TECHNICAL SUPPORT DOCUMENT
For
DRAFT/PROPOSED AIR EMISSION PERMIT NO. 04100003-005

This technical support document (TSD) is intended for all parties interested in the draft/proposed 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 draft/proposed permit.

1. General Information

1.1 Applicant and Stationary Source Location:

Table 1. Applicant and Source Address

Applicant/Address	Stationary Source/Address (SIC Code: **3291**)
3M Company Building 224-5W-03 St. Paul, MN 5514	3M Alexandria 2115 Broadway St S Alexandria, MN 56308 Douglas County
Contact: Megan Acker Phone: 651-733-1838	

1.2 Facility Description

3M Alexandria (hereafter referred to a "3M" or "Permittee") manufactures abrasive products such as sanding belts and sanding discs. In addition, the facility converts intermediate materials from other 3M plants into saleable abrasive products and provides intermediate products to other 3M Abrasive Plants.

The main sources of emissions from the facility are Volatile Organic Compound (VOC) emissions from coatings and belt splice adhesive. The facility also emits particulate matter from coaters and combustion emissions from natural gas ovens and boilers.

The facility is a major source under the Part 70 Program and the National Emission Standards for Hazardous Air Pollutants Program. A total facility limit of 240 tons per year (tpy) of VOCs was added to the permit through permit action 003 in order to make the facility a non-major source under federal New Source Review regulations (40 CFR § 52.21).

1.3 Description of the Activities Allowed by this Permit Action

This amendment is a major amendment that authorizes construction and operation of a new coating line (Coating Line No. 3). The line includes five new mix tanks, a coater, and a coater oven. The emission units from the line are subject to 40 CFR pt. 63, subp. JJJJ National Emission Standards for Hazardous Air Pollutants (NESHAP) for Paper and Other Web Surface Coating as well as Minnesota

Standards of Performance. The VOC emissions from the new line will be incorporated under the facility's 240 tpy VOC limit.

This permit action also incorporates a minor amendment that was submitted in 2009. The amendment is for the addition of a laser cutter. This unit emits particulate matter and is subject to the Industrial Process Equipment Rule.

Changes made to the permit through this permit action include:

- Addition of new coating line units to GP 006 for "Subpart JJJJ NESHAP Units" and GP 007 for the "VOC PreCap".
- Addition of 2009 laser cutter, EU 063, to GP 005 for "Post-1969 Industrial Process Equipment".
- Clarification and adjustment of 40 CFR Pt. 63 subp. JJJJ requirements in GP 006.
- Conversion of the VOC limit to a precap limit. (see Section 3C)
- Creation of a separate group (GP 007) for the VOC precap limit and associated requirements
- Removal of requirements that have been completed.
- Addition of the requirement to comply with 40 CFR Pt. 63 Subp. DDDDD NESHAP for Industrial, Commercial and Industrial Boilers and Process Heaters, and removal of requirement to submit a 112(j) application from GP 001 for boilers EU 056 and EU 057. (See Section 2)
- Removal of performance testing requirements for boilers, EU 056 and EU 057. (See Section 3B)
- Consolidation of industrial process equipment rule requirements and creation of a group for Pre-1969 industrial process equipment. (Consolidation of all post 1969 industrial process equipment into GP 005, and conversion of GP 003 from "Sierra #1 Process Equipment" to "Pre-1969 Industrial Process Equipment.)

1.4. Facility Emissions:

Table 2. Title I Emissions Increase Summary for New Coating Line

Pollutant	**Unlimited Potential Emissions from the Modification** (tpy)	**Limited Potential Emissions from the Modification** (tpy)	**NSR Threshold for New Major Source** (tpy)	**NSR Review Required?** (Yes/No)
PM	0.32	0.32	250	No
PM_{10}	0.32	0.32	250	No
$PM_{2.5}$	0.32	0.32	250	No
NO_x	4.20	4.20	250	No
SO_2	0.03	0.03	250	No
CO	3.53	3.53	250	No
Ozone (VOC)	256.20	240	250	No
Lead	2.10×10^{-5}	2.10×10^{-5}	250	No
CO_2e*	4,920	4,920	100,000	No

*Carbon dioxide equivalents as defined in Minn. R. 7007.0100.

Table 3. Non-Title I Emissions Increase Summary for Laser Cutter

Pollutant	**Net Change** (lb/hr)	**Insignificant Modification Thresholds** (lb/hr <)	**Minor and Moderate Amendment Thresholds** (lb/hr < or ≥)	**Type of Amendment** (Minor or Moderate)
PM_{10}	1.44	0.855	3.42	Minor
NO_x	0.0	2.28	9.13	NA
SO_2	0.0	2.28	9.13	NA
CO	0.0	5.70	22.80	NA
VOC	0.0	2.28	9.13	NA
Lead	0.0	0.025	0.11	NA

Table 4. Total Facility Potential to Emit Summary

	PM tpy	**PM_{10}** tpy	**$PM_{2.5}$** tpy	**SO_2** tpy	**NO_x** tpy	**CO** tpy	**CO_2e** Tpy	**VOC** tpy	**Single HAP** tpy	**All HAPs** tpy
Total Facility Limited Potential Emissions	14.7	9.7	9.7	23.6	80.1	22.9	73,457	240	240**	240**
Total Facility Actual Emissions (2010)	4.6	4.0	*	0.03	5.1	2.8	*	40	*	

* Not reported in MN emission inventory for the year indicated.

**The source is limited to 240 tpy VOC. Since the majority of HAP emitted at the source is volatile HAP, for practical purposes HAPs are also limited to 240 tpy. Note, the limited HAP PTE is not used for determining the applicability of any standards beyond major/area source status.

Table 5. Facility Classification

Classification	Major/Affected Source	Synthetic Minor/Area	Minor/Area
PSD		VOC	PM, PM_{10}, $PM_{2.5}$, NOx, SO_2, CO
Part 70 Permit Program	VOC, HAPs,		PM_{10}, $PM_{2.5}$, NOx, SO_2, CO
Part 63 NESHAP	X		

2. Regulatory and/or Statutory Basis

New Source Review

The facility has accepted limits on VOCs such that the facility's VOC PTE is less than the major source threshold under NSR (40 CFR § 52.21(b)(1)). The PTE of all other pollutants are below the NSR major source thresholds. Therefore, as defined by the federal rules, the facility is not considered an existing major source for NSR.

Additionally, the modification authorized by this permit action is not subject to NSR as shown in Table 2 because the limited emissions do not constitute a major source.

The increase in carbon dioxide equivalent (CO_2e) emissions authorized by this permit action is less than 100,000 tpy, and therefore is not subject to regulation under NSR for CO_2e ("subject to regulation" is defined in 40 CFR § 52.21(b)(49)).

Part 70 Permit Program

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

New Source Performance Standards (NSPS)

- The Permittee has stated that the equipment added by this permit action is not subject to any NSPS Standards
- New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units (40 CFR pt. 60, subp. Dc) are included in this permit for the boilers EU056, and EU057 because these boilers have a design rate between 10 MMBtu/hr and 100 MMBtu/hr and were installed after June 9, 1989. Since boilers EU056 and EU057 combust only natural gas, the only applicable requirement from this subpart is monthly records of the amount of natural gas combusted.
- The requirements of New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines (40 CFR pt. 60, subp. IIII) does not apply to the emergency generator.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility is a major source of HAPs. The new coating line is subject to NESHAP Subpart JJJJ for paper and other web coating because it is a web coating line at a major source of HAPs. Many existing units involved in coating processes at the facility are also subject to this standard.

The emergency generator is subject to NESHAP subpart ZZZZ, but because it is a new stationary reciprocating internal combustion engine with a site rating less than 500 HP located at a major source of HAPs, the facility meets the requirements of subpart ZZZZ by meeting the requirements of 40 CFR Part 60 Subpart IIII.

The facility has two boilers (EU 056 and EU 057, 46 MMBtu/hr each) that were subject to 112(j) upon construction because at the time of construction there was no promulgated NESHAP for this source category. (The U.S. District Court of Appeals for the DC Circuit had vacated 40 CFR pt. 63 subp. DDDDD on July 30, 2007.) 3M submitted a timely 112(j) application on November 14, 2008. The MPCA did not make a determination as to whether or not the 112(j) submittal was complete, nor did the MPCA act on the application. 3M is in compliance with the requirements of Section 112(j); however a maximum achievable control technology (MACT) determination was not made and a title V permit incorporating section 112(j) requirements has not been issued to 3M. The NEHSAP for the applicable source category (NESHAP DDDDD for Industrial, commercial, and institutional boilers and process heaters) was promulgated on March 3, 2011. EPA reconsidered the rule, and then issued final changes in Deceber 2012. Therefore, the MPCA believes it is appropriate and consistent with 40 CFR Section 63.56, to incorporate that standard into the permit rather than incorporating 112(j) requirements. Additionally, because applicable requirements of Subpart DDDDD for 3M's boilers are work practice standards (rather than emission limits), the MPCA believes it is reasonable for 3M to be in compliance with Subpart DDDDD by the standard's compliance date for existing affected sources, which at the time of issuance, is March 21, 2014.

By the compliance date listed in the rule as promulgated and amended, 3M shall be in compliance with the rule. The Permittee has not yet submitted an initial notification for the NESHAP, therefore, per MPCA policy the specific requirements of the NESHAP have not been incorporated into the permit. GP 001 only contains requirements for the applicable Subpart DDDDD submittals, and a requirement stating that the Permittee shall comply with the standard upon the compliance date.

When 3M submits the initial notification required by this standard, if there are more than 3 years remaining in the permit term, the MPCA has 18 months after promulgation to reopen the permit and add the conditions (MInn. R. 7007.1600, subp. 1.A.)

Compliance Assurance Monitoring (CAM)

CAM does not apply to the modification allowed in this permit amendment, since none of the emission unit added by this permit action are controlled emission units.

CAM does not apply to any of the existing emission units at the facility either. In order for this rule to apply, a pollutant-specific-emissions-unit at a source that requires a Part 70 permit must meet three criteria for a given pollutant: 1) the unit has potential emissions (before controls) of the applicable

regulated air pollutant equal or greater than 100 percent of the amount required for a source to be classified as a major source; 2) the unit is subject to an applicable emission limitation or standard for the applicable regulated air pollutant; and 3) the unit uses a control device to achieve compliance with the applicable emission limitation or standard. None of the emission units at this facility meet these criteria; therefore, the requirements of 40 CFR pt. 64, CAM are not applicable. Note: the thermal oxidizer used to control the Make Coater (EU 052), Backrack Oven (EU 053), Size Coater (EU 054), and Mainline Oven (EU 055) will only be operating on a voluntary basis. The oxidizer is not needed to demonstrate compliance with an emission limit.

Environmental Review & AERA

The modification is not subject to environmental review. The modification is not listed in any of the mandatory Environmental Assessment Worksheet categories in Minn. R. 4410.4300 or any of the Environmental Impact Statement categories in Minn. R. 4410.4400.

Minnesota State Rules

Portions of the facility (including insignificant activities) are subject to the following Minnesota Standards of Performance:

- Minn. R. 7011.0515 Standards of Performance for New Indirect Heating Equipment
- Minn. R. 7011.0610 Standards of Performance for Fossil-Fuel-Burning Direct Heating Equipment
- Minn. R. 7011.0710 Standards of Performance for Pre-1969 Industrial Process Equipment
- Minn. R. 7011.0715 Standards of Performance for Post-1969 Industrial Process Equipment
- Minn. R. 7011.2300 Standards of Performance for Stationary Internal Combustion Engines

Table 6. Regulatory Overview of Units Affected by the Modification/Permit Amendment

Level*	Applicable Regulations	Comments:
Total Facility (TF)	40 CFR Section 52.21 & Minn. R. 7007.3000 (Title I Condition)	PSD: The facility cannot make any changes that would make them a major source under PSD without applying for and obtaining a major permit amendment.
	Minn. R. chs. 7002, 7007, 7009, 7011, 7019, 7030	Minnesota Rules: These requirements are standard Requirements contained in all permits.
	40 CFR pt. 50; Minn. R. 7009.0010-0080	National Ambient Air Quality Standards (NAAQS) and Minnesota Ambient Air Quality Standards (MAAQS): These requirements are standard requirements applicable to all facilities in Minnesota requiring all facilities to meet the NAAQS and MAAQS.

