

AIR EMISSION PERMIT NO. 12300694-001

IS ISSUED TO

3M Company

3M - Administrative Offices - Maplewood
I-94 and McKnight Road
Maplewood, Ramsey County, MN 55144

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	Application Date
Total Facility Operating Permit	3/17/1995, and updated 5/23/02

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: Federal; Pt 70/Major for NSR

Issue Date: December 19, 2003

Expiration: December 19, 2008
All Title I Conditions do not expire.

Ann M. Foss, Manager
Majors and Construction Section
Majors and Remediation Division

for Sheryl 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.

FACILITY DESCRIPTION:

This permit is a Part 70 total facility operating permit issued under Minn. R. ch. 7007, and only covers part of the defined stationary source (as described below). The stationary source is an existing facility that is major for all air quality programs. (The research and development functions at the site (AQ File No. 23E) are covered by a separate Part 70 permit (12300015-005) for administrative reasons.) The original application was received March 16, 1995. An updated application—submitted in response to a request letter dated March 1, 2002—was received on May 23, 2002. This permit supersedes all previously issued permits/amendments for this part of the stationary source.

The 3M facility at this location is one stationary source under New Source Review (NSR) and the Part 70 Operating Permit Program, but is covered by two separate permits: the research and development complex (R&D facility) covered by the previously issued Part 70 permit, and the Administrative Offices covered by this permit. In addition, the site is considered one stationary source under the National Emissions Standards for Hazardous Air Pollutants for Source Categories (NESHAPs).

The center occupies approximately 425 acres in Maplewood, consists of approximately 44 buildings that support more than 50 different operating divisions, and contains more than 200 group or staff departments. Each division, while part of 3M Company, has autonomous operations. The emissions units in the Administrative Offices portion of the 3M Center include boilers, emergency generators, above and below ground fuel tanks supporting these units, and insignificant activities other than those associated with Research and Development operations, which are covered by Permit No. 12300015.

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/19/03

Facility Name: 3M - Administrative Offices - Maplewood
 Permit Number: 12300694 - 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
The facility currently uses ozone-depleting substances as defined in 40 CFR pt. 82. Sections 601-618 of the 1990 Clean Air Act Amendments and 40 CFR pt. 82 may apply to your facility. Read Sections 601-618 and 40 CFR pt. 82 to determine all the requirements that apply to your facility.	40 CFR pt. 82
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.	40 CFR Section 60.12, and Minn R. 7001.0050; and Minn. R. 7011.0020
Air Pollution Control Equipment: Operate all pollution control equipment identified in the permit 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 identified in the permit and shall include a preventative maintenance program for that equipment, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment 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 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 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: 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: Comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).	Minn. R. 7007.0800, subp. 9(A)
Comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
PERFORMANCE TESTING	hdr
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.	Minn. R. ch. 7017
Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as specified by Minn. R. 7017.2025 following formal review of a subsequent performance test on the same unit.	Minn. R. 7017.2025
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)
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
Recordkeeping: Maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the facility including; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.	40 CFR Section 60.7(b), and Minn. R. 7019.0100, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

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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)
Recordkeeping: Retain all records at the stationary source for a period of five years from the date of monitoring, sample, measurement, or report (unless a longer retention is required by an applicable requirement). 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).	40 CFR Section 60.7(f), and Minn. R. 7019.0100, subp. 1; and Minn. R. 7007.0800, subp. 5(C) and 5(D), and Minn. R. 7017.1130
MODELING REQUIREMENTS	hdr
Modeling Protocol: due within 365 days of permit issuance for SO ₂ , NO _x and PM ₁₀ . This protocol will describe the proposed modeling methodology and input data, in accordance with 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.	Minn. R. 7007.0800, subp. 2
Modeling Study Results: due within 365 days of MPCA approval of the modeling protocol for SO ₂ , NO _x , and PM ₁₀ . 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.	Minn. R. 7007.0800, subp. 2
REPORTING/SUBMITTALS	hdr
By the date specified in 40 CFR 63.52(e), submit to the MPCA a Part 2 MACT Hammer notification meeting the requirements of 40 CFR Section 63.53(b).	40 CFR Section 63.52(e)
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)

TABLE A: LIMITS AND OTHER REQUIREMENTS

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Emission Inventory Report: due 91 days after end of each calendar year (April 1). To be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 through Minn. R. 7019.3010
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

12/19/03

Facility Name: 3M - Administrative Offices - Maplewood

Permit Number: 12300694 - 001

Subject Item: GP 001 Natural Gas Emergency Generators

- Associated Items:** EU 008 NG Generator 201-731417
 EU 009 NG Generator 205-821913
 EU 010 NG Generator 209-734566
 EU 012 NG Generator 210-296269
 EU 013 NG Generator 216-168605
 EU 015 NG Generator 218-321528
 EU 016 NG Generator 230-427957
 EU 018 NG Generator 235-EG0001
 EU 021 NG Generator 236-EG0001

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
Fuel type: Natural gas only by design.	Minn. R. 7005.0100, subp. 35a
Hours of Operation: Maintain documentation on site that the unit is an emergency generator by design that qualifies under the U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995, limiting operation to 500 hours per year.	Minn. R. 7007.0800, subp. 4 & 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/19/03

