

Attachment 3: Permit No. 10900008-002; Title I SIP conditions only



AIR EMISSION PERMIT NO. 10900008-002
Major Amendment

IS ISSUED TO

Mayo Foundation

SAINT MARYS HOSPITAL
1216 Second Street Southwest
Rochester, Olmsted County, Minnesota 55902

The emission units, control equipment and emission stacks at the stationary source authorized in this permit amendment are as described in the Permit Applications Table.

This major amendment permit supersedes Air Emission Operating Permit No. 10900008-001 and authorizes the Permittee to operate and modify 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. Any additions or changes to conditions incorporated into Minnesota's State Implementation Plan (SIP) under 40 CFR § 52.1220, designated "Title I: SIP for SO₂" must go through the federal SIP approval process before becoming effective. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Unless otherwise indicated, all the Minnesota rules cited as the origin of the permit terms are incorporated into the SIP under 40 CFR § 52.1220 and as such as are enforceable by U.S. Environmental Protection Agency (EPA) Administrator or citizens under the Clean Air Act.

Permit Type: Federal; Pt. 70/Major for New Source Review; Title I SIP Conditions for SO₂

Operating Permit Issue Date: July 23, 2003

Major Amendment Issue Date: October 14, 2009

Expiration Date: July 23, 2008* – Title I Conditions do not expire.

Each new or revised condition designated "Title I Condition: SIP for SO₂" is not effective or enforceable until approved by EPA as a SIP revision under Title I of the Clean Air Act.

* The Permittee may continue to operate this facility after the expiration date of the permit, per the provision under Minn. R. 7007.0450, subp. 3. (Title V Reissuance Application was received January 23, 2008.)


for Don Smith, P.E., Manager
Air Quality Permits Section
Industrial Division

for Paul Eger
Commissioner
Minnesota Pollution Control Agency

Permit Applications Table

Permit Type	Application Date	Permit Action
Total Facility Operating Permit	December 15, 1995, & December 9, 2002	001
Major Amendment	March 27, 2009	002

TABLE OF CONTENTS

Notice to the Permittee

Permit Shield

Facility Description

Amendment Description

Table A: Limits and Other Requirements

Table B: Submittals

Table C: Compliance Schedule – *not used in this permit*

Appendices

Appendix B – Updated 2009 SO₂ Modeling Parameters

Appendix C – Insignificant Activities

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.

FACILITY DESCRIPTION:

St. Mary's is a tertiary care hospital which includes several buildings located on a 49 acre campus. The primary emission units at the facility are three identical boilers which exhaust through a common stack, one cogeneration turbine, and two emergency generators. Each boiler combusts natural gas with distillate fuel as backup. The cogeneration turbine burns only natural gas. One generator burns only distillate oil; the other can burn distillate oil or natural gas (with a small amount of distillate oil; dual fuel).

While St. Mary's is owned and operated by the Mayo Foundation, it is not contiguous with the majority of the Mayo facilities in Rochester, and thus is a separate source under the New Source Review and Part 70 regulations. The facility is an existing major source under New Source Review and a minor HAP source.

The facility is located in an area that was previously designated as non-attainment for SO₂. However, the area currently meets the ambient air quality standards, and was officially redesignated as "attainment" on May 8, 2001. The facility has been subject to a federally enforceable permit (No. 989-91-OT-2; part of Minnesota's state implementation plan, or SIP, for attaining ambient air quality standards) containing requirements contributing to the correction of the non-attainment problem and the ultimate redesignation. The requirements of that permit were incorporated into the title V operating permit No. 10900008-001 as non-expiring Title I conditions. Permit No. 10900008-002 replaces permit No. 10900008-001 and will ultimately replace permit No. 989-91-OT-2 and be incorporated into the SIP (sometime after issuance of permit No. 10900008-002).