Level*	Applicable Regulations	Comments:
GP 001: Boilers	40 CFR pt. 60 subp. Dc & Minn. R. 7011.0570	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units: These units are subject to this subpart because they are steam generating units, constructed after June 9, 1989, with a design heat input capacity of 10-100 MMBtu/hr (the units were constructed in 2008 with a rated capacity of 46 MMBtu/hr each). Because the boilers only combust natural gas they are only subject to recordkeeping requirements under this subpart.
	40 CFR pt. 63 subp. DDDDD	NEHSAP Standards for Industrial, Commercial, and Institutional Boilers and Process Heaters: These units are subject to this subpart because they are boilers at a major source of HAPs. Because these boilers only combust natural gas they are only subject to work practice standards (and not emission or operating limits)
GP002: Direct Heating Equipment	Minn. R. 7011.0610	Standards of Performance for Direct Heating Equipment: The units in GP 002 are direct heating equipment for which a standard of performance has not been promulgated in a specific rule.
GP 003: Pre-1969 Industrial Process Equipment	Minn. R. 7011.0710	Standards of Performance for Pre-1969 Industrial Process Equipment: The units in GP 003 are units for which a standard of performance has not been promulgated in a specific rule, and which commenced operation prior to July 9, 1969.
GP 005: Post-1969 Industrial Process Equipment	Minn. R. 7011.0715	Standards of Performance for Post-1969 Industrial Process Equipment: The units in GP 003 are units for which standard of performance has not been promulgated in a specific rule, and which commenced operation after July 9, 1969.

Level*	Applicable Regulations	Comments:
GP 006: Subpart JJJJ NESHAP Units	40 CFR Pt. 63 subpart JJJJ and Minn. R. 7011.7385	NESHAP Standard for Paper and Other Web Coating: The facility is subject to this standard because it operates web coating lines at a major source of HAPs. The facility has chosen to comply by limiting HAP content of coatings to ≤ 4% by mass and by using the "no-control option". However, the permit allows the Permittee flexibility to change the compliance options as allowed by the standard (e.g., may comply using a control device in accordance with 40 CFR 63.3320(b)(4)).
GP 007: VOC PreCap	40 CFR Section 52.21 & Minn. R. 7007.3000 (Title I Condition)	PSD: Limit on VOC to avoid classification as a major source under the PSD program. Changes and additions to the VOC-emitting equipment at the facility are subject to the VOC limit and requirements of this group.

*Where the requirement appears in the permit (e.g., EU, SV, GP, etc.).

3. Technical Information

A. NESHAP Subpart JJJJ Applicability

According to EPA guidance, if a new web coating line is added to an existing source, as long as the Permittee does not trigger reconstruction as defined in 40 CFR Section 63.2, the additional line is considered an existing source under Subpart JJJJ. 40 CFR Section 63.3300 defines and affected source as the "collection of all web coating lines" at a facility. So, if a facility has at least one web coating line in existence as of the proposed rule date (September 12, 2000), any lines that are added are also classified as part of the existing affected source. Thus, the new coating line is subject to the requirements for existing affected sources to limit coating mass to less than 4% of the mass of coating applied.

B. Performance Testing Requirements

When the boilers were permitted in 2007, through permit action 003, an initial performance test was required for both boilers for CO and NOx emissions. The requirement to submit a test frequency plan was also added to the permit. As required by the permit, the Permittee conducted the performance tests and submitted the test frequency plan specifying a once per 60 month recurring test schedule.

However, there are no CO or NOx limits that apply to these units, so the results of these tests were evaluated as an emission rate verification. With the incorporation of requirements for 40 CFR pt. 63 supb. DDDDD, there will still be no limits for CO and NOx. Thus, the MPCA has determined that it is appropriate to not include a recurring performance test requirements for these boilers. If the Permittee made any changes (such as changing fuels) that would warrant further performance tests, the appropriate test would be required by Federal regulations.

If the Permittee wishes to use the performance test data to calculate emissions for the emission inventory as allowed under Minn. R. 7019.3050, the Permittee may not use this data for more than ten years without performing a new test as required by Minn. R. 7019.3050(D).

C. VOC PreCap Limit

With this permit action the VOC limit was modified so that it is now a precap limit. All additions, replacements, and changes to VOC-emitting equipment are covered under the VOC and emissions caps of GP 007. Therefore, such additions, replacements, and changes would not require a major amendment solely due to an emissions increase or for incorporating equipment under the VOC cap, but they would still need to be evaluated for the applicability of other amendments or requirements. Although changes are not specifically preauthorized, the precap language gives the Permittee the flexibility to make changes without automatically triggering a major amendment.

It is appropriate to keep the limit at 240 tpy. Although a limit of 240 tpy is higher than EPA's general guidance on setting limits to avoid NSR, there are factors that ensure that a 10 tpy buffer provides a reasonable assurance of compliance. These factors are 1) VOC emissions from insignificant activities are included in this limit; 2) The Permittee maintains daily records of VOC usage, and conservatively assumes that all material used is emitted.

D. Confidentiality Request

The Permittee requested that certain information be held confidential in their 2009 application for the laser cutter. The MPCA made a formal confidentiality determination on this information, and only this information, for this permit action. (the MPCA did not revisit past determination, this will be done during the Title V reissuance process). The MPCA made the determination that some information (manufacturer data) in the 2009 application qualifies as trade secret under Min. Stat. Section 13.37, and is not otherwise considered emission data under 40 CFR Section 2.301(a)(2)(i). The Permittee updated the potential emissions of the laser cutter based on the results of a particulate emissions engineering test completed in July 2012 to replace the confidential calculations submitted with the 2009 application. The updated information was not claimed as confidential information.

Calculations of Potential to Emit

Attachment 1 to this TSD contains spreadsheets prepared by the Permittee documenting the total facility PTE and the emission calculations supporting this permit action.

The PTE of the new coating line is based off of worst-case VOC and HAP content and maximum application rate of the coating. The calculations assume that all VOC (and HAP) used in the new coating line is emitted. However for the purposes of determining emissions from each emission unit, the emission are divided between the mix tanks, the coater, and the oven. The percentage of total emissions that is emitted from each type of equipment is an estimate based on process knowledge. This estimation is sufficient for permitting purposes because 1) the emissions from these units are tracked by

total coating usage, and not at the individual unit level; and 2) how the total emissions from the coating line are allocated among the units in the line does not affect the applicability of any rules or regulations. The oven also emits a small amount of additional combustion emissions from the combustion of natural gas.

The laser cutter emits particulate matter (PM, PM_{10}, and $PM_{2.5}$). The PTE of this unit has been updated from the estimate used when the Permittee first applied for the minor amendment in 2009. Since the application was submitted in 2009, 3M has conducted a PM engineering test on the unit. The PTE is now based on an emission factor determined from the engineering test conducted in July of 2012. The emission factor is in the units of lb PM/DSCFM. The emission factor is assumed to be representative of PM, PM_{10}, and $PM_{2.5}$ because the factor is based on both dry catch and Method 202 (condensable particulate matter) emission measurement results. The potential emission rate of the unit is determined by multiplying the emission factor by the maximum design flow rate of the unit and a safety factor of 2.

3.3 **Periodic Monitoring**

In accordance with the Clean Air Act, it is the responsibility of the owner or operator of a facility to have sufficient knowledge of the facility to certify that the facility is in compliance with all applicable requirements.

In evaluating the monitoring included in the permit, the MPCA considered the following:

- The likelihood of the facility violating the applicable requirements;
- Whether add-on controls are necessary to meet the emission limits;
- The variability of emissions over time;
- The type of monitoring, process, maintenance, or control equipment data already available for the emission unit;
- The technical and economic feasibility of possible periodic monitoring methods; and
- The kind of monitoring found on similar units elsewhere.

The table below summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

Table 7. Periodic Monitoring

Level*	Requirement (rule basis)	Additional Monitoring	Discussion
GP 001 (Boilers)	Fuel limited to natural gas only (Minn. R. 7005.0100, subp. 35a)	Recordkeeping: monthly fuel records	Because these units burn only natural gas, they are exempt from emission limits under 40 CFR pt. 63, subp. DDDDD and 40 CFR pt. 60 subp. Dc.

Level*	Requirement (rule basis)	Additional Monitoring	Discussion
GP 002 (Direct Heating Equipment)	PM ≤ 0.30 gr/dscf SO_2 ≤ 2.0 lb/MMBtu Opacity ≤ 20% (Minn. R. 7007.0610) Fuel limited to natural gas only (Minn. R. 7005.0100 subp. 35a)	Recordkeeping: monthly fuel records	All units use natural gas; therefore, the likelihood of violating either of the emission limits is very small. The Permittee can demonstrate that these units will continue to operate such that emissions are well below the emission limits by only burning natural gas. Since this is a permit condition, the semi-annual deviations report will document any deviations from this condition. Design based SO_2 PTE for each unit, using AP-42, is 0.0006 compared to the rule limit of 2.0 lb/MMBtu.
GP 003/005 (Pre-1969 and Post-1969 Industrial Process Equipment	PM ≤ 0.30 gr/dscf Opacity ≤ 20% (w/ exceptions for pre-1969 equipment) (Minn. R. 7011.0710/0715)	None	Many of the units in GPs 003 and 005 are not sources of particulate matter. For the units that do generate particulate matter.
GP 006	Organic HAP ≤ 4% coating materials applied (mass basis) (40 CFR pt. 63, subp. JJJJ)	None	Monitoring and recordkeeping associated with the NESHAP (monthly records of organic HAP content, records mass of coating applied, monthly calculations) is sufficient to ensure compliance.

Level*	Requirement (rule basis)	Additional Monitoring	Discussion
GP 007 (VOC PreCap)	VOC ≤ 240 tpy, 12-mo. rolling sum (Title I Condition 40 CFR Section 52.21 & Minn. R. 7007.3000)	Daily records of VOC-containing materials used, monthly fuel records, on-going records of material content, monthly emissions calculations	Credit can be taken for waste materials collected and shipped off-site (dispensed - waste = emissions). Since this is done at most monthly, calculating emissions more frequently than monthly would result in large spikes (while waste is accumulating) and dips (when waste is shipped) – resulting in possible paperwork violations and days with negative emissions. For these reasons, 12 month rolling limits are reasonable for this Facility.
CE 009 (Thermal Oxidizer)	Overall control efficiency ≥ 95% Temp ≥ 1400 °F (Minn. Stat. 116.07, subd. 4a; Minn. R. 7019.3020(G); Minn. R. 7019.3050)	Temperature records (3-hr rolling avg). inspections, corrective actions	The Permittee does not need this piece of control equipment to meet any applicable requirement, but if the Permittee is in compliance with the requirements of CE 009 may rely on the control device for calculations of actual emissions for its annual emissions inventory.

*Where the requirement appears in the permit (e.g., EU, SV, GP, etc.).

3.4 Insignificant Activities

3M Alexandria has several operations which are classified as insignificant activities under the MPCA's permitting rules. These are listed in Appendix I to the permit.

The permit is required to include periodic monitoring for all emissions units, including insignificant activities, per EPA guidance. The insignificant activities at this Facility are only subject to general applicable requirements. Using the criteria outlined earlier in this TSD, the following table documents the justification why no additional periodic monitoring is necessary for the current insignificant activities.

