/2000 \text{ lb} = \mathbf{1.07 \text{ tons}}$$

$$\text{PM}_{10} \text{ emissions} = (7.6 \text{ lb}/10^6 \text{ scf}) * (282,000,000 \text{ cf}/\text{yr}) * \text{ton}/2000 \text{ lb} = \mathbf{1.07 \text{ tons}}$$

$$\text{NO}_x \text{ emissions} = (100 \text{ lb}/10^6 \text{ scf}) * (282,000,000 \text{ cf}/\text{yr}) * \text{ton}/2000 \text{ lb} = \mathbf{14.13 \text{ tons}}$$

$$\text{CO} = (84 \text{ lb}/10^6 \text{ scf}) * (282,000,000 \text{ cf}/\text{yr}) * \text{ton}/2000 \text{ lb} = \mathbf{11.9 \text{ tons}}$$

$$\text{SO}_2 = (0.6 \text{ lb}/10^6 \text{ scf}) * (282,000,000 \text{ cf}/\text{yr}) * \text{ton}/2000 \text{ lb} = \mathbf{0.1 \text{ tons}}$$

$$\text{VOC} = (5.5 \text{ lb}/10^6 \text{ scf}) * (282,000,000 \text{ cf}/\text{yr}) * \text{ton}/2000 \text{ lb} = \mathbf{0.77 \text{ tons}}$$

Diesel generators (fuel oil No. 2) used for emergency purposes only; based on AP-42 emission factors (Diesel Industrial Engines). There are six generators with a Total Maximum Fuel Input of 28.14 MM Btu/hr.

PM₁₀ = 0.31 lb/MM Btu * 28.14 MM Btu/hr = 8.72 lb/hr, and **1.31 tons** for 300 hours
 SO₂ = 0.50 lb/MM Btu * 28.14 MM Btu/hr = 14.07 lb/hr, and **2.11 tons** for 300 hour
 NO_x = 4.41 lb/MM Btu * 28.14 MM Btu/hr = 124.1 lb/hr, and **18.62 tons** for 300 hours
 VOC = 0.36 lb/MM Btu * 28.14 MM Btu/hr = 10.13 lb/hr, and **1.52 tons** for 300 hours
 CO = 0.95 lb/MM Btu * 28.14 MM Btu/hr = 26.73 lb/hr, and **4.01 tons** for 300 hours

Diesel generators (fuel oil No. 2) used for emergency use only; based on AP-42 emission factors (Diesel Industrial Engines). There are three generators with a Total Maximum Fuel Input of 25.5 MM Btu/hr.

PM₁₀ = 0.31 lb/MM Btu * 25.5 MM Btu/hr = 7.91 lb/hr, and **1.2 tons** for 300 hours
 SO₂ = 0.50 lb/MM Btu * 25.5 MM Btu/hr = 12.75 lb/hr, and **1.91 tons** for 300 hour
 NO_x = 4.41 lb/MM Btu * 25.5 MM Btu/hr = 112.455 lb/hr, and **16.87 tons** for 300 hours
 VOC = 0.36 lb/MM Btu * 25.5 MM Btu/hr = 9.2 lb/hr, and **1.38 tons** for 300 hours
 CO = 0.95 lb/MM Btu * 25.5 MM Btu/hr = 24.23 lb/hr, and **3.63 tons** for 300 hours

Diesel generator EU 018 (fuel oil No. 2) used for emergency use only, based on AP-42 emission factors (Diesel Industrial Engines). Fuel Input of 0.97 MM Btu/hr.

PM₁₀ = .31 lb/MM Btu * 0.97 MM Btu/hr = 0.3007 lb/hr, and **0.05 tons** for 300 hours
 SO₂ = 0.50 lb/MM Btu * 0.97 MM Btu/hr = 0.485 lb/hr, and **0.23 tons** for 300 hours
 NO_x = 4.41 lb/MM Btu * 0.97 MM Btu/hr = 4.277 lb/hr, and **0.64 tons** for 300 hours
 VOC = 0.36 lb/MM Btu * 0.97 MM Btu/hr = 0.9215 lb/hr, and **0.14 tons** for 300 hours
 CO = 0.95 lb/MM Btu * 0.97 MM Btu/hr = 0.3492 lb/hr, and **0.05 tons** for 300 hours.

Summary of Total Facility Limited Potential Emissions:

PM	PM₁₀	SO₂	NO_x	CO	VOC
53.53	33.2	88.9	20.8	1.9	0.61
2.0	2.0	0.16	26.3	22.1	1.44
0.14	0.07	4.93	1.37	0.34	0.01
1.07	1.07	0.1	14.13	11.9	0.77
1.31	1.31	2.11	18.62	4.01	1.52
1.2	1.2	1.91	16.87	3.63	1.38
0.05	0.05	0.23	0.64	0.14	0.05
59.4	39.0	98.3	98.7	44.0	5.8

APPENDIX 2

Insignificant Activities Required to be listed:

- Laboratory Emissions.
- Welding equipment in maintenance shop.
- Several small fume hoods.
- Spray painting equipment for housekeeping and facility upkeep purposes.

Insignificant Activities and Applicable Requirements

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Applicable Requirement
3(G).	Emissions from a "Laboratory" as defined.	Minn. R. 7007.1300, subp. 3(G).
3(H)3.	Miscellaneous: brazing, soldering, or welding equipment.	Minn. R. 7007.1300, subp. 3(H)3.
3(I)2.	Individual emission units at a stationary source: several fume hoods.	Minn. R. 1300, subp. 3(I)2.
3(K).	Infrequent use of spray paint equipment for routine housekeeping or plant upkeep.	Minn. R. 7007.1300, subp. 3(K).