PER 002 AMENDMENT DESCRIPTION:

This is a major amendment to an existing major source operating permit. This permit amendment authorizes the Permittee to install a 2500 KW reciprocating internal combustion engine (RICE) electric generator, and reduces the allowable diesel fuel sulfur content for two existing electric generators (EU 004 and EU 005).

The new RICE is referred to as EU 012/Generator 7. The RICE is a compression ignition non-emergency 2007-2010 model year diesel engine with a displacement less than 10 liters per cylinder, and certified by the manufacturer to meet part 60, subpart IIII table 1 emission limits.

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: St Marys
 Permit Number: 10900008 - 002

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
SITE-SPECIFIC REQUIREMENTS	hdr
<p>Parameters Used in Modeling: The stack parameters used in the most recently approved modeling are listed in Appendix B of this permit. Before making any physical changes or changes in the method of operation which may affect parameters listed in Appendix B, the Permittee shall demonstrate to the MPCA that the SO2 plume dispersion characteristics following the physical change or change in method of operation will be equivalent to or better than the SO2 dispersion characteristics modeled using the parameters in Appendix B. The information submitted must include, at a minimum, the locations, heights, and diameters of the stacks, locations and dimensions of nearby buildings, the velocity and temperature of the gasses emitted, and the SO2 emission rates.</p> <p>If the information does not demonstrate equivalent or better dispersion characteristics, or if a conclusion cannot readily be made about the dispersion, the Permittee must remodel.</p>	Title I Condition: SIP for SO2 NAAQS, 40 CFR pt. 50, and MN State Implementation Plan
<p>ACTIVITIES NOT REQUIRING A MODIFICATION TO THE SIP:</p> <p>The Permittee is authorized to make changes to the facility in compliance with Minnesota Rules and without obtaining a modification to the SIP as long as the change does not increase from any emission point, the SO2 emission rates (in lb/hr) or overall SO2 emissions or alter equipment or parameters described in Appendix B, which forms the basis for the SO2 modeling, unless such alteration demonstrates equivalent or better dispersion characteristics.</p>	Title I Condition: SIP for SO2 NAAQS, 40 CFR pt. 50, and MN State Implementation Plan
<p>Deviations from requirements cited as "Title I Condition: SIP for SO2 NAAQS" shall be reported semiannually with the Semiannual Deviations Report required by this permit (See Table B). Reporting for these conditions shall occur even if there were no deviations for the reporting period.</p>	Title I Condition: SIP for SO2 NAAQS, 40 CFR pt. 50, and MN State Implementation Plan
<p>State Implementation Plan Recordkeeping: Retain all records at the stationary source for a period of five years from the date of the required monitoring, sample, measurement, or report that corresponds with a "Title I Condition: SIP for SO2 NAAQS" requirement.</p>	Title I Condition: SIP for SO2 NAAQS, 40 CFR pt. 50, and MN State Implementation Plan
DETERMINING IF A PROJECT/MODIFICATION IS SUBJECT TO NSR	hdr

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: St Marys
 Permit Number: 10900008 - 002

Subject Item: GP 001 Boilers

Associated Items: EU 001 Boiler 1
 EU 002 Boiler 2
 EU 003 Boiler 3

What to do	Why to do it
EMISSION AND OPERATING LIMITS	hdr
Fuel Used: The Permittee shall burn only natural gas or very low sulfur oil, as defined in 40 CFR Section 60.41b.	Title I Condition: SIP for SO2 NAAQS, 40 CFR pt. 50, and MN State Implementation Plan
Sulfur Content of Fuel: less than or equal to 0.5 percent by weight (very low sulfur oil, as defined in 40 CFR Section 60.41b)	Title I Condition: SIP for SO2 NAAQS, 40 CFR pt. 50, and MN State Implementation Plan; 40 CFR Section 60.42b(j); Minn. R. 7011.0565
MONITORING REQUIREMENTS	hdr
Sulfur Content of Fuel Oil: The Permittee shall obtain and maintain a fuel supplier receipt from the fuel oil supplier for each shipment of oil received, certifying that the oil meets the definition of very low sulfur oil as defined in 40 CFR Section 60.41b.	Title I Condition: SIP for SO2 NAAQS, 40 CFR pt. 50, and MN State Implementation Plan; 40 CFR Section 60.42b(j)(2); Minn. R. 7011.0565
The Permittee shall ensure that the fuel supplier uses an approved American Society of Testing and Materials (ASTM) method to determine the sulfur content of liquid fuels.	
PERFORMANCE TESTING REQUIREMENTS	hdr
RECORDKEEPING AND REPORTING REQUIREMENTS	hdr