Table 8. Insignificant Activities

Insignificant Activity	General Applicable Emission limit	Discussion

Insignificant Activity	General Applicable Emission limit	Discussion
Fuel burning equipment: capacity less than 19,000 Btu/hr & combined capacity of this fuel burning equipment less than 420,000 Btu/hr (Minn. R. 7007.1300, subp. 2(A)(3))	PM $\leq$ 0.6 or 0.4 lb/MMBtu, depending on year constructed Opacity $\leq$ 20% with exceptions (Minn. R. 7011.0510/0515)	For the 880 Btu/hr natural gas burning unit that qualifies under this subpart, based on the fuels used and EPA published emissions factors, it is highly unlikely that it could violate the applicable requirement.
Emissions from a laboratory, as defined in Minn. R. 7007.1300, subp. 3(G)	PM, variable depending on airflow Opacity $\leq$ 20% (Minn. R. 7011.0710/0715)	These are very small, intermittent, bench-top operations that typically do not even have any emissions. It is highly unlikely that they could violate the applicable requirement.
Brazing, soldering or welding equipment (Minn. R. 7007.1300, subp. 3(H)(3))	PM, variable depending on airflow Opacity $\leq$ 20% (Minn. R. 7011.0710/715)	For these units, based on EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, these units are typically operated and vented inside a building, so testing for PM or opacity is not feasible.
Blueprint copiers and photographic processes (Minn. R. 7007.1300, subp. 3(H)(4))	Opacity $\leq$ 20% (Minn. R. 7011.0105 or 7011.0110))	While no known emissions estimation method exists for these units, based on general knowledge of how they operate, it is highly unlikely that they could generate visible emissions. In addition, these units would be operated and vented directly into an office area, so monitoring or testing is not feasible.
Individual units with potential emissions less than 2000 lb/year of certain pollutants (Minn. R. 7007.1300, subp. 3(I))	PM, variable depending on airflow Opacity $\leq$ 20% (with exceptions) (Minn. R. 7011.0715 and Minn. R. 7011.610) or $SO_2 \leq$ 0.5 lb/MMBtu Opacity $\leq$ 20% (Minn. R. 7011.2300)	These are a number of units that qualify under this subpart including natural gas combustion units and an emergency generator. For the natural gas units and emergency generator, based on the fuels used and EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. The non-combustion units that qualify under this subpart are not expected to generate significant amounts of particulate matter. In addition, many of these units are operated and vented inside a building, so testing for PM or opacity is not feasible.

Insignificant Activity	General Applicable Emission limit	Discussion
Fugitive Emissions from unpaved roads and parking lots (Minn. R. 7007.1300, subp. 3(J))	Requirement to take reasonable measures to prevent PM from becoming airborne (Minn. R. 7011.0150)	The draft/proposed permit does contain a general requirement that this standard must be met.
Equipment venting PM/PM_{10} inside a building, provided that emissions from the equipment are: a). filtered through an air cleaning system; and b). vented inside of the building 100% of the time (Minn. R. 7008.4110)	PM, variable depending on airflow Opacity $\leq$ 20% (Minn. R. 7011.0715)	For these units, it is highly unlikely that they could violate the applicable requirement. In addition, these units are vented inside a building, so testing for PM or opacity is not feasible.

3.5 Permit Organization

Because the list of units is GP 007 is so long, rather than have the units listed in the GP header, the units that are in the GP are listed in table A of the permit to save space and make the permit more reader-friendly.

In general, the permit meets the MPCA Delta Guidance for ordering and grouping of requirements. One area where this permit deviates slightly from Delta guidance is in the use of appendices. While appendices are fully enforceable parts of the permit, in general, any requirement that the MPCA thinks should be electronically tracked (e.g., limits, submittals, etc.), should be in Table A or B of the permit. The main reason is that the appendices are word processing sections and are not part of the electronic tracking system. Violation of the appendices can be enforced, but the computer system will not automatically generate the necessary enforcement notices or documents. Staff must generate these.

3.6 Comments Received

To be completed at the end of the public notice and EPA 45-day review periods.

Public Notice Period: <start date> - <end date>
EPA 45-day Review Period: <start date> - <end date>.

4. Permit Fee Assessment

Attachment 2 to this TSD contains the MPCA's assessment of Application and Additional Points used to determine the permit application for this permit action as required by Minn. R. 7002.0019. This permit

action includes two permit applications. One was received before the effective date of the fee rule (July 1, 2009) and one was received after the effective date of the rule.

The minor amendment application was received June 11, 2009, so only the additional fees apply to the changes requested by that application. The permit includes a confidentiality request under Minn. R. 7000.1300.

The major amendment added equipment that is subject to NESHAP subpart JJJJ. However, this standard already applied to the equipment onsite prior to the issuance of this permit and the requirements of the standard were already contained in the permit. Therefore, no additional fees apply under Minn. R. 7002.0019.

5. 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. 04100003-005 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Kelsey Suddard (permit writer/engineer)
Dave Crowell (enforcement)
Marc Severin (stack testing)
Amrill Okonkwo (peer reviewer)

AQ File No. 23M; DQ <>, <>

Attachments:
1. PTE Summary and Calculation Spreadsheets
2. Facility Description and CD-01 Forms
3. Points Calculator

Attachment 1

PTE Summary and Calculation Spreadsheets

3M Alexandria

PTE Summary from Pemit Action 004

	Uncontrolled TPY	Controlled/ Limited TPY
VOC	1629.68	240.00
PM	40.45	8.05
PM10	35.43	3.03
PM2.5	35.43	3.03
CO	19.36	19.36
SO2	23.58	23.58
NOx	75.93	75.93
HAP	1212.83	240.00

PTE Summary from units added through Permit Action 005

	New Coating Line	New Coating Line	New Laser Cutter
	Uncontrolled TPY	Limited TPY	Uncontrolled TPY
VOC	256.20	240	0
PM	0.32	0.32	6.31
PM10	0.32	0.32	6.31
PM2.5	0.32	0.32	6.31
CO	3.53	3.53	0
SO2	0.03	0.03	0
NOx	4.20	4.20	0
HAP	107.82	107.82	0
CO2e	4,920	4,920	0

Total Facility PTE for Permit Action 005

	Uncontrolled TPY	Controlled/ Limited TPY
VOC	1885.88	240
PM	47.08	14.68
PM10	42.06	9.66
PM2.5	42.06	9.66
CO	22.89	22.89
SO2	23.61	23.61
NOx	80.13	80.13
HAP	1320.65	240
CO2e	73,457	73,457

3M Alexandria Facility
Major Amendment Application
Potential To Emit (PTE)

Unit ID	Unit Name	Pollutant	Capacity		Emission Factor		Emission Factor Ref.	Uncontrolled PTE (lb/hr)	Uncontrolled PTE (tpy)	Pollution Control Efficiency (%)	Controlled PTE (tpy)
			Value	Units	Value	Units					
EU 064	Coating Line No. 3 Mix Tank, A	VOC	58.44	lb / hr	0.02	lb / lb	1	1.17	5.12	0%	5.12
EU 064	Coating Line No. 3 Mix Tank, A	Formaldehyde	0.73	lb / hr	0.02	lb / lb	1	0.01	0.06	0%	0.06
EU 064	Coating Line No. 3 Mix Tank, A	Phenol	5.51	lb / hr	0.02	lb / lb	1	0.11	0.48	0%	0.48
EU 064	Coating Line No. 3 Mix Tank, A	2-ethoxy-ethanol	1.20E-04	lb / hr	0.02	lb / lb	1	2.40E-06	1.05E-05	0%	1.05E-05
EU 064	Coating Line No. 3 Mix Tank, A	Total HAP	24.60	lb / hr	0.02	lb / lb	1	0.49	2.15	0%	2.15
EU 065	Coating Line No. 3 Mix Tank, B	VOC	58.44	lb / hr	0.02	lb / lb	1	1.17	5.12	0%	5.12
EU 065	Coating Line No. 3 Mix Tank, B	Formaldehyde	0.73	lb / hr	0.02	lb / lb	1	0.01	0.06	0%	0.06
EU 065	Coating Line No. 3 Mix Tank, B	Phenol	5.51	lb / hr	0.02	lb / lb	1	0.11	0.48	0%	0.48
EU 065	Coating Line No. 3 Mix Tank, B	2-ethoxy-ethanol	1.20E-04	lb / hr	0.02	lb / lb	1	2.40E-06	1.05E-05	0%	1.05E-05
EU 065	Coating Line No. 3 Mix Tank, B	Total HAP	24.60	lb / hr	0.02	lb / lb	1	0.49	2.15	0%	2.15
EU 066	Coating Line No. 3 Mix Tank, C	VOC	58.44	lb / hr	0.02	lb / lb	1	1.17	5.12	0%	5.12
EU 066	Coating Line No. 3 Mix Tank, C	Formaldehyde	0.73	lb / hr	0.02	lb / lb	1	0.01	0.06	0%	0.06
EU 066	Coating Line No. 3 Mix Tank, C	Phenol	5.51	lb / hr	0.02	lb / lb	1	0.11	0.48	0%	0.48
EU 066	Coating Line No. 3 Mix Tank, C	2-ethoxy-ethanol	1.20E-04	lb / hr	0.02	lb / lb	1	2.40E-06	1.05E-05	0%	1.05E-05
EU 066	Coating Line No. 3 Mix Tank, C	Total HAP	24.60	lb / hr	0.02	lb / lb	1	0.49	2.15	0%	2.15
EU 067	Coating Line No. 3 Mix Tank, D	VOC	58.44	lb / hr	0.02	lb / lb	1	1.17	5.12	0%	5.12
EU 067	Coating Line No. 3 Mix Tank, D	Formaldehyde	0.73	lb / hr	0.02	lb / lb	1	0.01	0.06	0%	0.06
EU 067	Coating Line No. 3 Mix Tank, D	Phenol	5.51	lb / hr	0.02	lb / lb	1	0.11	0.48	0%	0.48
EU 067	Coating Line No. 3 Mix Tank, D	2-ethoxy-ethanol	1.20E-04	lb / hr	0.02	lb / lb	1	2.40E-06	1.05E-05	0%	1.05E-05
EU 067	Coating Line No. 3 Mix Tank, D	Total HAP	24.60	lb / hr	0.02	lb / lb	1	0.49	2.15	0%	2.15
EU 068	Coating Line No. 3 Mix Tank, E	VOC	58.44	lb / hr	0.02	lb / lb	1	1.17	5.12	0%	5.12
EU 068	Coating Line No. 3 Mix Tank, E	Formaldehyde	0.73	lb / hr	0.02	lb / lb	1	0.01	0.06	0%	0.06
EU 068	Coating Line No. 3 Mix Tank, E	Phenol	5.51	lb / hr	0.02	lb / lb	1	0.11	0.48	0%	0.48
EU 068	Coating Line No. 3 Mix Tank, E	2-ethoxy-ethanol	1.20E-04	lb / hr	0.02	lb / lb	1	2.40E-06	1.05E-05	0%	1.05E-05
EU 068	Coating Line No. 3 Mix Tank, E	Total HAP	24.60	lb / hr	0.02	lb / lb	1	0.49	2.15	0%	2.15
EU 069	Coating Line No. 3 Coater	VOC	58.44	lb / hr	0.09	lb / lb	1	5.26	23.04	0%	23.04
EU 069	Coating Line No. 3 Coater	Formaldehyde	0.73	lb / hr	0.09	lb / lb	1	0.07	0.29	0%	0.29
EU 069	Coating Line No. 3 Coater	Phenol	5.51	lb / hr	0.09	lb / lb	1	0.50	2.17	0%	2.17
EU 069	Coating Line No. 3 Coater	2-ethoxy-ethanol	1.20E-04	lb / hr	0.09	lb / lb	1	1.08E-05	4.73E-05	0%	4.73E-05
EU 069	Coating Line No. 3 Coater	Total HAP	24.60	lb / hr	0.09	lb / lb	1	2.21	9.70	0%	9.70
EU 070	Coating Line No. 3 Oven	CO	9.60E-03	MMscf / hr	84	lb / MMscf	2	0.81	3.53	0%	3.53
EU 070	Coating Line No. 3 Oven	NOx	9.60E-03	MMscf / hr	100	lb / MMscf	2	0.96	4.20	0%	4.20
EU 070	Coating Line No. 3 Oven	PM10	9.60E-03	MMscf / hr	7.6	lb / MMscf	2	0.07	0.32	0%	0.32
EU 070	Coating Line No. 3 Oven	PM2.5	9.60E-03	MMscf / hr	7.6	lb / MMscf	2	0.07	0.32	0%	0.32
EU 070	Coating Line No. 3 Oven	PM	9.60E-03	MMscf / hr	7.6	lb / MMscf	2	0.07	0.32	0%	0.32
EU 070	Coating Line No. 3 Oven	SO2	9.60E-03	MMscf / hr	0.6	lb / MMscf	2	0.006	0.03	0%	0.03
EU 070	Coating Line No. 3 Oven	VOC (combustion)	9.60E-03	MMscf / hr	5.5	lb / MMscf	2	0.05	0.23	0%	0.23
EU 070	Coating Line No. 3 Oven	Lead	9.60E-03	MMscf / hr	5.0E-04	lb / MMscf	2	4.80E-06	2.10E-05	0%	2.10E-05
EU 070	Coating Line No. 3 Oven	Benzene	9.60E-03	MMscf / hr	2.1E-03	lb / MMscf	2	2.02E-05	8.83E-05	0%	8.83E-05
EU 070	Coating Line No. 3 Oven	Dichlorobenzene	9.60E-03	MMscf / hr	1.2E-03	lb / MMscf	2	1.15E-05	5.05E-05	0%	5.05E-05
EU 070	Coating Line No. 3 Oven	Hexane	9.60E-03	MMscf / hr	1.8	lb / MMscf	2	0.02	0.08	0%	0.08
EU 070	Coating Line No. 3 Oven	Cobalt	9.60E-03	MMscf / hr	8.4E-05	lb / MMscf	2	8.06E-07	3.53E-06	0%	3.53E-06
EU 070	Coating Line No. 3 Oven	Total HAP (combustion)	0.02	lb / hr	1	lb / lb	2	0.02	0.08	0%	0.08
EU 070	Coating Line No. 3 Oven	VOC	58.44	lb / hr	0.81	lb / lb	1	47.34	207.33	0%	207.33
EU 070	Coating Line No. 3 Oven	Formaldehyde	0.73	lb / hr	0.81	lb / lb	1	0.59	2.61	0%	2.61
EU 070	Coating Line No. 3 Oven	Phenol	5.51	lb / hr	0.81	lb / lb	1	4.46	19.54	0%	19.54
EU 070	Coating Line No. 3 Oven	2-ethoxy-ethanol	1.20E-04	lb / hr	0.81	lb / lb	1	9.72E-05	4.26E-04	0%	4.26E-04
EU 070	Coating Line No. 3 Oven	Total HAP	24.60	lb / hr	0.81	lb / lb	1	19.93	87.28	0%	87.28