Facility Name: 3M - Administrative Offices - Maplewood

Permit Number: 12300694 - 001

Subject Item: GP 002 Diesel Emergency Generators

- Associated Items:**
- EU 022 Diesel Generator 217-494480
 - EU 023 Diesel Generator 220-293964
 - EU 024 Diesel Generator 220-293965
 - EU 025 Diesel Generator 223-427829
 - EU 026 Diesel Generator 224-313600
 - EU 027 Diesel Generator 224-592212
 - EU 028 Diesel Generator 277-EG0001
 - EU 029 Diesel Generator 277-EG0002
 - EU 030 Diesel Generator 277-EG0003
 - EU 031 Diesel Generator 225-496643
 - EU 032 Diesel Generator 5 243-512084
 - EU 033 Diesel Generator 4 243-512085
 - EU 034 Diesel Generator 3 243-512086
 - EU 035 Diesel Generator 1 243-547783
 - EU 036 Diesel Generator 2 243-547784
 - EU 037 Diesel Generator 251-426692
 - EU 038 Diesel Generator 260-469589
 - EU 039 Diesel Generator 270-496687
 - EU 040 Diesel Generator 275-627516

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
Fuel type: No. 2 fuel oil only by design.	Minn. R. 7005.0100, subp. 35a
Fuel Supplier Certification: Obtain and maintain a fuel supplier certification for each shipment of No. 2 fuel oil, certifying that the sulfur content does not exceed 0.5% by weight.	Minn. R. 7007.0800, subps. 4 & 5
Hours of Operation: Maintain documentation on site that the unit is an emergency diesel generator by design that qualifies under the U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995, limiting operation to 500 hours per year.	Minn. R. 7007.0800, subp. 4 & 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/19/03

Facility Name: 3M - Administrative Offices - Maplewood

Permit Number: 12300694 - 001

Subject Item: EU 001 Boiler 1 210-B01**Associated Items:** SV 001 Boiler 1 210-B01

What to do	Why to do it
Fuels allowed: No. 6 fuel oil and natural gas, by design	Minn. R. 7007.0800, subp. 2
Sulfur Content of Fuel: less than or equal to 1.5 percent by weight for No. 6 fuel oil	Minn. R. 7011.0510, subp. 1
Obtain and maintain fuel receipts from the fuel supplier which certify that the oil contains less than or equal to 1.5 weight percent sulfur	Minn. R. 7007.0800, subp. 2
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 2
When burning fuel oil, check for any visible emissions once daily during daylight hours. Record the time and date of each check and record whether or not any visible emission was observed. Corrective actions shall be taken as soon as possible. Record the corrective action taken, including the date and time it was taken.	Minn. R. 7007.0800, subp. 4(D)
Submit a written notification within 30 days after boiler is dismantled and no longer operational	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/19/03

Facility Name: 3M - Administrative Offices - Maplewood

Permit Number: 12300694 - 001

Subject Item: EU 002 Boiler 2 210-B02**Associated Items:** SV 002 Boiler 2 210-B02

What to do	Why to do it
Fuels allowed: No. 6 fuel oil and natural gas, by design	Minn. R. 7007.0800, subp. 2
Sulfur Content of Fuel: less than or equal to 1.5 percent by weight for No. 6 fuel oil	Minn. R. 7011.0510, subp. 1
Obtain and maintain fuel receipts from the fuel supplier which certify that the oil contains less than or equal to 1.5 weight percent sulfur	Minn. R. 7007.0800, subp. 2
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 2
When burning fuel oil, check for any visible emissions once daily during daylight hours. Record the time and date of each check and record whether or not any visible emission was observed. Corrective actions shall be taken as soon as possible. Record the corrective action taken, including the date and time it was taken.	Minn. R. 7007.0800, subp. 4(D)
Submit a written notification within 30 days after boiler is dismantled and no longer operational	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/19/03

Facility Name: 3M - Administrative Offices - Maplewood

Permit Number: 12300694 - 001

Subject Item: EU 003 Boiler 3 210-B03**Associated Items:** SV 003 Boiler 3 210-B03

What to do	Why to do it
Fuels allowed: No. 6 fuel oil and natural gas, by design	Minn. R. 7007.0800, subp. 2
Sulfur Content of Fuel: less than or equal to 1.5 percent by weight for No. 6 fuel oil	Minn. R. 7011.0510, subp. 1
Obtain and maintain fuel receipts from the fuel supplier which certify that the oil contains less than or equal to 1.5 weight percent sulfur	Minn. R. 7007.0800, subp. 2
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 2
When burning fuel oil, check for any visible emissions once daily during daylight hours. Record the time and date of each check and record whether or not any visible emission was observed. Corrective actions shall be taken as soon as possible. Record the corrective action taken, including the date and time it was taken.	Minn. R. 7007.0800, subp. 4(D)

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/19/03

Facility Name: 3M - Administrative Offices - Maplewood

Permit Number: 12300694 - 001

Subject Item: EU 004 Boiler 4 210-B04**Associated Items: SV 004 Boiler 4 210-B04**

What to do	Why to do it
Fuels allowed: No. 6 fuel oil and natural gas, by design	Minn. R. 7007.0800, subp. 2
Sulfur Content of Fuel: less than or equal to 1.5 percent by weight for No. 6 fuel oil	Minn. R. 7011.0510, subp. 1
Obtain and maintain fuel receipts from the fuel supplier which certify that the oil contains less than or equal to 1.5 weight percent sulfur	Minn. R. 7007.0800, subp. 2
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 2
When burning fuel oil, check for any visible emissions once daily during daylight hours. Record the time and date of each check and record whether or not any visible emission was observed. Corrective actions shall be taken as soon as possible. Record the corrective action taken, including the date and time it was taken.	Minn. R. 7007.0800, subp. 4(D)