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: St Marys
 Permit Number: 10900008 - 002

Subject Item: EU 004 Generator 5

Associated Items: GP 002 Boilers and Generators
 SV 002 No. 5 Generator Stack

What to do	Why to do it
Fuel: The Permittee shall burn only diesel fuel oil in the generator.	Title I Condition: SIP for SO2 NAAQS, 40 CFR pt. 50, and MN State Implementation Plan
Sulfur Content of Fuel: less than or equal to 500 parts per million by weight as specified at 40 CFR Section 80.510(a)(1) for nonroad, locomotive, and marine (NRLM) diesel fuel. This requirement is effective from the date of issuance of permit No. 10900008-002 through September 20, 2010.	Title I Condition: SIP for SO2 NAAQS, 40 CFR pt. 50, and MN State Implementation Plan; meets requirements of Minn. R. 7011.2300, subp. 2
Sulfur Content of Fuel: less than or equal to 15 parts per million by weight as specified at 40 CFR Section 80.510(b)(1) for nonroad diesel fuel. This requirement is effective October 1, 2010.	Title I Condition: SIP for SO2 NAAQS, 40 CFR pt. 50, and MN State Implementation Plan; meets requirements of Minn. R. 7011.2300, subp. 2
Diesel Fuel Sulfur Content Certification: The Permittee shall obtain and retain a written guarantee from the fuel supplier indicating that each shipment of diesel fuel delivered to the Facility for use in EU 004 will not contain more than 0.05 percent by weight sulfur (500 ppmw) through May 31, 2010, and no more than 0.0015 percent by weight sulfur (15 ppmw) after May 31, 2010.	Title I Condition: SIP for SO2 NAAQS, 40 CFR pt. 50, and MN State Implementation Plan

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: St Marys
 Permit Number: 10900008 - 002

Subject Item: EU 005 Generator 6

Associated Items: GP 002 Boilers and Generators
 SV 003 No. 6 Generator Stack

What to do	Why to do it
Fuel: The Permittee shall burn only natural gas or diesel fuel oil in the generator.	Title I Condition: SIP for SO2 NAAQS, 40 CFR pt. 50, and MN State Implementation Plan
Sulfur Content of Fuel: less than or equal to 500 parts per million by weight as specified at 40 CFR Section 80.510(a)(1) for nonroad, locomotive, and marine (NRLM) diesel fuel. This requirement is effective from the date of issuance of permit No. 10900008-002 through September 30, 2010.	Title I Condition: SIP for SO2 NAAQS, 40 CFR pt. 50, and MN State Implementation Plan; meets requirements of Minn. R. 7011.2300, subp. 2
Sulfur Content of Fuel: less than or equal to 15 parts per million by weight as specified at 40 CFR Section 80.510(b)(1) for nonroad diesel fuel. This requirement is effective October 1, 2010.	Title I Condition: SIP for SO2 NAAQS, 40 CFR pt. 50, and MN State Implementation Plan; meets requirements of Minn. R. 7011.2300, subp. 2
Diesel Fuel Sulfur Content Certification: The Permittee shall obtain and retain a written guarantee from the fuel supplier indicating that each shipment of diesel fuel delivered to the Facility for use in EU 005 will not contain more than 0.05 percent by weight sulfur (500 ppmw) through May 31, 2010, and no more than 0.0015 percent by weight sulfur (15 ppmw) after May 31, 2010.	Title I Condition: SIP for SO2 NAAQS, 40 CFR pt. 50, and MN State Implementation Plan