Total Uncontrolled PTE (tpy)

VOC	256.20
PM	0.32
PM10	0.32
PM2.5	0.32
CO	3.53
SO2	0.03
NOx	4.20
HAP	107.82
Pb	2.10E-05

References:

1. Emission factors are based on an engineering estimate based on process knowledge. It is conservatively assumed that all material used is emitted. The significant emission sources include the coating preparation equipment (i.e., the five mix tanks), the coating application and flashoff area (i.e., the coating line), and the drying oven (i.e., the coating line oven). Of the total uncontrolled emissions from the mixing area and coating operation, approximately 10 percent is emitted from the mixing area and 90 percent is emitted from the coating operation. Within the coating operation, approximately 10 percent occurs in the application / flashoff area, and 90 percent in the drying oven. Therefore, the emission factors are as follows:
Mix Tanks: 10 % / 5 Tanks = 2 % = 0.02 lb / lb
Coating Line: 90 % x 10 % = 9 % = 0.09 lb / lb
Coating Line Oven: 90 % x 90 % = 81 % = 0.81 lb / lb
HAP and VOC concentrations in the coatings are based on actual worst-case weight percentages.

2. Emission factor: AP-42 Section 1.4, Natural Gas Combustion (07/98).
Heat content of natural gas: 1000 MMBtu / MMCF
Maximum heat input: 9.6 MMBtu / hr

3M Alexandria Facility
Major Amendment Application
Potential To Emit Calculations Greenhouse Gas Emissions

				CO_2				CH_4				N_2O				CO_2e
EU ID	Emission Unit Description	Fuel Type	Capacity (MMBtu/hr)	Emission Factor (lb/MMBtu)[1]	Emissions (tpy)	Warming Potential (CO_2e/CO_2)[2]	Emissions as CO_2e (tpy)	Emission Factor (lb/MMBtu)[3]	Emissions (tpy)	Warming Potential (CO_2e/CO_2)[2]	Emissions as CO_2e (tpy)	Emission Factor (lb/MMBtu)[3]	Emissions (tpy)	Warming Potential (CO_2e/CO_2)[2]	Emissions as CO_2e (tpy)	Total Emissions (tpy)
008	Wide Maker Oven	Natural Gas	6.60	116.9	3,379	1	3,379	2.2E-03	6.4E-02	21	1.34	2.2E-04	6.4E-03	310	1.98	3,382
022	Cloth Coater Over	Natural Gas	7.50	116.9	3,840	1	3,840	2.2E-03	7.2E-02	21	1.52	2.2E-04	7.2E-03	310	2.25	3,844
029	Coater Cure Oven 2	Natural Gas	1	116.9	512	1	512	2.2E-03	9.7E-03	21	0.20	2.2E-04	9.7E-04	310	0.30	512
044	Sierra 1 Make Oven	Natural Gas	0.75	116.9	384	1	384	2.2E-03	7.2E-03	21	0.15	2.2E-04	7.2E-04	310	0.22	384
045	Sierra 1 Size Oven	Natural Gas	0.75	116.9	384	1	384	2.2E-03	7.2E-03	21	0.15	2.2E-04	7.2E-04	310	0.22	384
051	Sierra 1 Inline SizeCure Oven	Natural Gas	1.28	116.9	653	1	653	2.2E-03	1.2E-02	21	0.26	2.2E-04	1.2E-03	310	0.38	653
056	Boiler #5	Natural Gas	46	116.9	23,551	1	23,551	2.2E-03	4.4E-01	21	9.33	2.2E-04	4.4E-02	310	13.77	23,574
057	Boiler #6	Natural Gas	46	116.9	23,551	1	23,551	2.2E-03	4.4E-01	21	9.33	2.2E-04	4.4E-02	310	13.77	23,574
062	M9 Coater RTO	Natural Gas	18	116.9	9,216	1	9,216	2.2E-03	1.7E-01	21	3.65	2.2E-04	1.7E-02	310	5.39	9,225
NA	Roll Cure Oven	Natural Gas	4.6	116.9	2,355	1	2,355	2.2E-03	4.4E-02	21	0.93	2.2E-04	4.4E-03	310	1.38	2,357
NA	Space Heater	Natural Gas	0.5	116.9	256	1	256	2.2E-03	4.8E-03	21	0.10	2.2E-04	4.8E-04	310	0.15	256
NA	Red Label Emergency	Natural Gas	0.05	116.9	26	1	26	2.2E-03	4.9E-04	21	0.01	2.2E-04	4.9E-05	310	0.02	26
NA	M9 Emergency	Natural Gas	0.51	116.9	260	1	260	2.2E-03	4.9E-03	21	0.10	2.2E-04	4.9E-04	310	0.15	261
NA	Fire Pump Engine	Natural Gas	0.20	116.9	104	1	104	2.2E-03	2.0E-03	21	0.04	2.2E-04	2.0E-04	310	0.06	104
Proposed Units																
070	Coating Line No. 3 Oven	Natural Gas	9.60	116.9	4,915	1	4,915	2.2E-03	9.3E-02	21	1.95	2.2E-04	9.3E-03	310	2.87	4,920
Total							**73,385**				**29**				**43**	**73,457**

[1] Emission factor from Table C-1 to Subpart C of 40 CFR Part 98

[2] Global Warming Potential from Table A-1 to Subpart A of 40 CFR Part 98

[3] Emission factor from Table C-2 to Subpart C of 40 CFR Part 98

3M - Alexandria
Wide Maker Mixers and ACT3 Mixers Stack (SV001)
Form CH-13 Supplement

Allowable total particulate emissions under Minnesota state process equipment rule
Allowable Emissions

			Notes:
Process Weight	58.44	lbs/hr, total	
	100	% solids (total less water)	See Note 1 below
	58.44	lbs/hr, dry weight	
	0.03	tons/hr, dry weight	
Airflow:	11,250	acfm	
	72	F	Stack temp
	0	% moisture	Stack moisture
	11,165	scfm	
	11,165	dscfm	

Valid for process weights up to 30 tons/hr

Calculate Allowable Emissions:		
By Process Weight	0.40	lbs/hr
Table	0.004	gr/dscf
By Airflow Table	0.086	gr/dscf
	8.23	lbs/hr

Calculated MAX Allowable Emission Rate:

8.23 lbs/hr
36.0 tons/year @ 8760 hrs

NOTE: 1) Process has 0% solids. This calculation is worst case. The proposed mix tanks do not emit particulate matter.

Calculated MAX Allowable Emission Rate Per Emission Unit:

0.82 lbs/hr
3.6 tons/year @ 8760 hrs

3M - Alexandria
Proposed ACT3 Coater Stack (SV 045)
Form CH-13 Supplement

Allowable total particulate emissions under Minnesota state process equipment rule
Allowable Emissions

			Notes:
Process Weight	58.44	lbs/hr, total	
	100	% solids (total less water)	See Note 1 below
	58.44	lbs/hr, dry weight	
	0.03	tons/hr, dry weight	
Airflow:	8,000	acfm	
	125	F	Stack temp
	0	% moisture	Stack moisture
	7,221	scfm	
	7,221	dscfm	

Valid for process weights up to 30 tons/hr

Calculate Allowable Emissions:

By Process Weight	0.40	lbs/hr
Table	0.006	gr/dscf
By Airflow Table	0.099	gr/dscf
	6.13	lbs/hr

Calculated MAX Allowable Emission Rate:

6.13 lbs/hr

26.8 tons/year @ 8760 hrs

NOTE: 1) Process has 0% solids. This calculation is worst case. The proposed cloth treater does not emit particulate matter.

3M - Alexandria
Proposed ACT3 Oven Stacks (SV 046 & SV 047)
Form CH-13 Supplement

Allowable total particulate emissions under Minnesota state process equipment rule
Allowable Emissions

			Notes:
Process Weight	58.44	lbs/hr, total	
	100	% solids (total less water)	See Note 1 below
	58.44	lbs/hr, dry weight	
	0.03	tons/hr, dry weight	
Airflow:	11,061	acfm	
	350	F	Stack temp
	0	% moisture	Stack moisture
	7,210	scfm	
	7,210	dscfm	

Valid for process weights up to 30 tons/hr

Calculate Allowable Emissions:

By Process Weight	0.40	lbs/hr
Table	0.006	gr/dscf
By Airflow Table	0.099	gr/dscf
	6.12	lbs/hr

Calculated MAX Allowable Emission Rate:

6.12 lbs/hr
26.8 tons/year @ 8760 hrs

NOTE: 1) Process has 0% solids. This calculation is worst case. The proposed oven only emits particulate from combustion emissions.