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/19/03

Facility Name: 3M - Administrative Offices - Maplewood

Permit Number: 12300694 - 001

Subject Item: EU 005 Boiler 5 210-B05**Associated Items:** SV 005 Boiler 5 210-B05

What to do	Why to do it
Fuels allowed: No. 6 fuel oil and natural gas, by design	Minn. R. 7007.0800, subp. 2
Sulfur Content of Fuel: less than or equal to 1.5 percent by weight for No. 6 fuel oil	Minn. R. 7011.0510, subp. 1
Obtain and maintain fuel receipts from the fuel supplier which certify that the oil contains less than or equal to 1.5 weight percent sulfur	Minn. R. 7007.0800, subp. 2
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 2
When burning fuel oil, check for any visible emissions once daily during daylight hours. Record the time and date of each check and record whether or not any visible emission was observed. Corrective actions shall be taken as soon as possible. Record the corrective action taken, including the date and time it was taken.	Minn. R. 7007.0800, subp. 4(D)

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/19/03

Facility Name: 3M - Administrative Offices - Maplewood

Permit Number: 12300694 - 001

Subject Item: EU 006 Boiler 6 210-B06

Associated Items: CE 001 Flue Gas Recirculation

SV 006 Boiler 6 210-B06

What to do	Why to do it
LIMITS	hdr
Fuels allowed: natural gas with No. 2 fuel oil as backup, by design	Minn. R. 7007.0800, subp. 2
Fuel Usage: less than or equal to 1090000 gallons/year using 365-day Rolling Sum of No. 2 fuel oil. In addition: No. 2 fuel oil usage shall be less than or equal to 31000 gal/day; and natural gas and No. 2 fuel oil usage combined shall be less than or equal to 91324 MMBtu/mo.	Title I Condition: Limit to avoid classification as major modification under 40 CFR 52.21, and Minn. R. 7007.3000
Sulfur Content of Fuel: less than or equal to 0.5 percent by weight for No. 2 fuel oil	Title I Condition: Limit to avoid classification as major modification under 40 CFR 52.21 and Minn. R. 7007.3000; and 40 CFR 60.42b(j)(2), 60.45b(j), and 60.47b(f), and Minn. R. 7011.0565
Nitrogen Oxides: less than or equal to 0.067 lbs/million Btu heat input using 24-hour Block Average for natural gas, and 0.11 lbs/million Btu heat input for No. 2 fuel oil using 24-hour Block Average -- applies at all times including periods of startup, shutdown, or malfunction.	Title I Condition: Limit to avoid classification as major modification under 40 CFR 52.21, and Minn. R. 7007.3000; and 40 CFR 60.44b(a)(1), 60.44b(h), 60.44b(i) and 60.46b(a), and Minn. R. 7011.0565
PM10 and Total Particulate Matter: less than or equal to 0.021 lbs/million Btu heat input using 3-hour Average	Title I Condition: Limit to avoid classification as major modification under 40 CFR 52.21, and Minn. R. 7007.3000
Opacity: less than or equal to 20 percent opacity using 6-minute Average except for one 6-minute period per hour of not more than 27 percent opacity -- applies at all times, except during periods of startup, shutdown or malfunction	40 CFR 60.43b(f), 60.43b(g) and 60.46b(a), and Minn. R. 7011.0565
MONITORING AND TESTING	hdr
Obtain and maintain fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil and very low sulfur oil (less than or equal to 0.5 weight percent sulfur) in 40 CFR 60.41b.	Title I Condition: Monitoring for limit to avoid classification as major modification under 40 CFR 52.21, and Minn. R. 7007.3000; and 40 CFR 60.49b(r), and Minn. R. 7011.0565
Upon request, for the NOx limit, conduct a 30-day performance test on boiler (operating at a minimum of 57 percent of maximum capacity, averaged over the 30-day test period). During periods when performance tests are not requested, NOx emissions data collected pursuant to 40 CFR 60.48b(g)(1) are used to calculate a 30-day rolling average emission rate on a daily basis and used to prepare excess emission reports, but will not be used to determine compliance with the NOx limit. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NOx emission data for the preceding 30 steam generating unit operating days.	Title I Condition: Monitoring for limit to avoid classification as major modification under 40 CFR 52.21, and Minn. R. 7007.3000; 40 CFR 60.46b(e)(4), and Minn. R. 7011.0565; and Minn. R. 7017.2025 subp. 2
Operate, maintain, and calibrate a continuous emission monitoring system (CEMS), and record the output of the system, for measuring NOx emissions, following the procedures under 40 CFR 60.13 and 40 CFR pt. 60, Appendix B and Appendix F. Operate the CEMS and record data during all periods boiler EU006 is operating except for CEMS breakdowns and repairs. Record data during calibration checks, and zero and span adjustments. Express the 1-hour average NOx emission rates in lb/million Btu heat input to calculate the average emission rates using the data points required under 40 CFR 60.13(h).	Title I Condition: Monitoring for limit to avoid classification as major modification under 40 CFR 52.21, and Minn. R. 7007.3000; 40 CFR 60.48b(b)(1), (c), (d), (e) and (g)(1), and Minn. R. 7011.0565; and 40 CFR 60.13, and Minn. R. 7017.1010 subp. 1
Operate, maintain, and calibrate a continuous monitoring system for measuring the opacity of emissions (COMS), and record the output of the system, following the procedures under 40 CFR 60.13 and 40 CFR pt. 60, Appendix B.	40 CFR 60.48b(a), and Minn. R. 7011.0565; and 40 CFR 60.13, and Minn. R. 7017.1010 subp. 1
RECORDKEEPING AND REPORTING	hdr
Using purchase receipts and/or a fuel meter, record the type and amount of fuel used (and the combined heat input in MMBtu) for each calendar month by the 15th of the following month. In addition, daily record the amount of No. 2 fuel oil used and calculate and record the 365-day rolling sum.	Title I Condition: Recordkeeping for limit to avoid classification as major modification under 40 CFR 52.21, and Minn. R. 7007.3000
Record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for natural gas and very low sulfur oil for the reporting period on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month by the 30th of the following month.	40 CFR 60.49b(d), and Minn. R. 7011.0565