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: St Marys
 Permit Number: 10900008 - 002

Subject Item: EU 012 Generator 7 (Non-emergency CI; <10 liter/cy; 2500 kW)

Associated Items: GP 002 Boilers and Generators
 SV 005 No. 7 Generator Stack

What to do	Why to do it
LIMITS AND OPERATING RESTRICTIONS	hdr
Fuel: The Permittee shall burn only diesel fuel oil in the generator.	Title I Condition: SIP for SO2 NAAQS, 40 CFR pt. 50, and MN State Implementation Plan
Fuel Requirements - Beginning October 1, 2007, the Permittee must use diesel fuel in EU 012 that meets the following requirements of 40 CFR Section 80.510(a): (1) Sulfur content maximum 500 ppm; and, (2) Cetane index minimum of 40 or aromatic content maximum of 35% by volume.	Title I Condition: SIP for SO2 NAAQS, 40 CFR pt. 50, and MN State Implementation Plan; 40 CFR Sections 60.4207(a) and 80.510(a); Minn. R. 7011.3520
Fuel Requirements - Beginning October 1, 2010, the Permittee must use diesel fuel in EU 012 that meets the following requirements of 40 CFR Section 80.510(b) for nonroad diesel fuel: (1) Sulfur content maximum 15 ppm (for nonroad diesel); and, (2) Cetane index minimum of 40 or aromatic content maximum of 35% by volume.	Title I Condition: SIP for SO2 NAAQS, 40 CFR pt. 50, and MN State Implementation Plan; 40 CFR Sections 60.4207(b) and 80.510(b); Minn. R. 7011.3520
MONITORING AND RECORDKEEPING REQUIREMENTS	hdr
Diesel Fuel Sulfur Content Certification: The Permittee shall obtain and retain a written guarantee from the fuel supplier indicating that each shipment of diesel fuel delivered to the Facility for use in EU 012 will not contain more than 0.05 percent by weight sulfur (500 ppmw) through May 31, 2010, and no more than 0.0015 percent by weight sulfur (15 ppmw) after May 31, 2010.	Title I Condition: SIP for SO2 NAAQS, 40 CFR pt. 50, and MN State Implementation Plan
PART 60 SUBPART IIII REQUIREMENTS	hdr

APPENDIX B – Updated 2009 SO₂ Modeling Parameters

Facility Name: Saint Marys Hospital

Permit Number: 10900008-002

Any physical change or change in a method of operation must result in plume dispersion characteristics equivalent to or better than the plume dispersion characteristics modeled using the parameters below. Revision of any of these parameters may require a permit amendment.

			NAD 83 Easting (X)	NAD 83 Northing (Y)	Base Elevation	Stack Height	Temperature	Exit Velocity	Stack Diameter	Short Term SO ₂ Emission Rate
Stack ID	EU ID	Description	(m)	(m)	(m)	(m)	(K)	(m/s)	(m)	(g/s)
SV 001	EU 001 EU 002 EU 003	Boilers stack	541730.1	4874149.5	326.7	68.0	449.8	20.7	1.77	20.700
SV 002	EU 004	Generator 5	541674.4	4874193.5	320.6	11.3	755.4	36.4	0.71	0.140
SV 003	EU 005	Generator 6	541675.1	4874189.5	320.8	11.3	755.4	42.4	0.71	0.151
SV 004	EU 006	Turbine	541674.1	4874230.0	319.1	19.7	422.0	22.2	1.19	0.004
SV 005	EU 012	Generator 7	541694.7	4874222.0	321.0	15.2	724.8	26.7	0.68	0.187