Calculated MAX Allowable Emision Rate for both stacks combined:

12.24 lbs/hr
53.6 tons/year @ 8760 hrs

MINNESOTA POLLUTION CONTROL AGENCY
AIR QUALITY DIVISION
520 LAFAYETTE ROAD
ST. PAUL, MN 55155-4194

PERMIT APPLICATION FORM **EC-02**
EXTERNAL COMBUSTION (BOILER)
CALCULATION FORM
10/27/2003

1) AQD Facility ID No.: **04100003**
2) Facility Name: **3M - Alexandria**
3) Emission Unit Identification No.: **EU 070**
4) Stack/Vent Designation No.: **SV 046 and 047**
5) Maximum Rated Boiler Capacity: **9.6 MMBtu/hr**
6) Control Equipment: **None**

7) Fuel Parameters

7a) Fuel Type	**7b)** % Sulfur **(gr/100scf)**	**7c)** % Ash	**7d)** Heat Value	Units	**7e)** Maximum Fuel Consumption Rate	Units	Maximum Fuel Consumption Rate	Units
Natural Gas	0.2	negligible	1,000	Btu/scf	9,600	cf/hr	84.1	MMscf/yr

Natural gas heat value AP-42 Section 1.4.1 (July 1998) sulfur AP-42 Section 1.4 Table 1.4-2 (July 1998)

Calculations - Fuel : **Natural Gas**

Pollutant	Emission Factor[1] ($lb/10^6$ scf)	Emission Factor (lb/MMBtu)	Emission Rate (lbs/hr)	Maximum Uncontrolled Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Maximum Controlled Emissions (tons/yr)	Limited Controlled Emissions (tons/yr)
PM	7.60	7.6E-03	0.07	0.32	0.0%	0.07	0.32	0.32
PM_{10}	7.60	7.6E-03	0.07	0.32	0.0%	0.07	0.32	0.32
$PM_{2.5}$	7.60	7.6E-03	0.07	0.32	0.0%	0.07	0.32	0.32
NO_x	100	1.0E-01	0.96	4.20	0.0%	0.96	4.20	4.20
SO_2	0.60	6.0E-04	0.006	0.03	0.0%	0.006	0.03	0.03
CO	84	8.4E-02	0.81	3.53	0.0%	0.81	3.53	3.53
VOC	5.50	5.5E-03	0.05	0.23	0.0%	0.05	0.23	0.23
Lead	0.0005	5.0E-07	4.80E-06	2.10E-05	0.0%	4.80E-06	2.10E-05	2.10E-05
H_2SO_4	---	---	---	---	---	---	---	---
Fluorides	---	---	---	---	---	---	---	---

[1] EF from AP-42 Section 1.4 "Natural Gas Combustion", Table 1.4-1 (NO_x, CO) < 100 MMBtu/hr Natural gas fired boilers (uncontrolled), Table 1.4-2 (PM, PM_{10}, SO_2, VOC, Lead) (July 1998). $PM_{2.5}$ is conservatively assumed to equal PM_{10}.

* SO_2 EF = 0.6 ($lb/10^6$ scf)* Sulfur ($gr/10^6$ scf) / 2,000 ($gr/10^6$ scf)

EF (lb/MMBtu) = EF ($lb/10^6$ scf) / H ($MMBtu/10^6$ scf)

ER (lb/hr) = EF (lb/MMBtu) * C (MMBtu/hr)

ER (ton/yr) = ER (lb/hr) * 8,760 (hr/yr) / 2,000 (lb/ton) = ER (lb/hr) * 4.38

Worse-Case Potential-to-Emit Summary:

Pollutant	**Uncontrolled Emission Rate (lb/hr)**	**Maximum Uncontrolled Emissions (ton/yr)**	**Limited Controlled Emissions (tons/yr)**
PM	0.07	0.32	0.32
PM_{10}	0.07	0.32	0.32
$PM_{2.5}$	0.07	0.32	0.32
NO_x	0.96	4.20	4.20
SO_2	0.006	0.03	0.03
CO	0.81	3.53	3.53
VOC	0.05	0.23	0.23
Lead	4.80E-06	2.10E-05	2.10E-05
H_2SO_4	---	---	---
Fluorides	---	---	---

MINNESOTA POLLUTION CONTROL AGENCY
AIR QUALITY DIVISION
520 LAFAYETTE ROAD
ST. PAUL, MN 55155-4194

#N/A

PERMIT APPLICATION FORM **EC-13C**
HAZARDOUS AIR POLLUTANTS
CALCULATION FORM (FUEL COMBUSTION)
5/27/1998

1) AQD Facility ID No.: **04100003**
2) Facility Name: **3M - Alexandria**
3) Emission Unit Identification No.: **EU 070**
4) Stack/Vent Designation No.: **SV 046 and 047**
5) Maximum Rated Boiler Capacity: **9.6 MMBtu/hr**
6) Control Equipment: **NA**
7) Fuel Parameters

Fuel Type	% Sulfur	% Ash	Heat Value	Units	Maximum Fuel Consumption Rate	Units	Limited Fuel Consumption Rate	Units
Natural Gas	0.2	Neg.	1,000	Btu/scf	84.1	10^6 scf/yr	84.1	10^6 scf/yr

Primary Fuel : Natural Gas

HAP Name (CAS)	Uncontrolled Emission Factor[1] (lbs/10^6 scf)	Emission Rate (lbs/hr)	Maximum Uncontrolled Emissions (tons/yr)	Pollution Control Efficiency (%)	Controlled Emission Factor (lbs/10^6 scf)	Maximum Controlled Emissions (tons/yr)	Limited Controlled Emissions (tons/yr)
Arsenic [7440-38-2]	2.00E-04	1.92E-06	8.41E-06	0.00%	NA	8.41E-06	8.41E-06
Benzene [71-43-2]	2.10E-03	2.02E-05	8.83E-05	0.00%	NA	8.83E-05	8.83E-05
Beryllium [7440-41-7]	1.20E-05	1.15E-07	5.05E-07	0.00%	NA	5.05E-07	5.05E-07
Cadmium [7440-43-9]	1.10E-03	1.06E-05	4.63E-05	0.00%	NA	4.63E-05	4.63E-05
Chromium [7440-47-3]	1.40E-03	1.34E-05	5.89E-05	0.00%	NA	5.89E-05	5.89E-05
Cobalt [7440-48-4]	8.40E-05	8.06E-07	3.53E-06	0.00%	NA	3.53E-06	3.53E-06
Dichlorobenzene [25321-22-6]	1.20E-03	1.15E-05	5.05E-05	0.00%	NA	5.05E-05	5.05E-05
Ethyl Benzene [100-41-4]	---	---	---	---	---	---	---
Formaldehyde [50-00-0]	7.50E-02	7.20E-04	3.15E-03	0.00%	NA	3.15E-03	3.15E-03
Hexane [110-54-3]	1.80E+00	1.73E-02	7.57E-02	0.00%	NA	7.57E-02	7.57E-02
Manganese [7439-96-5]	3.80E-04	3.65E-06	1.60E-05	0.00%	NA	1.60E-05	1.60E-05
Mercury [7439-97-6]	2.60E-04	2.50E-06	1.09E-05	0.00%	NA	1.09E-05	1.09E-05
Naphthalene [91-20-3]	6.10E-04	5.86E-06	2.56E-05	0.00%	NA	2.56E-05	2.56E-05
Nickel [7440-02-0]	2.10E-03	2.02E-05	8.83E-05	0.00%	NA	8.83E-05	8.83E-05
POM[2]	6.98E-04	6.70E-06	2.94E-05	0.00%	NA	2.94E-05	2.94E-05
Selenium [7782-49-2]	2.40E-05	2.30E-07	1.01E-06	0.00%	NA	1.01E-06	1.01E-06
Toluene [108-88-3]	3.40E-03	3.26E-05	1.43E-04	0.00%	NA	1.43E-04	1.43E-04
o-Xylene [95-47-6]	---	---	---	---	---	---	---
Totals		**0.02**	**0.08**			**0.08**	**0.08**

[1] Emission factors from AP-42, Section 1.4.1 (07/98)

[2] Total POM emission factor is equal to the sum of the individual POM compounds, includes Naphthalene, as for fuel oil below.

MINNESOTA POLLUTION CONTROL AGENCY
AIR QUALITY DIVISION
520 LAFAYETTE ROAD
ST. PAUL, MN 55155-4194

#N/A

PERMIT APPLICATION FORM **EC-13C**
HAZARDOUS AIR POLLUTANTS
CALCULATION FORM (FUEL COMBUSTION)
5/27/1998

1) AQD Facility ID No.: **04100003**
2) Facility Name: **3M - Alexandria**
3) Emission Unit Identification No.: **EU 070**
4) Stack/Vent Designation No.: **SV 046 and 047**
5) Maximum Rated Boiler Capacity: **9.6** **MMBtu/hr**
6) Control Equipment: **NA**
7) Fuel Parameters

Worse-Case Potential-to-Emit Summary:			
	Uncontrolled Emission Rate (lb/hr)	**Maximum Uncontrolled Emissions (ton/yr)**	**Limited Controlled Emissions (tons/yr)**
Arsenic [7440-38-2]	1.92E-06	8.41E-06	8.41E-06
Benzene [71-43-2]	2.02E-05	8.83E-05	8.83E-05
Beryllium [7440-41-7]	1.15E-07	5.05E-07	5.05E-07
Cadmium [7440-43-9]	1.06E-05	4.63E-05	4.63E-05
Chromium [7440-47-3]	1.34E-05	5.89E-05	5.89E-05
Cobalt [7440-48-4]	8.06E-07	3.53E-06	3.53E-06
Dichlorobenzene [25321-22-6]	1.15E-05	5.05E-05	5.05E-05
Ethyl Benzene [100-41-4]	---	---	---
Formaldehyde [50-00-0]	7.20E-04	3.15E-03	3.15E-03
Hexane [110-54-3]	1.73E-02	7.57E-02	7.57E-02
Manganese [7439-96-5]	3.65E-06	1.60E-05	1.60E-05
Mercury [7439-97-6]	2.50E-06	1.09E-05	1.09E-05
Naphthalene [91-20-3]	5.86E-06	2.56E-05	2.56E-05
Nickel [7440-02-0]	2.02E-05	8.83E-05	8.83E-05
POM	6.70E-06	2.94E-05	2.94E-05
Selenium [7782-49-2]	2.30E-07	1.01E-06	1.01E-06
Toluene [108-88-3]	3.26E-05	1.43E-04	1.43E-04
o-Xylene [95-47-6]	---	---	---
Totals	**0.02**	**0.08**	**0.08**

3M Alexandria
Laser Cutter Project

Laser Cutter Test Results (July 24, 2012)

Parameter	Run 1	Run 2	Average	
Date	7/24/2012	7/24/2012		
Time	0850-0950	0850-0950		
Volumetric Flow Rate				
ACFM	1500	1530	1520	
DSCFM	1370	1390	1380	
Particulate Mass Rate (lb/hr)				
Dry Catch	0.35	0.56	0.45	
Dry Catch + Organic Wet Catch	0.36	0.57	0.47	
Dry Catch + M-202 (PM-10 eq)	0.41	0.68	0.55	
EU 063 Proposed Potential Emission Rate (lb/hr)				
Stack Temperature (F)	91.1			
ACFM	1885			
DSCFM	1806			
Particulate Mass Rate (lb/hr)				
Dry Catch	1.18			
Dry Catch + Organic Wet Catch	1.23			
Dry Catch + M-202 (PM-10 eq)	**1.44**		Tpy =	**6.31**

Emission Calculations
0.55 lbs PM/hr x 1806 Design DSCFM / 1380 Test DSCFM * safety factor of 2 = 1.44 lbs PM/hr

Allowable Particulate Mass Rate lb/hr	1.55
Allowable Particulate Concentration Gr/DSCF	0.1

Attachment 2

CD-01 Forms

MINNESOTA POLLUTION CONTROL AGENCY
AIR QUALITY
520 LAFAYETTE ROAD
ST. PAUL, MN 55155-4194

COMPLIANCE PLAN CD-01

Facility Name: 3M - Alexandria

Permit Number: 04100003 - 005

Subject Item: **Total Facility**

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	SOURCE-SPECIFIC REQUIREMENTS
2.0		CD	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000	This permit establishes limits on the facility to keep it a minor source under New Source Review, this includes changes that might otherwise qualify as insignificant modifications and minor or moderate amendments for future modifications. The Permittee cannot make any change at the source area that would make the source a major source under New Source Review until a major permit amendment has been issued.
3.0		CD	hdr	OPERATIONAL REQUIREMENTS
4.0		CD	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080.	The Permittee shall comply 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. Compliance shall be demonstrated upon written request by the MPCA.
5.0		CD	Minn. R. 7011.0020	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.
6.0		CD	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)	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.
7.0		CD	Minn. R. 7007.0800, subp. 14 and 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.
8.0		CD	Minn. R. 7019.1000, subp. 4	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.
9.0		CD	Minn. R. 7011.0150	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.
10.0		CD	Minn. R. 7030.0010 - 7030.0080	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.
11.0		CD	Minn. R. 7007.0800, subp. 9(A)	Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).
12.0		CD	Minn. R. 7007.0800, subp. 16	The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.
13.0		CD	hdr	PERFORMANCE TESTING
14.0		CD	Minn. R. ch. 7017	Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.