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/19/03

Facility Name: 3M - Administrative Offices - Maplewood

Permit Number: 12300694 - 001

<p>For NOx emissions, maintain records of the following for each steam generating unit operating day: (1) Calendar date. (2) Average hourly NOx emission rates (expressed as NO2) in lb/million Btu heat input measured. (3) 24-hour Block Average NOx emission rates in lb/million Btu heat input calculated at the end of each steam generating unit operating day from the measured hourly NOx emission rates from the preceding steam generating unit operating day. (4) Identification of the steam generating unit operating days when the calculated 24-hour Block Average NOx emission rates are in excess of the NOx limit, with the reasons for excess emissions as well as a description of corrective actions taken. (5) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken. (continued)</p>	<p>40 CFR 60.49b(g), and Minn. R. 7011.0565; and 40 CFR 60.13 (including Appendices B and F), and Minn. R. 7017.1010 subp. 1</p>
<p>(continued) (6) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data. (7) Identification of "F" factor used for calculations, method of determination, and the type of fuel combusted. (8) Identification of the times when the pollutant concentration exceeded full span of the CEMS. (9) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3. (10) Results of the daily CEMS drift tests and quarterly accuracy assessments as required under 40 CFR 60 Appendix F, Procedure 1.</p>	<p>(continued) 40 CFR 60.49b(g), and Minn. R. 7011.0565; and 40 CFR 60.13 (including Appendices B and F), and Minn. R. 7017.1010 subp. 1</p>
<p>Maintain records of opacity</p>	<p>40 CFR 60.49b(f), and Minn. R. 7011.0565</p>
<p>Option for electronic submittal of Excess Emissions/Downtime Reports (EERs): Due 30 days after end of each calendar quarter following receipt of written MPCA approval in response to a written request to submit quarterly electronic reports for NOx and/or opacity as an alternative to written EERs on boiler (accompanied by a certification indicating whether compliance with the applicable emission standards and minimum data requirements in 40 CFR subp. Db was achieved).</p>	<p>40 CFR 60.49b(v), and Minn. R. 7011.0565</p>
<p>ADDITIONAL NOx CEMS REQUIREMENTS</p>	<p>hdr</p>
<p>Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment. Acceptable monitor downtime includes reasonable periods as listed in Items A, B, C and D of Minn. R. 7017.1090, subp. 2.</p>	<p>40 CFR Section 60.13(e), and Minn. R. 7017.1090, subp. 1</p>
<p>Comply with the provisions of 40 CFR pt. 60, subp. Db with respect to NOx CEMS operation. When NOx emission data are not obtained because of CEMS breakdowns, repairs, calibration checks and zero and span adjustments, obtain data using standby monitoring systems or other approved reference methods to provide data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days.</p>	<p>40 CFR 60.48b (b), (c), (d), (e)(2), (e)(3), (f), and (g)(1), and Minn. R. 7011.0565</p>
<p>CEMS Quality Assurance/Quality Control (QA/QC): Operate the CEMS according to the performance specifications listed in 40 CFR pt. 60, Appendix B, and operate, calibrate, and maintain the CEMS according to the QA/QC procedures in 40 CFR pt. 60, Appendix F, as amended, and maintain a written QA/QC plan available in a form suitable for inspection.</p>	<p>40 CFR Section 60.13(a) and 40 CFR pt. 60, Appendices B and F, and Minn. R. 7017.1010, subp. 1</p>
<p>CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEM Certification Test. Follow the procedures in 40 CFR pt. 60, Appendix F.</p>	<p>40 CFR pt. 60, Appendix F, section 5.1.1; and Minn. R. 7017.1170, subp. 5</p>
<p>CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) gas concentrations at least once daily. The CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F shall be used to determine out-of-control periods for CEMS.</p>	<p>40 CFR Section 60.13(d)(1), and 40 CFR pt. 60, Appendix F, section 4.1; and Minn. R. 7017.1170, subp. 3</p>
<p>CEMS Cylinder Gas Audit (CGA): due 30 days after end of each calendar quarter following CEM Certification Test. A CGA is not required during any calendar quarter in which a RATA was performed.</p>	<p>40 CFR pt. 60, Appendix F, section 5.1.2; and Minn. R. 7017.1170, subp. 4</p>
<p>ADDITIONAL COMS REQUIREMENTS</p>	<p>hdr</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/19/03