COMPLIANCE PLAN CD-01

Facility Name: 3M - Alexandria

Permit Number: 04100003 - 005

15.0		CD	Minn. Rs. 7017.2030, subp. 1-4, 7017.2018 and Minn. R. 7017.2035, subp. 1-2	Performance Test Notifications and Submittals: Performance Tests are due as outlined in Tables A and B of the permit. See Table B for additional testing requirements. Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy: due 105 days after each Performance Test The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.
16.0		CD	Minn. R. 7017.2025, subp. 3	Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as stated in the MPCA's Notice of Compliance letter granting preliminary approval. Preliminary approval is based on formal review of a subsequent performance test on the same unit as specified by Minn. R. 7017.2025, subp. 3. The limit is final upon issuance of a permit amendment incorporating the change.
17.0		CD	hdr	MONITORING REQUIREMENTS
18.0		CD	Minn. R. 7007.0800, subp. 4(D)	Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).
19.0		CD	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.
20.0		CD	hdr	RECORDKEEPING
21.0		CD	Minn. R. 7007.0800, subp. 5(C)	Recordkeeping: 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).
22.0		CD	Minn. R. 7007.0800, subp. 5(B)	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.
23.0		CD	Minn. R. 7007.1200, subp. 4	If the Permittee determines that no permit amendment or notification is required prior to making a change, the Permittee must retain records of all calculations required under Minn. R. 7007.1200. For expiring permits, these records shall be kept for a period of five years from the date the change was made or until permit reissuance, whichever is longer. The records shall be kept at the stationary source for the current calendar year of operation and may be kept at the stationary source or office of the stationary source for all other years. The records may be maintained in either electronic or paper format.
24.0		CD	hdr	REPORTING/SUBMITTALS
25.0		CD	Minn. R. 7019.1000, subp. 3	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.

COMPLIANCE PLAN CD-01

Facility Name: 3M - Alexandria

Permit Number: 04100003 - 005

26.0		CD	Minn. R. 7019.1000, subp. 2	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.
27.0		CD	Minn. R. 7019.1000, subp. 1	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.
28.0		CD	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.
29.0		S/A	Minn. R. 7007.0800, subp. 6(A)(2)	Semiannual Deviations Report: due 30 days after end of each calendar half-year starting 11/15/2007 . 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 by July 30th. The second report of each calendar year covers July 1 - December 31 by January 30th. If no deviations have occurred, the Permittee shall submit the report stating no deviations.
30.0		CD	Minn. R. 7007.1150 through Minn. R. 7007.1500	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.
31.0		S/A	Minn. R. 7007.0400, subp. 2	Application for Permit Reissuance: due 180 days before expiration of Existing Permit
32.0		CD	Minn. R. 7007.1400, subp. 1(H)	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).
33.0		S/A	Minn. R. 7007.0800, subp. 6(C)	Compliance Certification: due 31 days after end of each calendar year starting 11/15/2007 (January 30th, for the previous calendar year). The Permittee shall submit this 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.
34.0		CD	Minn. R. 7019.3000 through Minn. R. 7019.3100	Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance. The Permittee shall submit this on a form approved by the Commissioner.
35.0		CD	Minn. R. 7002.0005 through Minn. R. 7002.0095	Emission Fees: due 60 days after receipt of an MPCA bill.
36.0		CD	40 CFR pt. 68	The Permittee must submit a Risk Management Plan (RMP) under 40 CFR pt. 68. Each owner or operator of a stationary source, at which a regulated substance is present above a threshold quantity in a process, shall design and implement an accidental release prevention program. An initial RMP must be submitted no later than the latest of the following dates: 1) June 21, 1999; 2) Three years after the date on which a regulated substance is first listed under 40 CFR Section 68.130; or 3) The date on which a regulated substance is first present above a threshold quantity in a process. A full update and resubmission of the RMP is required at least once every five years. The five-year anniversary date is reset whenever your facility fully updates and resubmits their RMP. Submit RMPs to the Risk Management Plan Reporting Center, P.O. Box 1515, Lanham-Seabrook, Maryland 20703-1515. RMP information may be obtained at http://www.epa.gov/swercepp or by calling 1-800-424-9346.

COMPLIANCE PLAN CD-01

Facility Name: 3M - Alexandria

Permit Number: 04100003 - 005

Subject Item: **GP 001 Boilers**

Associated Items: EU 056 #5 Boiler

EU 057 #6 Boiler

	NC/ CA	Type	Citation	Requirement
1.0		CD	40 CFR Part 63, Subpart DDDDD	Comply with 40 CFR Part 63, Subpart DDDDD, National Emissions Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, as promulgated and amended.
2.0		CD	hdr	LIMITS
3.0		CD	Minn. R. 7005.0100, subp. 35a	Allowable fuels: natural gas only.
4.0		CD	hdr	MONITORING AND RECORDKEEPING
5.0		CD	40 CFR Section 60.48c(g); Minn. R. 7011.0570	Recordkeeping: By the last day of each calendar month, the Permittee shall record the amount of natural gas combusted in the boilers during the previous calendar month. These records shall consist of purchase records, receipts, or fuel meter readings.
6.0		CD	hdr	REPORTS AND NOTIFICATIONS (See Table B)
7.0		CD	Minn. R. 7007.0800, subp. 2	Submittals and notifications under subpart DDDDD shall be sent to both the MPCA and EPA contacts listed on Page B-1 of this permit, unless otherwise noted.
8.0		S/A	40 CFR Section 63.7545(b); 40 CFR Section 63.9(b)	Notification: due 120 days after Permit Issuance. The Permittee shall submit an initial notification containing the information required by 40 CFR Section 63.9(b)(2).
9.0		S/A	40 CFR Section 63.7550	Compliance Status Report: due 30 days after end of each calendar half-year starting 03/21/2014 The first report must cover the period beginning on the compliance date and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days after the compliance date. As of permit issuance, the due date of the first report is January 1, 2015. The report shall contain: - the information required in 40 CFR Section 63.7550(c); - if there are no deviations from any applicable emission limit, operating limit, or work practice standards during the reporting period, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. - for each deviation from an emission limit or operating limit (including work practice requirements), the information required in 40 CFR Section 63.7550(d)

COMPLIANCE PLAN CD-01

Facility Name: 3M - Alexandria

Permit Number: 04100003 - 005

Subject Item: **GP 002 Direct Heating Equipment**

Associated Items: EU 008 Wide Maker Oven

EU 022 Cloth Coater Treater Oven

EU 029 Coater Cure Oven 2

EU 044 Sierra 1 Make Oven

EU 045 Sierra 1 Size Oven

EU 053 Backrack Oven

EU 055 Mainline Oven

EU 062 M9 Coater Reactive Thermal Oxidizer

EU 070 Coating Line No. 3 Oven

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	LIMITS (Limits apply individually to each unit). See GP 007 for additional requirements associated with these units.
2.0		LIMIT	Minn. R. 7011.0610, subp. 1(A)(1)	Total Particulate Matter: less than or equal to 0.30 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735.
3.0		LIMIT	Minn. R. 7011.0610, subp. 2(A)(2)	Sulfur Dioxide: less than or equal to 2.0 lbs/million Btu heat input . The potential to emit from the unit is 0.0006 lb/MMBtu due to equipment design and allowable fuels.
4.0		LIMIT	Minn. R. 7011.0610, subp. 1(A)(2)	Opacity: less than or equal to 20.0 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.
5.0		CD	Minn. R. 7005.0100, subp. 35a	The Permittee shall burn only natural gas in the Group 002 emission units.

COMPLIANCE PLAN CD-01

Facility Name: 3M - Alexandria

Permit Number: 04100003 - 005

Subject Item: **GP 003 Pre-1969 Industrial Process Equipment**

Associated Items: EU 013 Medium Belt Making

EU 014 Wide Belt Making

EU 016 Mix Tank D, 1092

EU 017 Mix Tank C, 1093

EU 018 Mix Tank B, 1904

EU 019 Mix Tank A, 1095

EU 020 Mix Tank E

EU 021 Cloth Coater Treater

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	LIMITS (Limits apply individually to each emission unit)
2.0		LIMIT	Minn. R. 7011.0710, subp. 1(A)	Total Particulate Matter: less than or equal to 0.30 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735.
3.0		LIMIT	Minn. R. 7011.0710, subp. 1(B)	Opacity: less than or equal to 20.0 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.
4.0		CD	Minn. R. 7007.0800, subp. 2	The Permittee shall properly maintain the process equipment so as to prevent excessive amounts of particulate matter from being emitted from the emission units listed above under Associated Items.

COMPLIANCE PLAN CD-01

Facility Name: 3M - Alexandria

Permit Number: 04100003 - 005

Subject Item: **GP 005 Post-1969 Industrial Process Equipment**

Associated Items: EU 001 Large Mixer A
EU 002 Large Mixer B
EU 003 Large Mixer C
EU 004 Large Mixer D
EU 005 Large Mixer E
EU 006 Coater Room
EU 007 Counter Coater
EU 012 Belt Adhesive Mix Room
EU 015 Butt Splice Coater
EU 034 Prism Beltmaking Line
EU 041 Sierra Maker Coater
EU 042 Mixstation
EU 043 Sierra 1 Size Coater
EU 051 Sierra 1 in-line size cure oven
EU 052 Make Coater
EU 054 Size Coater
EU 058 200 Gallon Mix Tank
EU 059 200 Gallon Mix Tank
EU 060 200 Gallon Mix Tank
EU 061 200 Gallon Mix Tank
EU 063 Laser Cutter
EU 064 Coating Line No. 3 Mix Tank A
EU 065 Coating Line No. 3 Mix Tank B
EU 066 Coating Line No. 3 Mix Tank C
EU 067 Coating Line No. 3 Mix Tank D
EU 068 Coating Line No. 3 Mix Tank E
EU 069 Coating Line No. 3 Coater

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	LIMITS (Limits apply individually to each emission unit)
2.0		LIMIT	Minn. R. 7011.0715, subp. 1(A)	Total Particulate Matter: less than or equal to 0.30 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735.
3.0		LIMIT	Minn. R. 7011.0715, subp. 1(B)	Opacity: less than or equal to 20.0 percent opacity
4.0		CD	Minn. R. 7007.0800, subp. 2	The Permittee shall properly maintain the process equipment so as to prevent excessive amounts of particulate matter from being emitted from the emission units listed above under Associated Items.

COMPLIANCE PLAN CD-01

Facility Name: 3M - Alexandria

Permit Number: 04100003 - 005

Subject Item: **GP 006 Subpart JJJJ NESHAP Units**

Associated Items:

EU 001 Large Mixer A
EU 002 Large Mixer B
EU 003 Large Mixer C
EU 004 Large Mixer D
EU 005 Large Mixer E
EU 006 Coater Room
EU 007 Counter Coater
EU 008 Wide Maker Oven
EU 016 Mix Tank D, 1092
EU 017 Mix Tank C, 1093
EU 018 Mix Tank B, 1904
EU 019 Mix Tank A, 1095
EU 020 Mix Tank E
EU 021 Cloth Coater Treater
EU 022 Cloth Coater Treater Oven
EU 029 Coater Cure Oven 2
EU 041 Sierra Maker Coater
EU 042 Mixstation
EU 043 Sierra 1 Size Coater
EU 051 Sierra 1 in-line size cure oven
EU 052 Make Coater
EU 053 Backrack Oven
EU 054 Size Coater
EU 055 Mainline Oven
EU 056 #5 Boiler
EU 057 #6 Boiler
EU 058 200 Gallon Mix Tank
EU 059 200 Gallon Mix Tank
EU 060 200 Gallon Mix Tank
EU 061 200 Gallon Mix Tank
EU 064 Coating Line No. 3 Mix Tank A
EU 065 Coating Line No. 3 Mix Tank B
EU 066 Coating Line No. 3 Mix Tank C
EU 067 Coating Line No. 3 Mix Tank D
EU 068 Coating Line No. 3 Mix Tank E
EU 069 Coating Line No. 3 Coater
EU 070 Coating Line No. 3 Oven
SV 001 Wide Maker Mixers and Coating Line No. 3 Mixers
SV 002 Wide Maker Coater Room
SV 003 Wide Maker Counter Coater
SV 004 Wide Maker Oven
SV 005 Wide Maker Oven
SV 006 Wide Maker Oven

COMPLIANCE PLAN CD-01

Facility Name: 3M - Alexandria

Permit Number: 04100003 - 005

Associated Items: SV 010 Medium Belt Making - IBL

SV 012 ACT Mixroom

SV 013 Cloth Coater Oven

SV 014 ACT Cloth Treater Oven

SV 015 ACT Cloth Treater Oven

SV 016 ACT Cloth Treater Oven

SV 030 Sierra Maker Coater

SV 033 Sierra 1 Size Coater

SV 041 Make Coater Bypass

SV 042 Size Coater Bypass

SV 045 Coating Line No. 3 Coater Stack

SV 046 Coating Line No. 3 Oven Stack 1

SV 047 Coating Line. No. 3 Oven Stack 2

	NC/ CA	Type	Citation	Requirement
1.0		CD	Minn. R. 7007.1150; Minn. R. 7007.0800 subp. 2	Based on the current and expected operations of the affected source, this permit only includes the regulations for compliance with 40 CFR pt. 63, subp, JJJJ using option in 40 CFR Section 63.3320(b)(2) and 63.3320(b)(3). If the Permittee later chooses to switch to one of the other compliance options allowed in the standard, the Permittee shall comply with all applicable portions of 40 CFR pt. 63, subp. JJJJ for that option. In addition, the Permittee shall apply for a permit amendment, as appropriate (e.g., to add applicable NESHAP language, installation of an oxidizer, etc.).
2.0		CD	Minnn. R. 7007.0800, subp. 2 and 4	The Permittee shall maintain records of which emission units in GP 006 are complying with the limit in 40 CFR 63.3320(b)(2) and which emission units are complying with the limit in 40 CFR 63.3320(b)(3).
3.0		CD	hdr	EMISSION AND OPERATING LIMITS - No Control Option
4.0		LIMIT	40 CFR Section 63.3320(b)(2); Minn. R. 7011.7385	HAPs - Organic: less than or equal to 4 percent of the mass of coating materials applied for each month at existing affected sources.
5.0		LIMIT	40 CFR Section 63.3320(b)(3); Minn. R. 7011.7385	HAPs - Organic: less than or equal to 20 percent by weight of coating solids applied for each month at existing affected sources.
6.0		CD	hdr	MONITORING AND RECORDKEEPING REQUIREMENTS
7.0		CD	40 CFR Section 63.3410(a); 40 CFR Section 63.10(b)(1); Minn. R. 7011.7385	Maintain the following records on a monthly basis: (1) Records specified in 40 CFR Section 63.10(b)(2) of all measurements need to demonstrate compliance, including: (iii) organic HAP content data used for demonstrating compliance in accordance with 40 CFR Section 63.3360(c); (iv) volatile matter and coating solids content data for the purpose of demonstrating compliance in accordance with the requirements of 40 CFR Section 63.3360(d) and (vi) material usage, organic HAP usage, volatile matter usage, coating solids usage and compliance demonstrations using these data in accordance with 40CFR Section 63.3370(c) or (d).
8.0		CD	hdr	METHODS FOR DETERMINING HAP CONTENT
9.0		CD	40 CFR Section 63.3360(a)(1); Minn. R. 7011.7385	If organic HAP is controlled on any individual coating line or group of coating lines by limiting organic HAP or volatile matter content of coatings, the Permittee must determine the organic HAP or volatile matter and coating solids content of the coating materials according to procedures in 40 CFR Section 63.3360(c) and (d). If applicable, determine the mass of volatile matter retained in the coated web or otherwise not emitted to the atmosphere according to 40 CFR Section 63.3360(g).

COMPLIANCE PLAN CD-01

Facility Name: 3M - Alexandria

Permit Number: 04100003 - 005

10.0		CD	40 CFR Section 63.3360(c)(1); Minn. R. 7011.7385	Organic HAP Content Method 311 - The Permittee may test the coating material in accordance with Method 311 of Appendix A of Part 63. The Method 311 determination may be performed by the manufacturer of the coating material and the results provided to the Permittee. The organic HAP content must be calculated according to the criteria and procedures in 40 CFR Section 63.3360(c)(1)(i)-(iii).
11.0		CD	40 CFR Section 63.3360(c)(2); Minn. R. 7011.7385	Organic HAP Content Method 24 - The Permittee may determine the volatile organic content of coatings as mass fraction of nonaqueous volatile matter and use it as a substitute for organic HAP using Method 24 of Appendix A of Part 63. The Method 24 determination may be performed by the manufacturer of the coating and the results provided to the Permittee.
12.0		CD	40 CFR Section 63.3360(c)(3); Minn. R. 7011.7385	Organic HAP Content Formulation Data - The Permittee may use formulation data to determine the organic HAP mass fraction of a coating material. Formulation data may be provided to the Permittee by the manufacturer of the material. In the event of an inconsistency between Method 311 test data and a facilitys formulation data, and the Method 311 test value is higher, the Method 311 data will govern. Formulation data may be used provided that the information represents all organic HAP present at a level equal to or greater than 0.1 percent for OSHA-defined carcinogens as specified in 29 CFR Section 1910.1200(d)(4) and equal to or greater than 1.0 percent for other organic HAP compounds in any raw material used.
13.0		CD	40 CFR Section 63.3360(c)(4); Minn. R. 7011.7385	Organic HAP Content As-applied organic HAP mass fraction - If the as-purchased coating material is applied to the web without any solvent or other material added, then the as-applied organic HAP mass fraction is equal to the as-purchased organic HAP mass fraction. Otherwise, the as-applied organic HAP mass fraction must be calculated using Equation 1a of 40 CFR section 63.3370 and Appendix II of this permit.
14.0		CD	40 CFR Section 63.3360(d)(1); Minn. R. 7011.7385	Volatile Organic and Coating Solids Content Method 24 - The Permittee may determine the volatile organic content and coating solids mass fraction of each coating applied using Method 24 of Appendix A of Part 63. The Method 24 determination may be performed by the manufacturer of the coating and the results provided to the Permittee.
15.0		CD	40 CFR Section 63.3360(d)(2); Minn. R. 7011.7385	Volatile Organic and Coating Solids Content Formulation Data - The Permittee may determine the volatile organic content and coating solids conetent of a coating material based on formulation data and may rely on volatile organic cotent data provided by the manufactrurer of the material. In the event of any inconsistency between the formulation data and the results of Method 24 of 40 CFR part 60, appedndix A, and the Method 24 results are higher, the results of Method 24 will govern.
16.0		CD	40 CFR Section 63.3360(d)(3); Minn. R. 7011.7385	Volatile Organic and Coating Solids Content As-applied volatile organic content and coating solids content - If the as-purchased coating mateial is applied to the web without any solvent or other material added, then the as-applied volatile organic content is equal to the as-purchased volatile content and the as-applied coating solids content is equal to the as-purchased coating solids cotent. Otherwise, the as-applied volatile organic content must be calculated using Equation 1b of 40 CFR Section 63.3370 and the as-applied coating solids content must be calculated using Equation 2 of 40 CFR Section 63.3370.
17.0		CD	40 CFR Section 63.3360(g); Minn. R. 7011.7385	Volatile matter retained in the coated web or otherwise not emitted to the atmosphere - If you choose to take this into account when determining compliance with the emission standards, you must develop a testing protocol to determine the mass of volatile matter retained in the coated web or otherwise not emitted to the atmosphere and submit it to the Administrator for approval with your site-specific test plan under 40 CFR Section 63.7(f). If you intend to take into account the mass of volatile matter retained in the coated web after curing or drying or otherwise not emitted to the atmosphere and demonstrate compliance according to 40 CFR Section 63.3370(c)(3), (c)(4), or (d), then the protocol must determine the mass of organic HAP retained in the coated web or otherwise not emitted to the atmosphere. Otherwise, compliance must be shown using the volatile organic matter content as a surrogate for the HAP content of the coatings.
18.0		CD	hdr	COMPLIANCE DEMONSTRATION

COMPLIANCE PLAN CD-01

Facility Name: 3M - Alexandria

Permit Number: 04100003 - 005

19.0		CD	40 CFR Section 63.3370(a)(2)(iii); Minn. R. 7011.7385	Monthly Average "As-applied" Compliant Coating Materials Demonstrate that the monthly average of all coating materials used does not exceed 0.04 kg organic HAP per kg coating material as-applied, using the procedures set out in 40 CFR Section 63.3370(c)(3). Use Equation 4 of 40 CFR Section 63.3370 and Appendix II to this permit to determine compliance with the 0.04 kg organic HAP per kg coating material as applied limit in accordance with 40 CFR Section 63.3370(c)(5)(ii).
20.0		CD	40 CFR Section 63.3370(a)(2)(iv); Minn. R. 7011.7385	Monthly Average "As-applied" Complianct Coating Materials Demonstrate that the monthly average of all coating materials used does not exceed 0.2 kg organic HAP per kg coating solids, using the procedures set out in 40 CFR Section 63.3370(c)(4). Use Equation 5 of 40 CFR Section 63.3370 and Appendix II to this permit to determine compliance with the 0.2 kg organic HAP per kg coating solids limit in accordance with 40 CFR Section 63.3370(c)(5)(ii).
21.0		CD	40 CFR Section 63.3370(a)(3); Minn. R. 7011.7385	Total Monthly Organic HAP Applied Demonstrate that the total monthly organic HAP applied does not exceed the calculated limit based on emission limitations. Follow the procedures set out in 40 CFR Section 63.3370(d). Show that the monthly HAP applied (Equation 6 of 40 CFR Section 63.3370 and Appendix II of this permit) is less than the calculated equivalent allowable organic HAP (Equation 13a or 13b of 40 CFR Section 63.3370 and Appendix II of this permit).
22.0		CD	hdr	REPORTING REQUIREMENTS (see Table B for additional requirements)
23.0		S/A	40 CFR Section 63.3400(c); Minn. R. 7011.7385	Semiannual Compliance Report: due 31 days after end of each calendar half-year starting 12/05/2005. This may be submitted with the semiannual compliance report required by Part 70 and this permit. The report must contain the information listed in 40 CFR Section 63.3400(c)(2).
24.0		CD	hdr	GENERAL PROVISIONS, 40 CFR pt. 63, subp. A
25.0		CD	40 CFR Section 63.6(e)(1)(i); Minn. R. 7011.7000	Comply with the General Provisions of 40 CFR Part 63 according to Table 2 to Subpart JJJJ of Part 63.
26.0		CD	40 CFR Section 63.5(b)(3); Minn. R. 7011.7000	Prior to construction or reconstruction of an "affected source" under the promulgated MACT standards, the Permittee must apply for and obtain an air emission permit.
27.0		CD	40 CFR Section 63.10(b)(1); Minn. R. 7019.0100, subp. 2(B)	Recordkeeping: The Permittee shall maintain files of all information required by 40 CFR pt. 63 in a form suitable and readily available for expeditious inspection and review. The files should be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. Only the most recent two years of information must be kept on site.