Facility Name: 3M - Administrative Offices - Maplewood

Permit Number: 12300694 - 001

<p>Continuous Operation: COMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A COMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment.</p> <p>Acceptable monitor downtime includes reasonable periods as listed in Items A, B, C and D of Minn. R. 7017.1090, subp. 2.</p>	<p>40 CFR Section 60.13(e) and Minn. R. 7017.1010, subp. 1; and Minn. R. 7017.1090, subp. 1</p>
<p>COMS Quality Assurance (QA) Plan: Develop and implement a written QA plan for the COMS on the boiler. Keep the plan on site and available for inspection. The plan shall contain the written procedures listed in Minn. R. 7017.1210, subp. 1.</p>	<p>Minn. R. 7017.1210</p>
<p>COMS Daily Calibration Drift (CD) Check: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) opacity at least once daily. The COMS must be adjusted whenever the calibration drift (CD) exceeds twice the specification of PS-1 of 40 CFR pt. 60, Appendix B.</p>	<p>40 CFR Section 60.13(d)(2) and 40 CFR pt. 60, Appendix B; and Minn. R. 7017.1210, subp. 2</p>
<p>COMS Calibration Error Audit: due 30 days after end of each calendar half-year following COMS Certification Test. Conduct three point calibration error audits at least 3 months apart but no greater than 8 months apart. Filter values used shall correspond to approximately 11%, 20%, and 37% opacity.</p>	<p>Minn. R. 7017.1210, subp. 3</p>
<p>All COMS shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data for each successive 6-minute period.</p>	<p>40 CFR Section 60.13(e)(1) and (h), and Minn. R. 7017.1010, subp. 1; and Minn. R. 7017.1200, subp. 1, 2, and 3</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/19/03

Facility Name: 3M - Administrative Offices - Maplewood

Permit Number: 12300694 - 001

Subject Item: EU 042 New Boiler 2

Associated Items: SV 042 New Boiler 2

What to do	Why to do it
LIMITS	hdr
Fuels allowed: natural gas with No. 2 fuel oil as backup, by design	Minn. R. 7007.0800, subp. 2
Fuel Usage: less than or equal to 545000 gallons/year using 365-day Rolling Sum of No. 2 fuel oil	Title I Condition: Limit to avoid classification as major modification under 40 CFR 52.21, and Minn. R. 7007.3000
Sulfur Content of Fuel: less than or equal to 0.5 percent by weight for No. 2 fuel oil	40 CFR 60.42c(d), and Minn. R. 7011.0570
Opacity: less than or equal to 20 percent opacity using 6-minute Average except for one 6-minute Average per hour of not more than 27 percent opacity -- applies at all times, except during periods of startup, shutdown or malfunction	40 CFR 60.43c(c), and (d), and Minn. R. 7011.0570
MONITORING, TESTING, RECORDKEEPING AND REPORTING	hdr
On each calendar day, record the total quantity of fuel oil that was combusted and calculate and record the 365-day rolling sum.	Title I Condition: Monitoring and recordkeeping for limit to avoid classification as major modification under 40 CFR 52.21, and Minn. R. 7007.3000; and 40 CFR 60.48c(g) and (j), and Minn. R. 7011.0570
Comply with the SO2 standards (through compliance with fuel oil sulfur content limit) based on supplier certification in fuel purchase receipts, which shall include the name of the oil supplier and a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c. The initial performance test for SO2 shall consist of the certification from the fuel supplier.	40 CFR 60.44c(h), 60.48c(f)(1), and Minn. R. 7011.0570
When burning fuel oil, check for any visible emissions once daily during daylight hours. Record the time and date of each check and record whether or not any visible emission was observed. Corrective actions shall be taken as soon as possible. Record the corrective action taken, including the date and time it was taken.	Minn. R. 7007.0800, subp. 4(D)
Initial Performance Test: due 180 days after Initial Startup to measure opacity on boiler	40 CFR 60.8(a), and Minn. R. 7017.2015, subp. 2
Performance Test Pre-test Meeting: due 7 days before Performance Test for opacity on boiler	Minn. R. 7017.2030, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/19/03

Facility Name: 3M - Administrative Offices - Maplewood

Permit Number: 12300694 - 001

Subject Item: TK 001 No 2 Very Low Sulfur Fuel Oil

What to do	Why to do it
Recordkeeping: Maintain records showing the dimensions of the tank and an analysis showing the tank capacity. These records shall be maintained for the life of the source.	40 CFR 60.116b(a) and (b), and Minn. R. 7011.1520(C)

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/19/03

Facility Name: 3M - Administrative Offices - Maplewood

Permit Number: 12300694 - 001

Subject Item: TK 002 Gasoline (Unleaded)

What to do	Why to do it
Equip tank with a permanent submerged fill pipe.	Minn. R. 7011.1505, subp. 3(B)

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/19/03

Facility Name: 3M - Administrative Offices - Maplewood

Permit Number: 12300694 - 001

Subject Item: TK 003 Gasoline (Unleaded)

What to do	Why to do it
Equip tank with a permanent submerged fill pipe.	Minn. R. 7011.1505, subp. 3(B)

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/19/03

Facility Name: 3M - Administrative Offices - Maplewood

Permit Number: 12300694 - 001

Subject Item: TK 004 No 2 Very Low Sulfur Fuel Oil

What to do	Why to do it
Submit a written notification within 30 days after installing tank	Minn. R. 7007.0800, subp. 2
Recordkeeping: Maintain records showing the dimensions of the tank and an analysis showing the tank capacity. These records shall be maintained for the life of the source.	40 CFR 60.116b(a) and (b), and Minn. R. 7011.1520(C)

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/19/03

Facility Name: 3M - Administrative Offices - Maplewood

Permit Number: 12300694 - 001

Subject Item: TK 005 Diesel Fuel

What to do	Why to do it
Submit a written notification within 30 days after installing tank	Minn. R. 7007.0800, subp. 2
Equip tank with a permanent submerged fill pipe.	Minn. R. 7011.1505, subp. 3(B)

TABLE A: LIMITS AND OTHER REQUIREMENTS

12/19/03

Facility Name: 3M - Administrative Offices - Maplewood

Permit Number: 12300694 - 001

Subject Item: TK 006 No 2 Very Low Sulfur Fuel Oil

What to do	Why to do it
Recordkeeping: Maintain records showing the dimensions of the tank and an analysis showing the tank capacity. These records shall be maintained for the life of the source.	40 CFR 60.116b(a) and (b), and Minn. R. 7011.1520(C)

TABLE B: SUBMITTALS

12/19/03

Facility Name: 3M - Administrative Offices - Maplewood
Permit Number: 12300694 - 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:

Permit Technical Advisor
Permit Section
Air Quality 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:

Supervisor
Compliance Determination Unit
Air Quality 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

12/19/03

Facility Name: 3M - Administrative Offices - Maplewood

Permit Number: 12300694 - 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
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup of boiler	EU042
Notification of the Anticipated Date of Initial Startup	due 30 days before Anticipated Date of Initial Startup of boiler	EU042
Notification of the Date Construction Began	due 30 days after Start Of Construction of boiler	EU042
Performance Test Notification (written)	due 30 days before Performance Test for opacity on boiler	EU042
Performance Test Plan	due 30 days before Performance Test for opacity on boiler	EU042
Performance Test Report - Microfiche Copy	due 105 days after Performance Test for opacity on boiler	EU042
Performance Test Report	due 45 days after Performance Test for opacity on boiler	EU042
Testing Frequency Plan	due 60 days after Initial Performance Test. The plan shall specify a testing frequency for opacity on the boiler, using the initial performance test data and MPCA test frequency guidance.	EU042

TABLE B: RECURRENT SUBMITTALS

12/19/03

Facility Name: 3M - Administrative Offices - Maplewood

Permit Number: 12300694 - 001

What to send	When to send	Portion of Facility Affected
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter following Initial Startup of the Monitor on boiler for NOx. Excess emissions are defined as any calculated 30-day rolling average NOx emission rate which exceeds the NOx limit. Include in the reports the information (described in permit Table A) recorded per 40 CFR 60.49b(g). The EER shall indicate all periods of monitor bypass and all periods of exceedances of the limit, including exceedances allowed by an applicable standard (e.g., during startup, shutdown, and malfunctions).	EU006
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter following Initial Startup of the Monitor on boiler for opacity. Excess emissions are defined as all 6-minute periods during which the average opacity exceeds the opacity limit. The EER shall indicate all periods of monitor bypass and all periods of exceedances of the limit, including exceedances allowed by an applicable standard (e.g., during startup, shutdown, and malfunctions).	EU006
COMS Calibration Error Audit Results Summary	due 30 days after end of each calendar half-year following COMS Calibration Error Audit (that is, 30 days after end of calendar quarter in which the audit occurred, which are done semiannually on boiler COMS)	EU006
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 on a form approved by the Commissioner, both to the Commissioner and to the US EPA regional office in Chicago. This report covers all deviations experienced during the calendar year.	Total Facility
Cylinder Gas Audit (CGA) Results Summary	due 30 days after end of each calendar year following end of the calendar quarter in which the Audit was performed on boiler CEMS (that is, submit the CGA Results Summary by 30 days after end of calendar quarter in which the CGA was performed)	EU006
Relative Accuracy Test Audit (RATA) Notification	due 30 days before end of each calendar year following CEMS Relative Accuracy Test Audit (RATA) on boiler CEMS (that is, due 30 days before RATA, which are done at least once per year)	EU006
Relative Accuracy Test Audit (RATA) Results Summary	due 30 days after end of each calendar year following CEMS Relative Accuracy Test Audit (RATA) on boiler CEMS (that is, 30 days after end of quarter in which RATA occurred)	EU006

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 12300694-001
3M – Administrative Offices – Maplewood
AQ File No. 23EE
Part 70 Operating Permit

This Technical Support Document (TSD) is for all the interested parties of the draft permit. The purpose of this document is to set forth the legal and factual basis for the draft permit conditions, including references to the applicable statutory or regulatory provisions.

1. General Information

1.1 Applicant and Stationary Source Location:

Owner and Operator Address and Phone Number	Facility Address (SIC Code: 2672)
Kelly Wrich (651/778-5036) 3M Company 900 Bush Avenue; 3M Building 42-2E-27 P.O. Box 33331 St. Paul, MN 55133-3331	3M – Administrative Offices I-94 and McKnight Road Maplewood Ramsey County Zip Code: 55144

1.2 Description of the facility

This permit is a Part 70 total facility operating permit issued under Minn. R. ch. 7007, and only covers part of the defined stationary source (as described below). The stationary source is an existing facility that is major for all air quality programs. (The research and development functions at the site (AQ File No. 23E) are covered by a separate Part 70 permit (12300015-005) for administrative reasons.)

The original application was received March 16, 1995. An updated application – submitted in response to a request letter dated March 1, 2002 – was received on May 23, 2002. This permit supersedes all previously issued permits/amendments for this part of the stationary source (see Section 1.3 for a list of permit numbers).

The 3M facility at this location is one stationary source under New Source Review (NSR) and the Part 70 Operating Permit Program, but is covered by two separate permits: the research and development complex (R&D facility) covered by the

previously issued Part 70 permit, and the Administrative Offices covered by this permit (see also Attachment 4 of the TSD for the previously issued R&D Part 70 permit that provides further explanation of the stationary source definition). In addition, the site is considered one stationary source under the National Emissions Standards for Hazardous Air Pollutants for Source Categories (NESHAPs) in 40 CFR pt. 63.

The center occupies approximately 425 acres in Maplewood, consists of approximately 44 buildings that support more than 50 different operating divisions, and contains more than 200 group or staff departments. Each division, while part of 3M Company, has autonomous operations. The emissions units in the Administrative Offices portion of the 3M Center include boilers, emergency generators, above and below ground fuel tanks supporting these units, and insignificant activities other than those associated with Research and Development operations, which are covered by Permit No. 12300015.

1.3 Description of all previously issued permits/amendments to be incorporated into the Part 70 permit

Permit Number and Issuance Date	Action Authorized
23E-76-O-1 10/26/76	Operation of Boilers #1-5 with natural gas and No. 6 fuel oil
23E-92-I/O-10 3/19/92	Install "Boiler #6" subject to NSPS 40 CFR pt. 60 subp. Db (natural gas and No. 2 fuel oil fired) with "synthetic minor" limits for NSR/PSD.
23E-92-P-3 12/18/92	Install No. 2 fuel oil storage tank (TK001) in Building 217 subject to recordkeeping requirement in 40 CFR pt. 60 subp. Kb.
Amendment No. 1 to 23E-92-I/O-10 4/1/93	For Boiler #6, correct heat input rating and flow rate in facility description, and changes to NO _x emission limits for natural gas and fuel oil and fuel usage limitations.
	Amendment No. 2 not issued.
Amendment No. 3 to 23E-92-I/O-10 2/7/95	For Boiler #6, change fuel usage and recordkeeping requirements for synthetic minor limit.
12300694-001 5/13/97	Amendment No. 4 to 23E-92-I/O-10. For Boiler #6, increase fuel usage limit to 1,090,000 gal/yr based on 365 day rolling sum (still synthetic minor for NSR/PSD), language for fuel meter to demonstrate, and option for alternative electronic reporting approach upon MPCA approval.
2/28/00	Minor Amendment application to replace two existing natural gas emergency generators with one new 180 kW natural gas emergency generator (known as EU 021, NG Generator 236-EG0001).
12300694-003 4/21/00 (#-002 not used)	(23EE-00-I/O-1) Moderate amendment to install three 800 kW diesel emergency generators (EU028-030) – using 500 hr for PTE calculation – and one 10,000 gallon diesel underground storage tank (TK005). (See also 4/8/02, below.)
12300694-004 12/1/00	(23EE-00-I/O-2) To replace Boilers #1 and #2 in building 210 with new "Boiler #2" (fka EU010, now 042) (natural gas/No. 2 fuel oil fired) and install a new fixed-roof 50,000 gallon tank (TK004).
Letter sent 4/8/02	Administrative amendment application received 2/5/02 to change building number for location and unit numbers for emergency generators authorized in 12300694-003 from 224 to 277. Letter sent concurring it was an Administrative Amendment, but no action taken pending incorporation into Part 70 permit.

1.4 Facility emissions

Table 1. Total Facility Potential to Emit (PTE) Summary

	PM tpy	PM ₁₀ tpy	SO ₂ tpy	NO _x tpy	CO tpy	VOC tpy	Pb tpy	All HAPs tpy
Total Facility Limited Potential Emissions*	353	311	4302	1046	331	32	0.03	6.9
Total Facility Actual Emissions	62	55	703	365	94	7.3	0.00	2.2

*These are the limited potential emissions from “Delta” (computerized permitting and compliance/enforcement system). They differ from those in the permit application sent by the company in that they have been verified and corrected as needed by MPCA staff. These are the potential emissions that appear in the public notice.

PM = Particulate matter, PM₁₀ = PM less than 10 microns; SO₂ = Sulfur dioxide; NO_x = Nitrogen oxides; CO = Carbon monoxide; VOC = Volatile organic compounds; Pb = Lead; HAP = Hazardous air pollutant

The entire 3M Center site is the single stationary source and it is major for all air quality programs; however, the numbers in the table are for the Administrative Offices portion of the site covered by this permit. The highest single HAP is hexane, with potential emissions of 6.2 tpy and actual emissions of 1.7 tpy. See the attached tables that summarize the calculations. Actual emissions indicated above (average of 2001-02), and in the attachments, reflect corrections to a few inconsistencies with the annual emissions inventories.

Table 2. Facility and Permit Classification

Classification*	Major	“Synthetic Minor”	Non-Major	N/A
PSD	X			
NAAR				X
Part 63 NESHAPs	X			
Part 70 Permit Program	X			

* Refers to potential emissions relative to those specified as major by 40 CFR § 52.21 (Prevention of Significant Deterioration (PSD)), 40 CFR pt. 51 Appendix S (Non-Attainment Area Review), 40 CFR pt. 63 (National Emission Standards for Hazardous Air Pollutants for source categories), and 40 CFR pt. 70.

2. Summary of Regulatory Basis for Emission Limits and Operating Conditions

FC, EU, GP, or SV # *	Applicable Requirements	Comments
FC	40 CFR pt. 82	Usual stratospheric ozone protection requirement when applicable.
	Minn. R. 7007.0800, subp. 2	Modeling requirements for SO ₂ , NO _x and PM ₁₀ , per MPCA policy. (A PM ₁₀ modeling protocol required by the R&D permit has been submitted but not yet approved.) As much of the work on the protocol has been completed, a due date of one year after permit issuance is included. The modeling study results for SO ₂ , NO _x and PM ₁₀ are due within 365 days of MPCA approval of the modeling protocol.
	40 CFR § 63.52(e)	Standard Part 2 MACT Hammer submittal requirement when applicable. 3M’s Part 1 submittal indicated boilers may be subject to

		the proposed subp. DDDDD.
	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 14; Minn. R. 7007.0800, subp. 16(J)	The standard “Delta” permit language for the two generic control equipment conditions was revised slightly at the request of the Permittee for clarifying purposes: “...all air pollution control equipment <i>identified in the permit...</i> ”
EU 001-005	Minn. R. 7011.0510, subp. 1 and 2	Boilers #1-5. State Standards of Performance for Existing Indirect Heating Equipment. PM and SO ₂ standards satisfied by fuel oil sulfur content requirement (with potential to emit less than limits). Fuel oil sulfur content records and daily visible emissions checks (see Section 3 for clarifying details) when burning fuel oil is appropriate for periodic monitoring, as violation of standards when burning natural gas is highly unlikely. (Boilers #1 and #2 (EU 001-002) are to be replaced by “New Boiler #2,” EU042, thus the requested notification.)
EU 006	Title I Condition, limits to avoid classification as major modification under 40 CFR § 52.21; Minn. R. 7007.3000	Boiler #6. Fuel usage limits and associated monitoring and recordkeeping requirements from permit 23E-92-I/O-10 as amended: From Amendment No. 4: - Natural gas and No. 2 fuel oil combined: not to exceed 91,324 MMBtu/mo; - No. 2 fuel oil: usage shall not exceed 31,100 gal/day; - No. 2 fuel oil: usage shall not exceed 1,090,000 gal/yr on 365-day rolling sum; - No. 2 fuel oil sulfur content shall not exceed 0.5% by weight. NOx limits are from Amendment No. 1 to the ‘92 I/O permit and are more stringent than the 40 CFR subp. Db limits. The PM limits are from the ‘92 I/O permit to ensure PTE for PM/PM10 are below PSD significance levels. From Amendment No. 1 to ‘92 I/O permit, based on previous performance test history, any 30-day NOx performance tests shall be conducted at a minimum of 57% of maximum capacity.
	40 CFR 60, subp. Db Minn. R. 7011.0565	NSPS, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. Usual limits and compliance demonstration requirements and other conditions from permit 23E-92-I/O-10 as amended. (Per 40 CFR § 60.44b(a)(1) (low NO _x burner and flue gas recirculation) there are no specific control equipment operating parameters or control equipment monitoring requirements.) Initial notices, tests and certifications have previously been done. The standard records retention language at Total Facility (FC) level in permit (five years) is more stringent than the two years in 40 CFR § 60.49b(o). CEMS/COMS language follows current practices for those required by NSPS. At the Permittee’s request, the monthly due date for calculating the annual capacity factor was set at the 30 th of the following month, as opposed to the typical 15 th used for a variety of other recordkeeping requirements.
EU 042	Title I Condition: Limit to avoid classification as major modification under 40 CFR 52.21; Minn. R. 7007.3000	“New Boiler # 2” (fka EU010 initially covered in 12300694-004 (23EE-00-I/O-2)). Yet to be installed. Fuel oil usage limit when burning No. 2 fuel oil, with associated monitoring and recordkeeping.

	40 CFR 60 Subp. Dc; Minn. R. 7011.0570	Standards of Performance for Small and Industrial Commercial and Institutional Steam Generating Units. Usual opacity and fuel sulfur content limits, along with monitoring, recordkeeping, notification and initial testing requirements. Daily visible emissions checks when burning fuel oil is appropriate for periodic monitoring, as violation of standards when burning natural gas is highly unlikely (see Section 3 for clarifying details).
TK 001-006	40 CFR subp. Kb, and Minn. Standards of Performance	Depending upon installation date and size, some tanks are subject to Kb and others just Minn. R. (TK 004 and 005 have yet to be installed, thus the requested notification.)
GP 001-002	Minn. R. 7011.2300	For simplicity and to save space, the emergency generators are grouped by fuel burned (natural gas and diesel). The required recordkeeping is the appropriate degree of periodic monitoring, as these units run infrequently and violation of standards is unlikely.

* Number of level at which limit or condition is set.

3. Technical Information

The insignificant activities include a fire pump (elected to be labeled as EU/SV 014) and cooling towers (EU/SV 041), certain smaller fuel tanks as well as those that contain No. 6 fuel oil, and a parts washer in automotive services.

Clarifying details regarding visible emissions:

- Visible emissions and deviations: The observation of visible emissions is not itself a reportable deviation, but instead may trigger some corrective action.
- Visible emissions during inclement weather: These observations can only be made during daytime. During bad weather, more than one effort should be made during the day. If bad weather conditions persist through all daylight hours, this must be noted in the log of visible emissions observations.
- Visible emissions observations for emissions units for which some visibles are expected: The Operation and Maintenance Plan will include a description of the normal range of occurrence of visible emissions, noting especially when higher visibles may occur, such as startup and shutdown.
- Visible emissions checks not required when boilers are burning natural gas: Conditions for boilers that burn natural gas or fuel oil require checks for visible emissions when burning fuel oil. Visible emissions checks are not required when burning natural gas because use of this fuel is not expected to cause the emissions unit to exceed the opacity requirements.

No comments were received during the public notice period. A slight change was made to the additional NOx CEMS requirement under EU 006 that referred specifically to a span value of 500 ppm. A more general summary of those rule provisions was made to avoid future misunderstanding. As indicated in the facility description, the Permittee has long been operating with a span value of about 208 ppm. EPA indicated no objections in a letter dated 12/1/03.

Attached are emissions summary tables and calculations.

4. Conclusion

Based on the information provided by 3M, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 12300694-001, and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Jeff Peltola, Bob Berg, Dan Brady

Peer Review: Peggy Bartz

Attachments: As specified in section 3