COMPLIANCE PLAN CD-01

Facility Name: 3M - Alexandria

Permit Number: 04100003 - 005

Subject Item: GP 007 VOC PreCap

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	As of permit issuance, GP 007 consists of all VOC-emitting equipment on site: EUs 001-008, 012-022, 029, 034, 041-045, 051, 052, 056-062, 064-070. Note that this list is for the purposes of documenting the units in GP 007 as of permit issuance, and is subject to change as allowed by the requirements of GP 007.
2.0		LIMIT	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000	Volatile Organic Compounds: less than or equal to 240 tons/year using 12-month Rolling Sum to be calculated by the 15th day of each month for the previous 12-month period as described later in this permit. All emission units or stacks added to GP 007 as allowed in this permit shall be included in this calculation. VOC contents for each VOC-containing material shall be determined as described under the Material Content requirement in GP 007. The calculation of VOCs used may take into account recovered/recycled VOCs as described under the Waste Credit requirement in GP 007.
3.0		CD	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000	All VOC-emitting equipment in GP 007 is subject to this limit. If the Permittee replaces any existing VOC-emitting equipment in GP 007, adds new VOC-emitting equipment, or modifies the existing equipment in GP 007, such equipment is subject to this permit limit as well as all of the requirements of GP 007 and any other applicable requirements contained elsewhere in this permit. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. The Permittee is not required to complete VOC calculations described in Minn. R. 7007.1200, subp. 2. A permit amendment will still be needed regardless of the emissions increase if the change will be subject to a new applicable requirement not otherwise contained in GP 007 or elsewhere in the permit, or requires revisions to the limits or monitoring and recordkeeping in this permit.
4.0		CD	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000	Daily Recordkeeping: On each day of operation, the Permittee shall calculate, record, and maintain the total quantity of all coatings and other VOC containing materials used at the facility. This shall be based on written or electronic records.
5.0		CD	Minn. R. 7007.0800, subp. 4 and 5	Monthly Recordkeeping: The Permittee shall maintain monthly records of the 1) Type of fuel used, and 2) The total quantity of each fuel-type used on-site
6.0		CD	Minn. R. 7007.0800, subp. 4 and 5	Monthly Recordkeeping: By the 15th of the month, the Permittee shall calculate and record the following. 1) The total usage of VOC containing materials for the previous calendar month using the daily usage records. This record shall also include the VOC contents of each material as determined by the "Material Content" requirement of GP 007. 2) The total fuel usage for the previous calendar month using monthly fuel usage records. 3) The VOC emissions for the previous month using the formulas specified in this permit. 4) The 12-month rolling sum VOC emissions for the previous 12-month period by summing the monthly VOC emissions data for the previous 12 months.

COMPLIANCE PLAN CD-01

Facility Name: 3M - Alexandria

Permit Number: 04100003 - 005

7.0		CD	Minn. R. 7007.0800, subp. 4 and 5	Monthly Calculation -- VOC Emissions. The Permittee shall calculate source-wide VOC emissions using the following equations: VOC (tons/month) = (Vusage + Vcomb + Vinsig)- W V = (A1 x B1) + (A2 x B2) + (A3 x B3) + ... W = (C1 x D1) + (C2 x D2) + C3 x D3) + ... Monthly VOC Emissions Calculation Continued: where: Vusage = total VOC used in tons/month; A# = amount of each VOC containing material used, in tons/month; B# = weight percent VOC in A#, as a fraction; Vcomb = amount of VOC from all combustion sources in tons/month; Vinsig = amount of VOC emitted from all insignificant activities listed in Appendix A in tons/month; W = the amount of VOC shipped in waste, in tons/month; C# = amount, in tons/month, of each VOC containing waste material shipped. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero; and D# = weight percent of VOC in C#, as a fraction.
8.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Material Content. VOC contents shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier for each material used. If a material content range is given on the MSDS, the highest number in the range shall be used in all compliance calculations. Other alternative methods approved by the MPCA may be used to determine the VOC content. The Commissioner reserves the right to require the Permittee to determine the VOC content of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.
9.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Waste Credit: If the Permittee elects to obtain credit for VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the VOC content for each credited shipment. 1) The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC excluding water. 2) The Permittee may use supplier data for raw materials to determine the VOC content of each waste shipment, using the same content data used to determine the content of raw materials. If the waste contains several materials, the content of mixed waste shall be assumed to be the lowest VOC content of any of the materials.
10.0		CD	Minn. R. 7005.0100, subp. 35a	Maximum Contents of Materials: The Permittee assumed certain worst-case contents of materials when determining the short term potential to emit of units in GP007. Changing to a material that has a higher content of any of the given pollutants is considered a change in method of operation that must be evaluated under Minn. R. 7007.1200, subp. 3 to determine if a permit amendment or notification is required under Minn. R. 7007.1150.

COMPLIANCE PLAN CD-01

Facility Name: 3M - Alexandria

Permit Number: 04100003 - 005

Subject Item: **CE 009 Direct Flame Afterburner w/Heat Exchanger**

Associated Items: EU 052 Make Coater

EU 053 Backrack Oven

EU 054 Size Coater

EU 055 Mainline Oven

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	OPERATION AND MAINTENANCE
2.0		CD	Minn. Stat. 116.07, subd. 4a; Minn. R. 7019.3020 (G); Minn. R. 7019.3050	The operation of this control equipment is not necessary in order for the process to meet applicable emissions limits. However, the Permittee wishes to take credit for its operation for the purposes of reporting actual emissions for emission inventory. Therefore, in order for the VOC to be considered controlled for the purposes of emissions inventory, the afterburner (thermal oxidizer) must comply with the requirements of this permit during the time credit for control is taken. The VOC used during that time shall be considered controlled, and the control efficiency used is the limit given in this table.
3.0		CD	Minn. Stat. 116.07, subd. 4a; Minn. R. 7019.3020 (G); Minn. R. 7019.3050	The Permittee shall operate and maintain the thermal oxidizer in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.
4.0		CD	hdr	EMISSION LIMITS
5.0		LIMIT	Minn. Stat. 116.07, subd. 4a; Minn. R. 7019.3020 (G); Minn. R. 7019.3050	The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Volatile Organic Compounds: greater than or equal to 95 percent
6.0		LIMIT	Minn. Stat. 116.07, subd. 4a; Minn. R. 7019.3020 (G); Minn. R. 7019.3050	Temperature: greater than or equal to 1400 degrees F using 3-hour Rolling Average at the Combustion Chamber unless a new minimum temperature is set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum temperature is required to be set, it will be based on the average temperature recorded during the most recent MPCA approved performance test where compliance for VOC emissions was demonstrated. If the three-hour rolling average temperature drops below the minimum temperature limit, the VOC used during that time shall be considered uncontrolled until the average minimum temperature limit is once again achieved. This shall be reported as a deviation.
7.0		CD	hdr	RECORDKEEPING
8.0		CD	Minn. Stat. 116.07, subd. 4a; Minn. R. 7019.3020 (G); Minn. R. 7019.3050	The Permittee shall document periods of operation and non-operation of the control equipment.
9.0		CD	Minn. Stat. 116.07, subd. 4a; Minn. R. 7019.3020 (G); Minn. R. 7019.3050	The Permittee shall maintain a continuous hard copy readout or computer disk file of the temperature readings and calculated three-hour average temperatures for the combustion chamber.
10.0		CD	Minn. Stat. 116.07, subd. 4a; Minn. R. 7019.3020 (G); Minn. R. 7019.3050	Monitoring Equipment: The Permittee shall install and maintain thermocouples to conduct temperature monitoring required by this permit. The monitoring equipment must be installed, in use, and properly maintained whenever operation of the monitored control equipment is required.
11.0		CD	Minn. Stat. 116.07, subd. 4a; Minn. R. 7019.3020 (G); Minn. R. 7019.3050	The Permittee shall maintain and operate a thermocouple monitoring device that continuously measures and records the combustion chamber temperature of the thermal oxidizer. The monitoring device shall have a margin of error less than +/- .75 percent of the temperature being measured or +/- .2.5 degrees Celsius, whichever is greater. The recording device shall also calculate the three-hour rolling average combustion chamber temperature.
12.0		CD	Minn. Stat. 116.07, subd. 4a; Minn. R. 7019.3020 (G); Minn. R. 7019.3050	Semiannual Inspections: At least once per calendar halfyear, the Permittee shall inspect the control equipment internal and external system components, including but not limited to the refractory, heat exchanger, and electrical systems. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.
13.0		CD	Minn. Stat. 116.07, subd. 4a; Minn. R. 7019.3020 (G); Minn. R. 7019.3050	Annual Calibration: The Permittee shall calibrate the temperature monitor at least once annually and shall maintain a written record of the inspection and any action resulting from the calibration.

COMPLIANCE PLAN CD-01

Facility Name: 3M - Alexandria

Permit Number: 04100003 - 005

14.0		CD	Minn. Stat. 116.07, subd. 4a; Minn. R. 7019.3020 (G); Minn. R. 7019.3050	For periods when the thermal oxidizer is operated above the minimum combustion chamber temperature, the Permittee shall use either one of the following when completing calculations as required elsewhere in this permit: a. The overall control efficiency limit specified in this permit for this equipment (95%); or b. The overall control efficiency determined during the most recent MPCA approved performance test. If the tested efficiency is less than the efficiency limit in this permit, the Permittee must use the tested value in all calculations until the efficiency is demonstrated to be above the permit limit through a new test.
15.0		CD	Minn. Stat. 116.07, subd. 4a; Minn. R. 7019.3020 (G); Minn. R. 7019.3050	Corrective Actions: If the temperature is below the minimum specified by this permit or if the thermal oxidizer or any of its components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall return the temperature to at least the permitted minimum and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the Thermal oxidizer. The Permittee shall keep a written record of the type and date of any corrective action taken.

Attachment 3

Points Calculator

Points Calculator

1) AQ Facility ID No.:	04100003
2) Facility Name:	3M - Alexandria
3) Small business? y/n?	N
4) DQ Numbers (including all rolled) :	4093, 2686
5) Date of each Application Received:	09/21/2012, 06/12/2009
6) Final Permit No.	04100003-005
7) Permit Staff	Kelsey Suddard
8) "Work completed" in which .xls file (i.e. unit 2b, unit 1a, biofuels)?	NA

Total Points 31

Application Type	DQ No.	Qty.	*Points*	Total Points	Details
Administrative Amendment			*1*	0	
Minor Amendment	2686	1	*4*	4	
Applicability Request			*10*	0	
Moderate Amendment			*15*	0	
Major Amendment	4093	1	*25*	25	
Individual State Permit (not reissuance)			*50*	0	
Individual Part 70 Permit (not reissuance)			*75*	0	
Additional Points					
Modeling Review			*15*	0	
BACT Review			*15*	0	
LAER Review			*15*	0	
CAIR/Part 75 CEM analysis			*10*	0	
NSPS Review			*10*	0	
NESHAP Review			*10*	0	
Case-by-case MACT Review			*20*	0	
Netting			*10*	0	
Limits to remain below threshold			*10*	0	
Plantwide Applicability Limit (PAL)			*20*	0	
AERA review			*15*	0	
Variance request under 7000.7000			*35*	0	
Confidentiality request under 7000.1300	2686	1	*2*	2	
EAW review					
Part 4410.4300, subparts 18, item A; and 29			*15*	0	
Part 4410.4300, subparts 8, items A & B; 10, items A to C; 16, items A & D; 17, items A to C & E to G; and 18, items B & C			*35*	0	
Part 4410.4300, subparts 4; 5 items A & B; 13; 15; 16, items B & C; and 17 item D			*70*	0	
		Add'l Points		**2**	

NOTES: