TECHNICAL SUPPORT DOCUMENT (TSD)
For
DRAFT/PROPOSED AIR EMISSION PERMIT NO. 14100059-007

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: 3711)
Owner: New Flyer Industries Inc 711 Kernaghan Ave Winnipeg, Manitoba R2C 3T4	**New Flyer of America – St Cloud** 6200 Glenn Carlson Dr St. Cloud, MN 56301 Stearns County
Contact: Ken Day Phone: 320-203-4928	

1.2 Facility Description

New Flyer currently operates a bus manufacturing facility in St. Cloud, Minnesota. The plant currently consists of two manufacturing lines capable of producing 6 complete buses each day. The main sources of emissions are coating operations that have panel filters, emissions from natural gas combustion used in curing coatings, and an emergency generator. The facility also has several operations that qualify as insignificant activities. See Section 3.4 of this TSD for more information.

The permit carries forward requirements that limit the emissions of volatile organic compounds (VOC), hazardous air pollutants (HAP), and particulate matter/particulate matter less than 10 microns/particulate matter less than 2.5 microns ($PM/PM_{10}/PM_{2.5}$). The permit also contains requirements to control particulate from the various spray booths.

This permit action is the Reissuance of the Part 70 permit.

1.3 Description of any Changes Allowed with this Permit Issuance

No changes are authorized by this permit action.

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

Permit Number and Issuance Date	Action Authorized
14100059-005, 9/24/2004	Administrative Amendment for ownership change
14100059-006, 4/13/2006	Administrative Amendment for ownership change

1.5 Facility Emissions:

Table 2. Total Facility Potential to Emit Summary

	PM tpy	**PM_{10}/$PM_{2.5}$** tpy	**SO_2** tpy	**NO_x** tpy	**CO** tpy	**CO_2e** tpy	**VOC** tpy	**Single HAP (max)** tpy	**All HAPs** tpy
Total Facility Permitted Potential Emissions	75.9	75.9	0.360	21.2	15.4	21,100	141	8.5	23.5
Total Facility Actual Emissions (2010)	9.58	9.58	0.034	3.96	3.04	*	61.9	*	

*Not reported in MN emission inventory.

Table 3. Facility Classification

Classification	Major/Affected Source	Synthetic Minor/Area
PSD*		X
Part 70 Permit Program	X	
Part 63 NESHAP**		X

*Prevention of Significant Deterioration under 40 CFR § 52.21

**National Emissions Standards for Hazardous Air Pollutants for Source Categories

1.6 Changes to Permit

The permit does not authorize any specific modifications, however, the MPCA has a combined operating and construction permitting program under Minnesota Rules Chapter 7007, and under Minn. R. 7007.0800, the MPCA has authority to include additional requirements in a permit. Under that authority, the following changes to the permit are also made through this permit action:

- updated to reflect current MPCA templates and standard citation formatting;
- completed requirements and the requirements for equipment that has been removed or that were later determined to be insignificant have been deleted;
- equipment that qualifies as insignificant has been removed from the permit and the permitting database (Delta) and per MPCA policy these are listed in the permit appendix (see section 3.4 of TSD for more information);
- equipment capacities were revised for several units to reflect the actual installed capacity (there were errors in the original data that was entered in the MPCA's permitting system);
- some requirements have been reordered to help with clarity (i.e., similar requirements are grouped);
- CAM has been added as discussed in Table 4 of this TSD;
- the VOC and HAP limits are now PreCaps. This is a fairly standard way to give flexibility to facilities to make changes without automatically triggering a major amendment. The limits are written to cover the emissions of all defined units regardless of whether or not they are existing, modified, or new. If the Permittee wishes to make changes, the changed or new equipment would be subject to the cap. However, an amendment may still be needed to make the change based on the hourly emissions increase and/or the non-emissions increase amendment triggers (e.g., change to monitoring, etc.);
- recordkeeping for GP 001 and the panel filters were revised to reflect current standard language;

- The control equipment requirements have been written to apply to existing, new, and modified units and control equipment. The Permittee must comply with these requirements when making changes in the future. This may enable proposed changes to be handled with a lower-level amendment once the control equipment credit is taken;
- total and individual HAP limits lowered from 24.0 and 9.0 to 23.0 and 8.0 to allow room for combustion HAPs from both the permitted units as well as insignificant activities;
- the applicable NESHAP standard was added to the permit at EU 014 (RICE); and
- specific limits on metals in coatings have been removed because the facility no longer uses these materials (so they no longer need to be specifically limited). See Section 3.2 for more discussion.

2. Regulatory and/or Statutory Basis

New Source Review

The permit carries forward limits on the facility such that it is a minor source under New Source Review regulations. No changes are authorized by this permit.

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

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility has accepted limits on HAP emissions such that it is an area source under 40 CFR pt. 63. Thus, no major source NESHAPs apply.

Currently the Permittee has certified that the only area source standard that applies is 40 CFR pt. 63, subp. ZZZZ for the emergency generator, EU 014. The Permittee has stated that the unit is an existing, compression ignition reciprocating internal combustion engine (CI RICE) that meets the definition of an emergency stationary RICE in 40 CFR § 63.6675.

The Permittee provided their determination of why 40 CFR pt. 63, subps. XXXXXX and HHHHHH do not apply to this facility. See Attachment 5 to this TSD for copies of that information.

Compliance Assurance Monitoring (CAM)

The table below lists the sources which are subject to CAM and whether the source is a large pollutant specific emission unit (PSEU). Specific monitoring requirements are discussed in Table 6 of this TSD.

Table 4. CAM Applicability Summary

Unit	Control	CAM Applicability	Pollutant
EU 002 and 008	CE001 Panel Filter CE004 Panel Filter	Other	PM

Note: The Permittee incorrectly identified that CAM applied to additional painting operations (EUs 009, 010, and 011), but according to MPCA calculations, these paint booths do not need the control

equipment to comply with an emissions limit (one of the criteria to be subject to CAM) and are therefore not subject to CAM.

See Attachment 4 to this document for the CAM Plan (one plan for all panel filters) submitted by the applicant.

Environmental Review & AERA

No modifications or emissions increases are authorized by this permit action, so the permit is not subject to environmental review.

Minnesota State Rules

Portions of the facility are subject to the following Minnesota Standards of Performance, as noted in the following table:

- 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 5. Regulatory Overview of Facility

Level*	Applicable Regulations	Comments:
GP 001	40 CFR § 52.21; 40 CFR § 63.40-63.44	Prevention of Significant Deterioration (PSD) and NESHAPs. Limits taken to avoid major source and modification classification under PSD for all noncombustion emissions of VOC and limits on HAPs to avoid case-by-case MACT (when the facility was constructed case-by-case MACT would have applied if they had been a major HAP source). These are rolling limits due to substantial and unpredictable variations in operation. These limits are carried forward from the previous permit with slight adjustments down for the HAP limits to account for updated emissions from non-tracked activities (both permitted and insignificant).
	40 CFR § 52.21	PSD. Requirement to use control equipment on the booths to control particulate matter See GP 003 and GP 005.
	Minn. R. 7007.0715, subp. 1(A) and 1(B)	Standards of Performance for New Industrial Process Equipment. Booths EU007-EU011 also contain burners so that the booths themselves can be used as ovens to dry/cure the buses. Even though ovens are typically considered direct heating equipment, the industrial process equipment standard is more applicable to the booths general function.
GP 003 no-CAM Panel Filters	40 CFR § 52.21	PSD. Control efficiency and other operating parameter requirements to limit $PM/PM_{10}/PM_{2.5}$ PTE. The booths have total enclosures. Permit specifies that new, replaced, or modified non-CAM panel filters must meet GP 003 requirements.
GP 005 CAM Panel Filters	40 CFR § 52.21	PSD. Control efficiency and other operating parameter requirements to limit $PM/PM_{10}/PM_{2.5}$ PTE. The booths have total enclosures. Permit specifies that new, replaced, or modified CAM panel filters must meet GP 005 requirements.
EU 014	Minn. R. 7011.2300	Standards of Performance for Stationary Internal Combustion Engines.

Level*	Applicable Regulations	Comments:
	40 CFR pt. 63, subp. ZZZZ	The engine is an existing emergency stationary CI RICE. See text above. Compliance date for this standard is May 3, 2013.
	Minn. R. 7005.0100, subp. 35a	Fuel limited to distillate fuel oil (diesel) only, by design.
	Minn. R. 7007.0800, subp. 2	Sulfur content of fuel limited to 0.5 percent by weight.

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

3. Technical Information

3.1 Calculations of Potential to Emit

Attachment 1 to this TSD contains details PTE calculations for the facility, prepared by both the Permittee and MPCA staff, as noted. The printout of the Delta database emissions summary can be found in Attachment 2.

Coating

Generally speaking, emissions from the coating operations are based on a mass balance approach - spray capacity multiplied by the highest content coating to obtain maximum hourly emissions of the given pollutant. This method was used for EUs 002, 007, and 008-011. These hourly PTEs are overly conservative in that they assume all guns are operating any given hour, using the highest content coating for each pollutant – this is not physically possible since any given gun cannot be applying multiple coatings at the same time. The contents and spray capacities are documented in the permit as an appendix.

The annual or long-term PTEs for these listed units are calculated by using the maximum hourly values and multiplying them by 8,760 hours/year to determine the maximum annual emissions.

For the remaining coating units, undercoating booths (EUs 004 and 017), the Permittee did the calculations based on the maximum number of buses/year (based on overall manufacturing capacity) and maximum materials used/bus (based on 2011 usage). Because this method is based on *actual* hourly emissions (actual historical usage/actual hours per year), the MPCA adjusted the hourly values up by 25% to account for variability in maximum short-term usage.

In addition, a higher transfer efficiency is assumed for these two booths (90% and 100% vs. 75%). These booths apply an undercoating to the underside of each coach and within the tubing of the metal frame of the coating (a hose is inserted inside the tubing that makes up the metal frame of the coach and coating is dispensed while the hose is pulled along inside the tubing). The materials used are highly viscous (wax or tar-like) which do not become atomized during the application process. Due to the nature of the material and the application processes used, it is reasonable to use a 90% transfer efficiency for the underside coating and a 100% transfer efficiency for the interior tubing coating.

Combustion

The combustion potential emissions are calculated based on equipment capacity, allowable fuels, and published emissions factors (AP-42).

3.2 Dispersion Modeling

The emissions from this facility were previously modeled when the facility was first permitted to construct back in 1998. Modeling was updated as part of PER 004. The current potential to emit from

the facility is below all regulatory and policy thresholds that would trigger further or updated modeling; therefore, no additional modeling is being done at this time.

As part of the analysis done for earlier permits, the Permittee took limits on the usage of coatings containing specific metals. The Permittee no longer uses coatings that contain these metals. If the analysis were done today, the Permittee would only be required to look at the worst-case coating contents that they expected to use and would only need to take limits based on those materials. No limits would be imposed on random metals/HAPs that the Permittee DOES NOT plan to use. At this time it is reasonable to remove the limits because they are no longer necessary. If at some point the Permittee wishes to use coatings with different contents than those that were included in the application for this permit, this would be a considered a change in the method of operation and the Permittee would need to determine if this change required a permit amendment under Minnesota rules. A condition that reflects this was added to the draft/proposed permit at GP 001.

3.3 Periodic Monitoring and CAM

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.

For CAM, the Permittee submitted a CAM proposal as required by 40 CFR § 64.3. It can be found in Attachment 4 to this TSD. Further discussion of decisions about CAM can be found in Table 6.

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.

Table 6 summarizes the monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate or where CAM applies.

Table 6. Monitoring

Level*	Requirement (basis)	Additional Monitoring	Discussion
GP 001 (Spray Booths)	VOC ≤ 140 tons per year, on a 12 month rolling basis (limit to avoid NSR)	Recordkeeping: Daily records of coating material usage; On-going MSDS records of coating contents; monthly records for other materials; Monthly calculations of emissions.	Records can be generated on a daily basis for materials used in the coating operations, but smaller use items such as adhesives and clean up materials will be tracked monthly. 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

Level*	Requirement (basis)	Additional Monitoring	Discussion
			are reasonable for this Facility.
	HAP ≤ 8.0 individual and 23.0 total, on a 12 month rolling basis (to avoid major HAP source)	Recordkeeping: Daily records of coating material usage; On-going MSDS records of coating contents; monthly records for other materials; Monthly calculations of emissions.	Records can be generated on a daily basis for materials used in the coating operations, but smaller use items such as adhesives and clean up materials will be tracked monthly. 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.
	$PM/PM_{10}/PM_{2.5}$: All must be controlled by panel filters in GP 003 or GP 005 (limits to avoid NSR)	see GP 003 and 005 for monitoring	
	PM, variable with airflow Opacity ≤ 20% (Minn. R. 7011.0715)	None	Other permit requirements (GP 003/GP 005) ensure that this applicable requirement is being met. These other operational limits give these booths PTEs of 1-36% of the allowable rate.
GP 003 (Panel Filters)	$PM/PM_{10}/PM_{2.5}$: Control Efficiency of 92% (limit to avoid NSR + Minn. R. 7011.0715)	Recordkeeping, O&M, daily and periodic inspections, hood records	Monitoring based on the Minnesota Performance Standard for Control Equipment is adequate to have a reasonable assurance of compliance. The permit specifies limits of 92% for all particulates. Current MPCA practice is to grant up to 85% control with no monitoring beyond what is required by Minn. R. 7011.0075-0080. In this instance, the manufacturer of the filters provided documentation of a +99% efficiency. While this is not likely based on actual performance testing using EPA test methods, it is adequate to justify keeping the previous permit limit of 92%. It is also important to note that this efficiency is not needed in order to be in compliance with any emissions limit (only to limit the PTE of the facility to less than 250 tpy). Even with a filter efficiency of 85%, the facility PTE is at roughly 120 tpy, significantly under 250.
GP 005 (CAM Panel Filters)	$PM/PM_{10}/PM_{2.5}$: Control Efficiency of 92%	Recordkeeping, O&M, daily and periodic inspections, hood	Monitoring based on the Minnesota Performance Standard for Control Equipment is adequate to have a reasonable assurance of compliance. The permit

Level*	Requirement (basis)	Additional Monitoring	Discussion
	(limit to avoid NSR + Minn. R. 7011.0715)	records	specifies limits of 92% for all particulates. Current MPCA practice is to grant up to 85% control with no monitoring beyond what is required by Minn. R. 7011.0075-0080. In this instance, the manufacturer of the filters provided documentation of a +99% efficiency. While this is not likely based on actual performance testing using EPA test methods, it is adequate to justify keeping the previous permit limit of 92%. It is also important to note that this high of an efficiency is not needed in order to be in compliance with any emissions limit – an efficiency of less than 80% would be adequate to be under the IPER limit.
EU 014	Work practice requirements (40 CFR pt. 63, subp. ZZZZ)	None	Monitoring from the NESHAP is assumed to be adequate.
	Opacity $\leq$ 20% SO_2 < 0.5 lb/MMBtu (Minn. R. 7011.2300)	See fuel limit below for monitoring for SO_2	
	Fuel limited to distillate fuel oil with sulfur content of $\leq$ 0.5% by weight (Minn. R. 7007.0800, subp. 2)	Fuel purchase records and certification.	Distillate fuel oil is oil that meets ASTM D396-78. The ASTM definition requires sulfur < 0.5%; therefore, the likelihood of the violating this limit is very small. Fuel certification records are adequate for periodic monitoring.

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

3.4 Insignificant Activities

New Flyer 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. See Attachment 1 of this TSD for PTE information for the insignificant activities.

Table 7. Insignificant Activities

Insignificant Activity	General Applicable Emission limit	Discussion
Brazing, soldering or welding	PM, variable depending	For these units, based on EPA published emissions

Insignificant Activity	General Applicable Emission limit	Discussion
equipment	on airflow Opacity ≤ 20% (Minn. R. 7011.0710/715)	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.
Individual units with potential emissions less than 2000 lb/year of certain pollutants	PM, variable depending on airflow Opacity ≤ 20% (with exceptions) (Minn. R. 7011.0715 and Minn. R. 7011.610) or SO_2 ≤ 0.5 lb/MMBtu Opacity ≤ 20% (Minn. R. 7011.2300)	These are 13 natural gas combustion units. Based on the fuels used and EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, all of these units are operated and vented inside a building, so testing for PM or opacity is not feasible.
Equipment emitted particulate matter through a control device is that is vented internally 100% of the time	PM, variable depending on airflow Opacity ≤ 20% (Minn. R. 7011.0715)	This is a grit blasting operation controlled by a fabric filter. Based on the controlled emissions calculations, the emission rate is roughly 1/3 of the allowable emission rate. In addition, the unit vents inside the building, so testing for PM or opacity is not feasible.

3.5 Permit Organization

In general, the permit meets the MPCA Delta Guidance for ordering and grouping of requirements. The only item that deviates from guidance is the listing of certain applicable requirements at the group level even though they apply at the individual unit. Specifically: the Industrial Process Equipment Rule (IPER) is listed at GP 001 and the control equipment requirements are listed at GP 003 and GP 005. In general, limits that apply to individual pieces of equipment should be tracked at the unit level and should not be listed as a GP. The main reason is if there is noncompliance with a limit by one unit within the group, the computer system would say the whole group was out of compliance. This is a computer tracking issue.

For the IPER requirements at GP 001, the worst-case short term emissions are significantly less than the allowable emissions, so there are no permit requirements to conduct performance tests. Therefore, it is highly unlikely that the MPCA would need to track noncompliance with this limit at the individual unit level.

For the control equipment requirements, there are no unit-specific parameter limits (all the monitoring is based on inspections and maintenance), so all of the requirements are identical for the members of each group. Listing them as groups shortens the permit by roughly six pages and does not hinder the enforcement of the conditions for each member of the group.

3.6 Comments Received

This section of the TSD will be completed after the referenced review periods.

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

4. Permit Fee Assessment

This permit action is the reissuance of an individual Part 70; therefore, no application fees apply under Minn. R. 7002.0016, subp. 1.

5. Conclusion

Based on the information provided by New Flyer of America, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 14100059-007 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Peggy Bartz (permit engineer)
Dave Crowell (enforcement)
Andrea Walkush (peer reviewer)

AQ File No. 3904A; DQ 1908

Attachments:
1. Calculation Spreadsheets
2. Delta Emissions Summary
3. Facility Description and CD-01 Forms
4. CAM Plan
5. NESHAP Documentation

ATTACHMENTS

1. Calculation Spreadsheets
2. Delta Emissions Summary
3. Facility Description and CD-01 Forms

Available in pdf'd version of TSD and electronically within the MPCA Delta Database

a)	b)	c) CAS#:				CAS#:				CAS#:			
Emission	Emission	d) Pollutant Name: PM				Pollutant Name: PM_{10}				Pollutant Name: $PM_{2.5}$			
Source Type	Source ID No.	e) Potential			f) Actual	Potential			Actual	Potential			Actual
		Lbs per Hr	Unrestricted tpy	Limited tpy	Tons per yr	Lbs per Hr	Unrestricted tpy	Limited tpy	Tons per yr	Lbs per Hr	Unrestricted tpy	Limited tpy	Tons per yr
EU	002	6.05	331	26.5		6.05	331	26.5		6.05	331	26.5	
EU	004	0.19	8.17	0.82		0.19	8.17	0.82		0.19	8.17	0.82	
EU	007	1.75	93.3	7.68		1.75	93.3	7.68		1.75	93.3	7.68	
EU	008	2.27	121	9.93		2.27	121	9.93		2.27	121	9.93	
EU	009	2.28	121	9.97		2.28	121	9.97		2.28	121	9.97	
EU	010	2.28	121	9.97		2.28	121	9.97		2.28	121	9.97	
EU	011	2.28	121	9.97		2.28	121	9.97		2.28	121	9.97	
EU	017	0.19	8.17	0.82		0.19	8.17	0.82		0.19	8.17	0.82	
EU	014	1.10	0.28	0.28		1.10	0.28	0.28		1.10	0.28	0.28	
	4)	Potential			Actual	Potential			Actual	Potential			Actual
	Total		Unrestricted	Limited	Tons/year		Unrestricted	Limited	Tons/year		Unrestricted	Limited	Tons/year
	Facility		927	75.9			927	75.9			927	75.9	

a)	b)	CAS#:				CAS#:		98828		CAS#:		100414	
Emission	Emission	Pollutant Name: VOC				Pollutant Name: Cumene				Pollutant Name: Ethyl Benzene			
Source Type	Source ID No.	Potential			Actual	Potential			Actual	Potential			Actual
		Lbs per Hr	Unrestricted tpy	Limited tpy	Tons per yr	Lbs per Hr	Unrestricted tpy	Limited tpy	Tons per yr	Lbs per Hr	Unrestricted tpy	Limited tpy	Tons per yr
EU	002	48.4	212	--		0.70	3.08	3.08		0.05	0.23	--	
EU	004	2.11	7.39	--									
EU	007	66.5	291	1.72E-01						3.63	15.9	--	
EU	008	54.0	237	1.72E-01		1.71E-02	7.47E-02	7.47E-02		0.61	2.67	--	
EU	009	54.0	237	2.04E-01		1.71E-02	7.47E-02	7.47E-02		0.61	2.67	--	
EU	010	54.0	237	2.04E-01		1.71E-02	7.47E-02	7.47E-02		0.61	2.67	--	
EU	011	54.0	237	2.04E-01		1.71E-02	7.47E-02	7.47E-02		0.61	2.67	--	
EU	017	2.11	7.39	--									
EU	014	1.24	0.31	0.31									
GP	001	NA	NA	140						NA	NA	8.0	
	4)	Potential			Actual	Potential			Actual	Potential			Actual
	Total		Unrestricted	Limited	Tons/year		Unrestricted	Limited	Tons/year		Unrestricted	Limited	Tons/year
	Facility		1465	141			3.37	3.37			26.8	8.00	

a)	b)	CAS#:		112072		CAS#:		108101		CAS#:		108883	
Emission	Emission	Pollutant Name:		Ethylene Glycol Monobutyl Ether Acetate		Pollutant Name:		Methyl Isobutyl Ketone		Pollutant Name:		Toluene	
Source Type	Source ID No.	Potential			Actual	Potential			Actual	Potential			Actual
		Lbs per Hr	Unrestricted tpy	Limited tpy	Tons per yr	Lbs per Hr	Unrestricted tpy	Limited tpy	Tons per yr	Lbs per Hr	Unrestricted tpy	Limited tpy	Tons per yr
EU	002												
EU	004												
EU	007					7.43	32.6	--		3.90	17.1	1.06E-04	
EU	008	10.9	47.6	--		0.57	2.51	--		1.86	8.16	1.06E-04	
EU	009	10.9	47.6	--		0.57	2.51	--		1.86	8.16	1.26E-04	
EU	010	10.9	47.6	--		0.57	2.51	--		1.86	8.16	1.26E-04	
EU	011	10.9	47.6	--		0.57	2.51	--		1.86	8.16	1.06E-04	
EU	017												
EU	014									1.43E-03	3.58E-04	3.58E-04	
GP	001	NA	NA	8.0		NA	NA	8.0		NA	NA	8.0	
	4)	Potential			Actual	Potential			Actual	Potential			Actual
	Total		Unrestricted	Limited	Tons/year		Unrestricted	Limited	Tons/year		Unrestricted	Limited	Tons/year
	Facility		190	8.0			42.6	8.00			49.7	8.00	

a)	b)	CAS#:		1330207		CAS#:		91203		CAS#:		88357624	
Emission	Emission	Pollutant Name:		Xylene		Pollutant Name:		Naphthalene		Pollutant Name:		1,6-Hexamethylene Diisocyanate	
Source Type	Source ID No.	Potential			Actual	Potential			Actual	Potential			Actual
		Lbs per Hr	Unrestricted tpy	Limited tpy	Tons per yr	Lbs per Hr	Unrestricted tpy	Limited tpy	Tons per yr	Lbs per Hr	Unrestricted tpy	Limited tpy	Tons per yr
EU	002	1.44	6.31	--									
EU	004												
EU	007	14.3	62.5	--		4.35E-06	1.90E-05	1.90E-05					
EU	008	2.25	9.87	--		4.87E-03	2.13E-02	2.13E-02		0.03	0.13	0.13	
EU	009	2.25	9.87	--		4.87E-03	2.13E-02	2.13E-02		0.03	0.13	0.13	
EU	010	2.25	9.87	--		4.87E-03	2.13E-02	2.13E-02		0.03	0.13	0.13	
EU	011	2.25	9.87	--		4.87E-03	2.13E-02	2.13E-02		0.03	0.13	0.13	
EU	017												
EU	014	9.98E-04	2.49E-04	2.49E-04		0.00E+00	0.00E+00	0.00E+00					
GP	001	NA	NA	8.0									
	4)	Potential			Actual	Potential			Actual	Potential			Actual
	Total		Unrestricted	Limited	Tons/year		Unrestricted	Limited	Tons/year		Unrestricted	Limited	Tons/year
	Facility		108	8.00			8.54E-02	8.54E-02			0.53	0.53	

a)	b)	CAS#:			
Emission	Emission	Pollutant Name:		Total HAPs	
Source Type	Source ID No.	Potential			Actual
		Lbs per Hr	Unrestricted tpy	Limited tpy	Tons per yr
EU	002	2.14	9.38	--	
EU	004				
EU	007	12.1	53.4	0.259	
EU	008	10.9	47.7	0.059	
EU	009	10.9	47.7	0.070	
EU	010	10.9	47.7	0.070	
EU	011	10.9	47.7	0.070	
EU	017				
EU	014	0.014	0.003	0.003	
GP	001	NA	NA	23.0	
	4)	Potential			Actual
	Total		Unrestricted	Limited	Tons/year
	Facility		253.45	23.5	

MPCA Adjustments/Discussion

MPCA - redid total HAP numbers (permittee's added mat'ls that could not be used at the same time); corrected errors to show limited lb/hr, per form instructions (vs. uncontrolled unlimited lb/hr), corrected other errors where unrestricted PTE=0 shouldn't say limited tpy is <limits where the specific HAP is not emitted by a given unit or where PTE is less than the regulatory threshold, corrected for significant digits, and removed combustion-only emissions from the summary (for this TSD). See Ovens tab and EU 014 to see combustion-only emissions.

Also added GP 001 to show the limited PTE for all pollutants limited at the group level and to aid in data entry by MPCA staff.
Where a number is listed under the limited tpy for individual coating EUs - these are the emissions from the combustion portion of the operation, not from coating.

Filter Control Eff.: 92%
EU002 - Primer Booth

Product Name	Product Use (vol%)	Maximum Spray Rate (oz/min)	Maximum Spray Rate (gal/hr)	Material Density (lb/gal)	Transfer Efficiency (%)	Unrestricted Spray Rate (gal/yr)	VOC Content (%Wt)	VOC Content (lb/gal)	VOC (lb/hr)	VOC (ton/yr)
Zinc Primer S28079/S28080 w/10% S28492C (as applied)	100.0%	32	15.00	23.41	75%	131,400	13.79%	3.23	48.42	212.10
S28079	60.0%	32	15.00	8.29	75%	78,840				
S28080	30.0%	32	15.00	59.21	75%	39,420				
S28492C	10.0%	32	15.00	7.33	75%	13,140				
Potential Emission Rate									**48.42**	**212.10**

MPCA revisions - add Total HAP as a pollutant; hide columns for pollutants not emitted by this unit (many HAPs on worksheet where HAP content is 0%).

Product Name	Solids Content (%Wt)	Solids Content (lb/gal)	PM/PM10/ PM2.5 Uncontrolled (lb/hr)	PM/PM10/ PM2.5 Uncontrolled (ton/yr)	PM/PM10/ PM2.5 Controlled (lb/hr)	PM/PM10/ PM2.5 Controlled (ton/yr)	Cumene 98-82-8 (%Wt)	Cumene 98-82-8 (lb/gal)	Cumene 98-82-8 (lb/hr)	Cumene 98-82-8 (ton/yr)
Zinc Primer S28079/S28080 w/10% S28492C (as applied)	86.21%	20.18	75.68	331.49	6.05	26.52	0.20%	0.0468	0.7023	3.0761
S28079							0.00%	0.0000	0.0000	0.0000
S28080							0.00%	0.0000	0.0000	0.0000
S28492C							0.00%	0.0000	0.0000	0.0000
Potential Emission Rate			**75.68**	**331.49**	**6.05**	**26.52**			**0.70**	**3.08**

Product Name	Ethyl Benzene 100-41-4 (%Wt)	Ethyl Benzene 100-41-4 (lb/gal)	Ethyl Benzene 100-41-4 (lb/hr)	Ethyl Benzene 100-41-4 (ton/yr)	Xylene 1330-20-7 (%Wt)	Xylene 1330-20-7 (lb/gal)	Xylene 1330-20-7 (lb/hr)	Xylene 1330-20-7 (ton/yr)	**Total HAP (%Wt)**	**Total HAP (lb/gal)**	**Total HAP (lb/hr)**	**Total HAP (ton/yr)**
Zinc Primer S28079/S28080 w/10% S28492C (as applied)	0.00%	0.0000	0.0000	0.0000	0.41%	0.0960	1.4397	6.3060	**0.61%**	**0.1428**	**2.1420**	**9.3820**
S28079	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	**0.00%**	**0.0000**	**0.0000**	**0.0000**
S28080	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	**0.00%**	**0.0000**	**0.0000**	**0.0000**
S28492C	0.48%	0.0035	0.0528	0.2312	0.00%	0.0000	0.0000	0.0000	**0.48%**	**0.0035**	**0.0528**	**0.2312**
Potential Emission Rate			**0.05**	**0.23**			**1.44**	**6.31**			**2.14**	**9.38**

MPCA Adjustments/Discussion

$PM_{2.5}$ Estimate

As of July 15, 2008, $PM_{2.5}$ is a NSR pollutant for which a facility can trigger possible review. The Permittee conservatively assumed all coating PM is both PM_{10} and $PM_{2.5}$. This facility is not a major source for PM or PM_{10} and therefore is also not a major source for $PM_{2.5}$, so making this assumption does not affect applicability of any regulation to this facility or these units. If at some point this changes, this assumption could be revisited.

It is also reasonable to assume the same control efficiency for $PM_{2.5}$ from coating as that used for PM_{10}.
All of the PM from painting is expected to be filterable (i.e., not condensible). Research conducted for the MPCA while researching revisions to Minn. R. 7011.0070 (control equipment efficiencies) supported using the same control for PM vs. PM10 for mat and panel filters.
No data was found for $PM_{2.5}$, so the same efficiency is used here.

Filter Control Eff.: 92%
EU004, EU017

Product Name	Product Use (vol%)	Maximum Spray Rate (oz/min)	Maximum Spray Rate (gal/hr)	Material Density (lb/gal)	Transfer Efficiency (%)	Maximum Annual Usage (gal/yr)	VOC Content (%Wt)	VOC Content (lb/gal)	VOC (lb/hr)[5]	VOC (ton/yr)
Corashield P7972	100.0%	NA	NA	7.81	90%	34,000	0.6%	0.05	0.23	0.80
Coratube S38362	100.0%	NA	NA	7.33	100%	4,000	45.0%	3.30	1.88	6.60
Potential Emission Rate									**2.11**	**7.39**

NOTES (Potential Emissions):

1. Material usage based upon 2011 input of materials in the St. Cloud facility and extrapolated for maximum production of 2190 coaches per year.
2. Component data from manufacturer Environmental Data Sheets and/or MSDS
3. Coating emissions calculations: Potential emissions = (%Wt) x (material lb/gal) x (gal/yr) / 8760 = lb/hr
4. Transfer efficiency of solid components of Corashield = 90%, Coratube = 100%
5. **MPCA adjustment to maximum hourly emissions rate - 25% adjustment to account for maximum hourly emissions vs. actual hourly or 24-hr average hourly emissions.**

Product Name	Solids Content (%Wt)	Solids Content (lb/gal)	PM/PM10/ PM2.5 Uncontrolled (lb/hr)[5]	PM/PM10/ PM2.5 Uncontrolled (ton/yr)	PM/PM10/ PM2.5 Controlled (lb/hr)	PM/PM10/ PM2.5 Controlled (ton/yr)
Corashield P7972	61.54%	4.81	2.33	8.17	0.19	0.82
Coratube S38362	55.00%	4.03	0.00	0.00	0.00	0.00
Potential Emission Rate			**2.33**	**8.17**	**0.19**	**0.82**

Filter Control Eff.: 92%
EU007 - Base Coat/Prime Booth

Product Name	Product Use (vol%)	Maximum Spray Rate (oz/min)	Maximum Spray Rate (gal/hr)	Material Density (lb/gal)	Transfer Efficiency (%)	Unrestricted Spray Rate (gal/yr)	VOC Content (%Wt)	VOC Content (lb/gal)	VOC (lb/hr)	VOC (ton/yr)
2540S	66.7%	32	10.01	12.03	75%	87,644	33.25%	4.00	40.02	175.29
2505S - Activator	33.3%	32	5.00	7.03	75%	43,756	75.39%	5.30	26.47	115.95
2507S - Activator	33.3%	32	5.00	7.16	75%	43,756	69.83%	5.00	24.98	109.39
Potential Emission Rate	100.0%	32	15.00	10.41	75%	131,400		4.43	**66.49**	**291.24**

MPCA revisions - add Total HAP as a pollutant; hide columns for pollutants not emitted by this unit (many HAPs on worksheet where HAP content is 0%).

Product Name	Solids Content (%Wt)	Solids Content (lb/gal)	PM/PM10/ PM2.5 Uncontrolled (lb/hr)	PM/PM10/ PM2.5 Uncontrolled (ton/yr)	PM/PM10/ PM2.5 Controlled (lb/hr)	PM/PM10/ PM2.5 Controlled (ton/yr)	Ethyl Benzene 100-41-4 (%Wt)	Ethyl Benzene 100-41-4 (lb/gal)	Ethyl Benzene 100-41-4 (lb/hr)	Ethyl Benzene 100-41-4 (ton/yr)
2540S	64.75%	7.79	19.48	85.34	1.56	6.83	2.60%	0.3128	3.1294	13.7066
2505S - Activator	19.72%	1.39	1.73	7.58	0.14	0.61	0.00%	0.0000	0.0000	0.0000
2507S - Activator	19.64%	1.41	1.76	7.69	0.14	0.62	1.40%	0.1002	0.5007	2.1931
Potential Emission Rate		**5.32**	**21.24**	**93.03**	**1.70**	**7.44**			**3.63**	**15.90**

Product Name	Methyl isobutyl ketone 108-10-1 (%Wt)	Methyl isobutyl ketone 108-10-1 (lb/gal)	Methyl isobutyl ketone 108-10-1 (lb/hr)	Methyl isobutyl ketone 108-10-1 (ton/yr)	Toluene 108-88-3 (%Wt)	Toluene 108-88-3 (lb/gal)	Toluene 108-88-3 (lb/hr)	Toluene 108-88-3 (ton/yr)
2540S	1.10%	0.1323	1.3240	5.7990	1.20%	0.1444	1.4443	6.3261
2505S - Activator	17.40%	1.2232	6.1100	26.7617	7.00%	0.4921	2.4580	10.7662
2507S - Activator	10.30%	0.7375	3.6837	16.1347	0.00%	0.0000	0.0000	0.0000
Potential Emission Rate			**7.43**	**32.56**			**3.90**	**17.09**

Product Name	Xylene 1330-20-7 (%Wt)	Xylene 1330-20-7 (lb/gal)	Xylene 1330-20-7 (lb/hr)	Xylene 1330-20-7 (ton/yr)	**Total HAP (%Wt)**	**Total HAP (lb/gal)**	**Total HAP (lb/hr)**	**Total HAP (ton/yr)**
2540S	10.20%	1.2271	12.2767	53.7721	**15.10%**	**1.2116**	**12.1223**	**53.0957**
2505S - Activator	0.00%	0.0000	0.0000	0.0000	**24.40%**	**0.5712**	**2.8532**	**25.0311**
2507S - Activator	5.60%	0.4010	2.0028	8.7722	**17.30%**	**0.4125**	**2.0603**	**18.0757**
Potential Emission Rate			**14.28**	**62.54**			**12.12**	**53.10**

Filter Control Eff.: 92%
EUs 008-011

Product Name	Description	Product Use	Maximum Spray Rate	Maximum Spray Rate	Material Density	Transfer Efficiency	Unrestricted Spray Rate	VOC Content	VOC Content	VOC	VOC	Solids Content	Solids Content	PM/PM10/ PM2.5 Uncontrolled	PM/PM10/ PM2.5 Uncontrolled
		(vol%)	(oz/min)	(gal/hr)	(lb/gal)	(%)	(gal/yr)	(%Wt)	(lb/gal)	(lb/hr)	(ton/yr)	(%Wt)	(lb/gal)	(lb/hr)	(ton/yr)
EG	Topcoat Composite	69.0%	32	10.35	9.79	75%	90,666	39.84%	3.90	40.37	176.80	58.00%	5.68	14.69	64.35
EX	Topcoat Composite	69.0%	32	10.35	9.20	75%	90,666	39.13%	3.60	37.26	163.20	60.00%	5.52	14.28	62.56
848PN5636LG	Topcoat Composite	69.0%	32	10.35	8.95	75%	90,666	31.28%	2.80	28.98	126.93	51.13%	4.58	11.84	51.86
J3569EF	Topcoat Composite	69.0%	32	10.35	8.57	75%	90,666	37.34%	3.20	33.12	145.07	50.33%	4.31	11.16	48.88
N5793EF	Topcoat Composite	69.0%	32	10.35	11.24	75%	90,666	32.92%	3.70	38.30	167.73	63.89%	7.18	18.58	81.39
15305S	Activator	23.0%	32	3.45	8.66	75%	30,222	18.48%	1.60	5.52	24.18	66.00%	5.72	4.93	21.59
15307S	Activator	23.0%	32	3.45	8.73	75%	30,222	18.33%	1.60	5.52	24.18	66.00%	5.76	4.97	21.77
196S	Activator	23.0%	32	3.45	8.52	75%	30,222	17.61%	1.50	5.18	22.67	64.27%	5.48	4.72	20.69
189S	Accelerator	1.0%	32	0.15	8.14	75%	1,314	99.51%	8.10	1.22	5.32	0.27%	0.02	0.00	0.00
389S	Accelerator	1.0%	32	0.15	8.14	75%	1,314	99.51%	8.10	1.22	5.32	1.00%	0.08	0.00	0.01
8989S	Accelerator	1.0%	32	0.15	8.16	75%	1,314	95.59%	7.80	1.17	5.12	5.00%	0.41	0.02	0.07
1001S	Pigment Additive	2.0%	32	0.30	20.75	75%	2,628	10.12%	2.10	0.63	2.76	90.00%	18.68	1.40	6.13
1002S	Pigment Additive	2.0%	32	0.30	21.98	75%	2,628	10.01%	2.20	0.66	2.89	90.00%	19.78	1.48	6.50
1003S	Pigment Additive	2.0%	32	0.30	21.60	75%	2,628	10.19%	2.20	0.66	2.89	90.00%	19.44	1.46	6.39
1004S	Pigment Additive	2.0%	32	0.30	21.19	75%	2,628	9.91%	2.10	0.63	2.76	90.00%	19.07	1.43	6.26
1005S	Pigment Additive	2.0%	32	0.30	20.75	75%	2,628	10.12%	2.10	0.63	2.76	90.00%	18.68	1.40	6.13
1006S	Pigment Additive	2.0%	32	0.30	21.60	75%	2,628	10.19%	2.20	0.66	2.89	90.00%	19.44	1.46	6.39
1007S	Pigment Additive	2.0%	32	0.30	21.19	75%	2,628	9.91%	2.10	0.63	2.76	90.00%	19.07	1.43	6.26
1009S	Pigment Additive	2.0%	32	0.30	21.60	75%	2,628	10.19%	2.20	0.66	2.89	90.00%	19.44	1.46	6.39
1010S	Pigment Additive	2.0%	32	0.30	29.15	75%	2,628	9.95%	2.90	0.87	3.81	90.00%	26.24	1.97	8.62
1011S	Pigment Additive	2.0%	32	0.30	21.19	75%	2,628	9.91%	2.10	0.63	2.76	90.00%	19.07	1.43	6.26
1012S	Pigment Additive	2.0%	32	0.30	21.28	75%	2,628	9.87%	2.10	0.63	2.76	90.00%	19.15	1.44	6.29
1014S	Pigment Additive	2.0%	32	0.30	20.83	75%	2,628	10.08%	2.10	0.63	2.76	90.00%	18.75	1.41	6.16
1018S	Pigment Additive	2.0%	32	0.30	20.83	75%	2,628	10.08%	2.10	0.63	2.76	90.00%	18.75	1.41	6.16
1019S	Pigment Additive	2.0%	32	0.30	22.47	75%	2,628	9.79%	2.20	0.66	2.89	90.00%	20.22	1.52	6.64
1020S	Pigment Additive	2.0%	32	0.30	23.31	75%	2,628	9.87%	2.30	0.69	3.02	90.00%	20.98	1.57	6.89
1021S	Pigment Additive	2.0%	32	0.30	24.15	75%	2,628	9.94%	2.40	0.72	3.15	90.00%	21.74	1.63	7.14
1023S	Pigment Additive	2.0%	32	0.30	24.15	75%	2,628	9.94%	2.40	0.72	3.15	90.00%	21.74	1.63	7.14
1024S	Pigment Additive	2.0%	32	0.30	18.33	75%	2,628	9.82%	1.80	0.54	2.37	90.00%	16.50	1.24	5.42
1025S	Pigment Additive	2.0%	32	0.30	22.53	75%	2,628	10.21%	2.30	0.69	3.02	90.00%	20.28	1.52	6.66
PT101	Toner Additive	5.0%	32	0.75	14.81	75%	6,570	23.63%	3.50	2.63	11.50	76.19%	11.28	2.12	9.27
PT105	Toner Additive	5.0%	32	0.75	8.37	75%	6,570	43.01%	3.60	2.70	11.83	56.28%	4.71	0.88	3.87
PT107	Toner Additive	5.0%	32	0.75	8.16	75%	6,570	42.89%	3.50	2.63	11.50	56.55%	4.61	0.87	3.79
PT110	Toner Additive	5.0%	32	0.75	8.82	75%	6,570	51.02%	4.50	3.38	14.78	49.36%	4.35	0.82	3.58
PT112	Toner Additive	5.0%	32	0.75	9.11	75%	6,570	47.20%	4.30	3.23	14.13	53.23%	4.85	0.91	3.98
PT114	Toner Additive	5.0%	32	0.75	9.11	75%	6,570	47.20%	4.30	3.23	14.13	53.23%	4.85	0.91	3.98
PT120	Toner Additive	5.0%	32	0.75	8.31	75%	6,570	45.73%	3.80	2.85	12.48	54.26%	4.51	0.85	3.70
PT122	Toner Additive	5.0%	32	0.75	8.47	75%	6,570	43.68%	3.70	2.78	12.15	56.81%	4.81	0.90	3.95
PT124	Toner Additive	5.0%	32	0.75	8.61	75%	6,570	45.30%	3.90	2.93	12.81	54.50%	4.69	0.88	3.85
PT125	Toner Additive	5.0%	32	0.75	8.13	75%	6,570	45.51%	3.70	2.78	12.15	54.14%	4.40	0.83	3.61
PT127	Toner Additive	5.0%	32	0.75	8.94	75%	6,570	40.27%	3.60	2.70	11.83	59.51%	5.32	1.00	4.37
PT132	Toner Additive	5.0%	32	0.75	8.67	75%	6,570	48.44%	4.20	3.15	13.80	51.91%	4.50	0.84	3.70
PT133	Toner Additive	5.0%	32	0.75	8.15	75%	6,570	45.40%	3.70	2.78	12.15	54.15%	4.41	0.83	3.62
PT140	Toner Additive	5.0%	32	0.75	14.57	75%	6,570	25.39%	3.70	2.78	12.15	74.73%	10.89	2.04	8.94
PT144	Toner Additive	5.0%	32	0.75	9.10	75%	6,570	40.66%	3.70	2.78	12.15	59.60%	5.42	1.02	4.45
PT148	Toner Additive	5.0%	32	0.75	9.25	75%	6,570	37.84%	3.50	2.63	11.50	62.12%	5.75	1.08	4.72
PT154	Toner Additive	5.0%	32	0.75	9.45	75%	6,570	35.98%	3.40	2.55	11.17	64.26%	6.07	1.14	4.99
PT162	Toner Additive	5.0%	32	0.75	8.53	75%	6,570	46.89%	4.00	3.00	13.14	53.67%	4.58	0.86	3.76
PT164	Toner Additive	5.0%	32	0.75	8.69	75%	6,570	42.58%	3.70	2.78	12.15	57.03%	4.96	0.93	4.07
PT165	Toner Additive	5.0%	32	0.75	9.12	75%	6,570	38.38%	3.50	2.63	11.50	61.68%	5.63	1.05	4.62
PT166	Toner Additive	5.0%	32	0.75	8.75	75%	6,570	40.00%	3.50	2.63	11.50	59.85%	5.24	0.98	4.30
PT167	Toner Additive	5.0%	32	0.75	8.65	75%	6,570	45.09%	3.90	2.93	12.81	55.34%	4.79	0.90	3.93
PT168	Toner Additive	5.0%	32	0.75	8.83	75%	6,570	39.64%	3.50	2.63	11.50	60.49%	5.34	1.00	4.39
PT181	Toner Additive	5.0%	32	0.75	12.48	75%	6,570	27.24%	3.40	2.55	11.17	72.41%	9.04	1.69	7.42
PT183	Toner Additive	5.0%	32	0.75	9.92	75%	6,570	43.35%	4.30	3.23	14.13	57.13%	5.67	1.06	4.65
PT185	Toner Additive	5.0%	32	0.75	13.61	75%	6,570	25.72%	3.50	2.63	11.50	74.17%	10.09	1.89	8.29
PT187	Toner Additive	5.0%	32	0.75	9.57	75%	6,570	40.75%	3.90	2.93	12.81	58.89%	5.64	1.06	4.63
PT191	Toner Additive	5.0%	32	0.75	7.51	75%	6,570	98.54%	7.40	5.55	24.31	1.45%	0.11	0.02	0.09
PT192	Toner Additive	5.0%	32	0.75	7.97	75%	6,570	43.91%	3.50	2.63	11.50	55.76%	4.44	0.83	3.65
PT196	Toner Additive	5.0%	32	0.75	8.84	75%	6,570	32.81%	2.90	2.18	9.53	49.11%	4.34	0.81	3.57
PT197	Toner Additive	5.0%	32	0.75	8.29	75%	6,570	25.33%	2.10	1.58	6.90	66.21%	5.49	1.03	4.51
PT198	Toner Additive	5.0%	32	0.75	8.45	75%	6,570	28.40%	2.40	1.80	7.88	71.86%	6.07	1.14	4.99
Total Topcoat Mixture	Topcoat Composite	100.0%	32	15.00	11.17	75%	131,400	31.95%	3.57	53.52	234.42	66.02%	7.37	27.65	121.11
373P26339	Primer Surfacer	100.0%	32	15.00	10.98	75%	131,400	32.79%	3.60	54.00	236.52	64.42%	7.07	26.52	116.18
8430S	Clear Coat	100.0%	32	15.00	7.98	75%	131,400	42.61%	3.40	51.00	223.38	49.90%	3.98	14.93	65.40
The following miscellaneous products are used in very small amounts or are already included in the topcoat composite mixture above (indicated by 0% usage).															
15375S	Additive (composite)	0.0%	32	0.00	6.93	75%	0	56.28%	3.90	0.00	0.00	0.00%	0.00	0.00	0.00
15385S	Additive (composite)	0.0%	32	0.00	7.07	75%	0	63.65%	4.50	0.00	0.00	0.00%	0.00	0.00	0.00
15395S	Additive (composite)	0.0%	32	0.00	7.32	75%	0	90.16%	6.60	0.00	0.00	0.00%	0.00	0.00	0.00
15399S	Additive (composite)	0.0%	32	0.00	7.97	75%	0	41.41%	3.30	0.00	0.00	52.52%	4.19	0.00	0.00
7285S	Additive Solvent (composite)	0.0%	32	0.00	7.27	75%	0	89.41%	6.50	0.00	0.00	0.00%	0.00	0.00	0.00
8400E	Additive Resin (composite)	0.0%	32	0.00	8.20	75%	0	40.24%	3.30	0.00	0.00	56.09%	4.60	0.00	0.00
8585S	Additive Solvent (composite)	0.0%	32	0.00	6.46	75%	0	100.62%	6.50	0.00	0.00	0.00%	0.00	0.00	0.00
8885S	Additive Solvent (composite)	0.0%	32	0.00	7.32	75%	0	90.16%	6.60	0.00	0.00	0.00%	0.00	0.00	0.00
222S	Adhesion Promoter	5.0%	32	0.75	7.08	75%	6,570	76.27%	5.40	4.05	17.74	5.78%	0.41	0.08	0.34
32030S	Acetone	5.0%	32	0.75	6.61	75%	6,570	0.00%	0.00	0.00	0.00	0.00%	0.00	0.00	0.00
3401S	Spot Repair Solvent	5.0%	32	0.75	7.27	75%	6,570	96.29%	7.00	5.25	23.00	3.55%	0.26	0.05	0.21
3909S	Cleaning Solvent	5.0%	32	0.75	8.31	75%	6,570	6.02%	0.50	0.38	1.64	0.03%	0.00	0.00	0.00
3919S	Cleaning Solvent	5.0%	32	0.75	6.51	75%	6,570	99.85%	6.50	4.88	21.35	0.00%	0.00	0.00	0.00
3939S	Cleaning Solvent	5.0%	32	0.75	6.49	75%	6,570	100.15%	6.50	4.88	21.35	0.00%	0.00	0.00	0.00
441-37	Spray Cans	5.0%	32	0.75	8.09	75%	6,570	51.92%	4.20	3.15	13.80	0.00%	0.00	0.00	0.00
8475S	Cleaner	5.0%	32	0.75	7.51	75%	6,570	99.87%	7.50	5.63	24.64	0.00%	0.00	0.00	0.00
A-5099S	Spray Cans	5.0%	32	0.75	7.63	75%	6,570	62.91%	4.80	3.60	15.77	2.22%	0.17	0.03	0.14
2330S	Plastic Adhesion Promoter	5.0%	32	0.75	7.58	75%	6,570	87.07%	6.60	4.95	21.68	12.79%	0.97	0.18	0.80
130	Acetone	5.0%	32	0.75	6.61	75%	6,570	0.00%	0.00	0.00	0.00	0.00%	0.00	0.00	0.00
Miscellaneous Tota	Miscellaneous Products	5.0%	32	0.75	8.31	75%	6,570	90.25%	7.50	5.63	24.64	11.67%	0.97	0.18	0.80
Potential Emission Rate										**54.00**	**236.52**			**27.65**	**121.11**

MPCA revisions - add Total HAP as a pollutant; hide columns for pollutants not emitted by these units (many HAPs on worksheet where HAP content is 0%).

Filter Control Eff.: 92%
EUs 008-011

Product Name	PM/PM10/ PM2.5 Controlled (lb/hr)	PM/PM10/ PM2.5 Controlled (ton/yr)	Cumene 98-82-8 (%Wt)	Cumene 98-82-8 (lb/gal)	Cumene 98-82-8 (lb/hr)	Cumene 98-82-8 (ton/yr)	Ethyl Benzene 100-41-4 (%Wt)	Ethyl Benzene 100-41-4 (lb/gal)	Ethyl Benzene 100-41-4 (lb/hr)	Ethyl Benzene 100-41-4 (ton/yr)	Ethylene Glycol Monobutyl Ether Acetate (%Wt)	Ethylene Glycol Monobutyl Ether Acetate (lb/gal)	Ethylene Glycol Monobutyl Ether Acetate (lb/hr)	Ethylene Glycol Monobutyl Ether Acetate (ton/yr)	Methyl isobutyl ketone 108-10-1 (%Wt)	Methyl isobutyl ketone 108-10-1 (lb/gal)	Methyl isobutyl ketone 108-10-1 (lb/hr)
EG	1.18	5.15	0.00%	0.0000	0.0000	0.0000	0.10%	0.0098	0.1013	0.4438	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
EX	1.14	5.00	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
848PN5636LG	0.95	4.15	0.00%	0.0000	0.0000	0.0000	0.50%	0.0448	0.4632	2.0287	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
U3569EF	0.89	3.91	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
N5793EF	1.49	6.51	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
15305S	0.39	1.73	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
15307S	0.40	1.74	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
196S	0.38	1.65	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
189S	0.00	0.00	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
389S	0.00	0.00	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
8989S	0.00	0.01	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1001S	0.11	0.49	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1002S	0.12	0.52	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1003S	0.12	0.51	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1004S	0.11	0.50	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1005S	0.11	0.49	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1006S	0.12	0.51	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1007S	0.11	0.50	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1009S	0.12	0.51	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1010S	0.16	0.69	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1011S	0.11	0.50	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1012S	0.11	0.50	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1014S	0.11	0.49	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1018S	0.11	0.49	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1019S	0.12	0.53	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1020S	0.13	0.55	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1021S	0.13	0.57	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1023S	0.13	0.57	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1024S	0.10	0.43	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1025S	0.12	0.53	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT101	0.17	0.74	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT105	0.07	0.31	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT107	0.07	0.30	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT110	0.07	0.29	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT112	0.07	0.32	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT114	0.07	0.32	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT120	0.07	0.30	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT122	0.07	0.32	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT124	0.07	0.31	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT125	0.07	0.29	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT127	0.08	0.35	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT132	0.07	0.30	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT133	0.07	0.29	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT140	0.16	0.72	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT144	0.08	0.36	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT148	0.09	0.38	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT154	0.09	0.40	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT162	0.07	0.30	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT164	0.07	0.33	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT165	0.08	0.37	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT166	0.08	0.34	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT167	0.07	0.31	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT168	0.08	0.35	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT181	0.14	0.59	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT183	0.09	0.37	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT185	0.15	0.66	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT187	0.08	0.37	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT191	0.00	0.01	0.00%	0.0000	0.0000	0.0000	2.60%	0.1953	0.1464	0.6414	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT192	0.07	0.29	0.00%	0.0000	0.0000	0.0000	0.20%	0.0159	0.0120	0.0524	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT196	0.07	0.29	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT197	0.08	0.36	0.00%	0.0000	0.0000	0.0000	0.50%	0.0415	0.0311	0.1362	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT198	0.09	0.40	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
Total Topcoat Mixture	2.21	9.69	0.00%	0.00	0.0000	0.0000	0.36%	0.04	0.6096	2.6701	0.00%	0.00	0.0000	0.0000	0.00%	0.00	0.0000
373P26339	2.12	9.29	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	6.60%	0.7247	10.8702	47.6115	0.00%	0.0000	0.0000
8430S	1.19	5.23	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
The following miscellaneous pr																	
15375S	0.00	0.00	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
15385S	0.00	0.00	0.50%	0.0354	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
15395S	0.00	0.00	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
15399S	0.00	0.00	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
7285S	0.00	0.00	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
8400E	0.00	0.00	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
8585S	0.00	0.00	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
8885S	0.00	0.00	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
222S	0.01	0.03	0.00%	0.0000	0.0000	0.0000	3.30%	0.2336	0.1752	0.7675	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
32030S	0.00	0.00	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
3401S	0.00	0.02	0.00%	0.0000	0.0000	0.0000	0.80%	0.0582	0.0436	0.1911	10.70%	0.7779	0.5834	2.5554	0.00%	0.0000	0.0000
3909S	0.00	0.00	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
3919S	0.00	0.00	0.00%	0.0000	0.0000	0.0000	0.20%	0.0130	0.0098	0.0428	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
3939S	0.00	0.00	0.00%	0.0000	0.0000	0.0000	0.20%	0.0130	0.0097	0.0426	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
441-37	0.00	0.00	0.00%	0.0000	0.0000	0.0000	1.90%	0.1537	0.1153	0.5049	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
8475S	0.00	0.00	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
A-5099S	0.00	0.01	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	10.00%	0.7630	0.5723
2330S	0.01	0.06	0.30%	0.0227	0.0171	0.0747	8.30%	0.6291	0.4719	2.0667	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
130	0.00	0.00	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
Miscellaneous Tota	0.01	0.06	0.27%	0.02	0.0171	0.0747	7.57%	0.63	0.4719	2.0667	9.36%	0.78	0.5834	2.5554	9.18%	0.76	0.5723
Potential Emission Rate	**2.21**	**9.69**			**0.02**	**0.07**			**0.61**	**2.67**			**10.87**	**47.61**			**0.57**

Filter Control Eff.: 92%
EUs 008-011

Product Name	Methyl isobutyl ketone	Naphthalene	Naphthalene	Naphthalene	Naphthalene	Toluene	Toluene	Toluene	Toluene	Xylene	Xylene	Xylene	Xylene	1,6-Hexamethylene Diisocyanate	1,6-Hexamethylene Diisocyanate	1,6-Hexamethylene Diisocyanate
	108-10-1	91-20-3	91-20-3	91-20-3	91-20-3	108-88-3	108-88-3	108-88-3	108-88-3	1330-20-7	1330-20-7	1330-20-7	1330-20-7	8220-60-0	8220-60-0	8220-60-0
	(ton/yr)	(%Wt)	(lb/gal)	(lb/hr)	(ton/yr)	(%Wt)	(lb/gal)	(lb/hr)	(ton/yr)	(%Wt)	(lb/gal)	(lb/hr)	(ton/yr)	(%Wt)	(lb/gal)	(lb/hr)
EG	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
EX	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
848PN5636LG	0.0000	0.00%	0.0000	0.0000	0.0000	1.60%	0.1432	1.4821	6.4917	1.80%	0.1611	1.6674	7.3031	0.00%	0.0000	0.0000
J3569EF	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
N5793EF	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
15305S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.10%	0.0087	0.0299
15307S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.10%	0.0087	0.0301
196S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.10%	0.0085	0.0294
189S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
389S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
8989S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1001S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1002S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1003S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1004S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1005S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1006S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1007S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1009S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1010S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1011S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1012S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1014S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1018S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1019S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1020S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1021S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1023S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1024S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
1025S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT101	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT105	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT107	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT110	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT112	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT114	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT120	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT122	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT124	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT125	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT127	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT132	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT133	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT140	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT144	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT148	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT154	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT162	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT164	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT165	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT166	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT167	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT168	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT181	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT183	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT185	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT187	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT191	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	10.40%	0.7810	0.5858	2.5657	0.00%	0.0000	0.0000
PT192	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT196	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
PT197	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	1.90%	0.1575	0.1181	0.5174	0.00%	0.0000	0.0000
PT198	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
Total Topcoat Mixture	0.0000	0.00%	0.00	0.0000	0.0000	0.88%	0.10	1.4821	6.4917	1.34%	0.15	2.2532	9.8689	0.02%	0.00	0.0301
373P26339	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
8430S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
The following miscellaneous pr																
15375S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
15385S	0.0000	1.90%	0.1343	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
15395S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
15399S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
7285S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
8400E	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
8585S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
8885S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
222S	0.0000	0.00%	0.0000	0.0000	0.0000	35.10%	2.4851	1.8638	8.1635	13.00%	0.9204	0.6903	3.0235	0.00%	0.0000	0.0000
32030S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
3401S	0.0000	0.00%	0.0000	0.0000	0.0000	9.70%	0.7052	0.5289	2.3165	3.40%	0.2472	0.1854	0.8120	0.00%	0.0000	0.0000
3909S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
3919S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
3939S	0.0000	0.10%	0.0065	0.0049	0.0213	7.60%	0.4932	0.3699	1.6203	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
441-37	0.0000	0.00%	0.0000	0.0000	0.0000	3.00%	0.2427	0.1820	0.7973	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
8475S	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
A-5099S	2.5065	0.00%	0.0000	0.0000	0.0000	16.50%	1.2590	0.9442	4.1357	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
2330S	0.0000	0.00%	0.0000	0.0000	0.0000	24.80%	1.8798	1.4099	6.1753	33.20%	2.5166	1.8874	8.2669	0.00%	0.0000	0.0000
130	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000	0.0000	0.00%	0.0000	0.0000
Miscellaneous Tota	2.5065	0.08%	0.01	0.0049	0.0213	29.90%	2.49	1.8638	8.1635	30.28%	2.52	1.8874	8.2669	0.00%	0.00	0.0000
Potential Emission Rate	**2.51**			**4.87E-03**	**2.13E-02**			**1.86**	**8.16**			**2.25**	**9.87**			**0.03**

Filter Control Eff.: 92%
EUs 008-011

Product Name	1,6-Hexamethylene Diisocyanate 8220-60-0 (ton/yr)	Total HAP (%Wt)	Total HAP (lb/gal)	Total HAP (lb/hr)	Total HAP (ton/yr)
EG	0.0000	0.10%	0.0098	0.1013	0.4438
EX	0.0000	0.00%	0.0000	0.0000	0.0000
848PN5636LG	0.0000	3.90%	0.3491	3.6127	15.8235
U3569EF	0.0000	0.00%	0.0000	0.0000	0.0000
N5793EF	0.0000	0.00%	0.0000	0.0000	0.0000
15305S	0.1309	0.10%	0.0087	0.0299	0.1309
15307S	0.1319	0.10%	0.0087	0.0301	0.1319
196S	0.1287	0.10%	0.0085	0.0294	0.1287
189S	0.0000	0.00%	0.0000	0.0000	0.0000
389S	0.0000	0.00%	0.0000	0.0000	0.0000
8989S	0.0000	0.00%	0.0000	0.0000	0.0000
1001S	0.0000	0.00%	0.0000	0.0000	0.0000
1002S	0.0000	0.00%	0.0000	0.0000	0.0000
1003S	0.0000	0.00%	0.0000	0.0000	0.0000
1004S	0.0000	0.00%	0.0000	0.0000	0.0000
1005S	0.0000	0.00%	0.0000	0.0000	0.0000
1006S	0.0000	0.00%	0.0000	0.0000	0.0000
1007S	0.0000	0.00%	0.0000	0.0000	0.0000
1009S	0.0000	0.00%	0.0000	0.0000	0.0000
1010S	0.0000	0.00%	0.0000	0.0000	0.0000
1011S	0.0000	0.00%	0.0000	0.0000	0.0000
1012S	0.0000	0.00%	0.0000	0.0000	0.0000
1014S	0.0000	0.00%	0.0000	0.0000	0.0000
1018S	0.0000	0.00%	0.0000	0.0000	0.0000
1019S	0.0000	0.00%	0.0000	0.0000	0.0000
1020S	0.0000	0.00%	0.0000	0.0000	0.0000
1021S	0.0000	0.00%	0.0000	0.0000	0.0000
1023S	0.0000	0.00%	0.0000	0.0000	0.0000
1024S	0.0000	0.00%	0.0000	0.0000	0.0000
1025S	0.0000	0.00%	0.0000	0.0000	0.0000
PT101	0.0000	0.00%	0.0000	0.0000	0.0000
PT105	0.0000	0.00%	0.0000	0.0000	0.0000
PT107	0.0000	0.00%	0.0000	0.0000	0.0000
PT110	0.0000	0.00%	0.0000	0.0000	0.0000
PT112	0.0000	0.00%	0.0000	0.0000	0.0000
PT114	0.0000	0.00%	0.0000	0.0000	0.0000
PT120	0.0000	0.00%	0.0000	0.0000	0.0000
PT122	0.0000	0.00%	0.0000	0.0000	0.0000
PT124	0.0000	0.00%	0.0000	0.0000	0.0000
PT125	0.0000	0.00%	0.0000	0.0000	0.0000
PT127	0.0000	0.00%	0.0000	0.0000	0.0000
PT132	0.0000	0.00%	0.0000	0.0000	0.0000
PT133	0.0000	0.00%	0.0000	0.0000	0.0000
PT140	0.0000	0.00%	0.0000	0.0000	0.0000
PT144	0.0000	0.00%	0.0000	0.0000	0.0000
PT148	0.0000	0.00%	0.0000	0.0000	0.0000
PT154	0.0000	0.00%	0.0000	0.0000	0.0000
PT162	0.0000	0.00%	0.0000	0.0000	0.0000
PT164	0.0000	0.00%	0.0000	0.0000	0.0000
PT165	0.0000	0.00%	0.0000	0.0000	0.0000
PT166	0.0000	0.00%	0.0000	0.0000	0.0000
PT167	0.0000	0.00%	0.0000	0.0000	0.0000
PT168	0.0000	0.00%	0.0000	0.0000	0.0000
PT181	0.0000	0.00%	0.0000	0.0000	0.0000
PT183	0.0000	0.00%	0.0000	0.0000	0.0000
PT185	0.0000	0.00%	0.0000	0.0000	0.0000
PT187	0.0000	0.00%	0.0000	0.0000	0.0000
PT191	0.0000	13.00%	0.9763	0.7322	3.2071
PT192	0.0000	0.20%	0.0159	0.0120	0.0524
PT196	0.0000	0.00%	0.0000	0.0000	0.0000
PT197	0.0000	2.40%	0.1990	0.1492	0.6536
PT198	0.0000	0.00%	0.0000	0.0000	0.0000
Total Topcoat Mixture	0.1319	2.61%	0.29	4.3750	19.1625
373P26339	0.0000	6.60%	0.7247	10.8702	47.6115
8430S	0.0000	0.00%	0.0000	0.0000	0.0000
The following miscellaneous pr					
15375S	0.0000	0.00%	0.0000	0.0000	0.0000
15385S	0.0000	2.40%	0.1697	0.0000	0.0000
15395S	0.0000	0.00%	0.0000	0.0000	0.0000
15399S	0.0000	0.00%	0.0000	0.0000	0.0000
7285S	0.0000	0.00%	0.0000	0.0000	0.0000
8400E	0.0000	0.00%	0.0000	0.0000	0.0000
8585S	0.0000	0.00%	0.0000	0.0000	0.0000
8885S	0.0000	0.00%	0.0000	0.0000	0.0000
222S	0.0000	51.40%	3.6391	2.7293	11.9545
32030S	0.0000	0.00%	0.0000	0.0000	0.0000
3401S	0.0000	24.60%	1.7884	1.3413	5.8750
3909S	0.0000	0.00%	0.0000	0.0000	0.0000
3919S	0.0000	0.20%	0.0130	0.0098	0.0428
3939S	0.0000	7.90%	0.5127	0.3845	1.6843
441-37	0.0000	4.90%	0.3964	0.2973	1.3022
8475S	0.0000	0.00%	0.0000	0.0000	0.0000
A-5099S	0.0000	26.50%	2.0220	1.5165	6.6421
2330S	0.0000	66.60%	5.0483	3.7862	16.5836
130	0.0000	0.00%	0.0000	0.0000	0.0000
Miscellaneous Tota	0.0000	60.75%	5.05	3.7862	16.5836
Potential Emission Rate	**0.13**			**10.87**	**47.61**

Allowable PM PTE

Prepared by MPCA Staff
Coating Operations and Rule Limits
Allowable PTE by rule -- Industrial Process Equipment Rule (IPER)

EU	SV	Airflow (acfm)	gas temp	DSCFM	Table 2 (gr/dscf)	Table 2 (lb/hr)	Uncontrolled PTE (lb/hr)	Controlled PTE (lb/hr)	Control needed to meet rule?	CAM, Y/N
002	001&002	32000	70	31879	0.0612	16.7	75.7	6.05	Y	Y
004	003&004	32000	70	31879	0.0612	16.7	2.33	0.19	N	N
007	005&006	64000	70	63758	0.0489	26.7	21.2	1.70	N	N
008	007&008	64000	70	63758	0.0489	26.7	27.6	2.21	Y	Y
009	009-011	78000	70	77705	0.0458	30.5	27.6	2.21	N	N
010	012-014	78000	70	77705	0.0458	30.5	27.6	2.21	N	N
011	015-017	78000	70	77705	0.0458	30.5	27.6	2.21	N	N
017	038&039	32000	70	31879	0.0612	16.7	2.33	0.19	N	N

EU 014 Standby Generator			
Hours	**Horsepower (HP)**	**Heating Content (Btu/HP-hr)**	**Maximum Heat Input MMBtu/hr**
500	500.00	7,000	3.50

Criteria Air Pollutants	**CAS#**	**Emission Factor (lb/HP-hr)**	**Pollutant Emissions**	
			lb/hr	**TPY**
Nitrogen Oxides (NO_x)[a]	10102-43-9	3.10E-02	15.50	3.88
Carbon Monoxide (CO)[a]	630-08-0	6.68E-03	3.34	0.84
Carbon Dioxide (CO_2)[a], CO_2e	-	1.50E+00	750.00	187.50
Particulate Matter (PM)[a]	-	2.20E-03	1.10	0.28
Particulate Matter < 10 Microns (PM_{10})[a]	-	2.20E-03	1.10	0.28
Particulate Matter < 2.5 Microns ($PM_{2.5}$)[a]	-	2.20E-03	1.10	0.28
Volatile Organic Compounds (VOC)[a]	-	2.47E-03	1.24	0.31
Sulfur Dioxide (SO_2)[a]	7446-09-5	2.05E-03	1.03	0.26

Hazardous Air Pollutants	**CAS#**	**Emission Factor (lb/MMBtu)**	**Pollutant Emissions**	
			lb/hr	**TPY**
Acetaldehyde[b]	75-07-0	7.67E-04	2.68E-03	6.71E-04
Acrolein[b]	107-02-8	9.25E-05	3.24E-04	8.09E-05
Benzene[b]	71-43-2	9.33E-04	3.27E-03	8.16E-04
1,3-Butadiene[b]	NA	3.91E-05	1.37E-04	3.42E-05
Formaldehyde[b]	50-00-0	1.18E-03	4.13E-03	1.03E-03
Toluene[b]	108-88-3	4.09E-04	1.43E-03	3.58E-04
Xylenes[b]	1330-20-7	2.85E-04	9.98E-04	2.49E-04
Total PAH[b]	129-00-0	1.68E-04	5.88E-04	1.47E-04
Total HAPs =			**0.014**	**0.003**

Notes:

[a] Emission factors from AP-42 (10/96), Table 3.3-1

[b] Emission factors from AP-42 (10/96), Table 3.3-2

Curing Oven Potential Emissions from Combustion

Natural Gas-Fired Equipment	Pollutant	Fuel Usage	Emission Factor	Potential Emissions	
		MMcu.ft./yr	lb/MMcu.ft.	lbs/hr	tpy
Natural Gas-Fired Curing Oven No. 1	PM/PM10/PM2.5	62.44	7.60E+00	5.42E-02	2.37E-01
EU007	SO2	62.44	6.00E-01	4.28E-03	1.87E-02
MUA PB1	NOx	62.44	1.00E+02	7.13E-01	3.12E+00
7.128 MMBtu/hr	VOC	62.44	5.50E+00	3.92E-02	1.72E-01
	CO	62.44	8.40E+01	5.99E-01	2.62E+00
	CO2	62.44	1.20E+05	8.55E+02	3.75E+03
	N2O	62.44	2.20E+00	1.57E-02	6.87E-02
	CH4	62.44	2.30E+00	1.64E-02	7.18E-02
	CO2e	NA	NA	8.61E+02	3.77E+03
	Benzene	62.44	2.10E-03	1.50E-05	6.56E-05
	Arsenic	62.44	2.00E-04	1.43E-06	6.24E-06
	Beryllium	62.44	1.20E-05	8.55E-08	3.75E-07
	Cadmium	62.44	1.10E-03	7.84E-06	3.43E-05
	Cobalt	62.44	8.40E-05	5.99E-07	2.62E-06
	Chromium	62.44	1.40E-03	9.98E-06	4.37E-05
	Dichlorobenzene	62.44	1.20E-03	8.55E-06	3.75E-05
	Formaldehyde	62.44	7.50E-02	5.35E-04	2.34E-03
	Hexane	62.44	1.80E+00	1.28E-02	2.56E-01
	Lead	62.44	5.00E-04	3.56E-06	1.56E-05
	Naphthalene	62.44	6.10E-04	4.35E-06	1.90E-05
	Mercury	62.44	2.60E-04	1.85E-06	8.12E-06
	Toluene	62.44	3.40E-03	2.42E-05	1.06E-04
	Manganese	62.44	3.80E-04	2.71E-06	1.19E-05
	Nickel	62.44	2.10E-03	1.50E-05	6.56E-05
	POM	62.44	8.82E-05	6.29E-07	2.75E-06
	Selenium	62.44	2.40E-05	1.71E-07	7.49E-07
	Total HAPs	62.44	1.89E+00	1.35E-02	2.59E-01

Natural Gas-Fired Equipment	Pollutant	Fuel Usage MMcu.ft./yr	Emission Factor lb/MMcu.ft.	Potential Emissions lbs/hr	tpy
Natural Gas-Fired Curing Oven No. 2	PM/PM10/PM2.5	62.44	7.60E+00	5.42E-02	2.37E-01
EU008	SO2	62.44	6.00E-01	4.28E-03	1.87E-02
MUA PB2	NOx	62.44	1.00E+02	7.13E-01	3.12E+00
7.128 MMBtu/hr	VOC	62.44	5.50E+00	3.92E-02	1.72E-01
	CO	62.44	8.40E+01	5.99E-01	2.62E+00
	CO2	62.44	1.20E+05	8.55E+02	3.75E+03
	N2O	62.44	2.20E+00	1.57E-02	6.87E-02
	CH4	62.44	2.30E+00	1.64E-02	7.18E-02
	CO2e	NA	NA	8.61E+02	3.77E+03
	Benzene	62.44	2.10E-03	1.50E-05	6.56E-05
	Arsenic	62.44	2.00E-04	1.43E-06	6.24E-06
	Beryllium	62.44	1.20E-05	8.55E-08	3.75E-07
	Cadmium	62.44	1.10E-03	7.84E-06	3.43E-05
	Cobalt	62.44	8.40E-05	5.99E-07	2.62E-06
	Chromium	62.44	1.40E-03	9.98E-06	4.37E-05
	Dichlorobenzene	62.44	1.20E-03	8.55E-06	3.75E-05
	Formaldehyde	62.44	7.50E-02	5.35E-04	2.34E-03
	Hexane	62.44	1.80E+00	1.28E-02	5.62E-02
	Lead	62.44	5.00E-04	3.56E-06	1.56E-05
	Naphthalene	62.44	6.10E-04	4.35E-06	1.90E-05
	Mercury	62.44	2.60E-04	1.85E-06	8.12E-06
	Toluene	62.44	3.40E-03	2.42E-05	1.06E-04
	Manganese	62.44	3.80E-04	2.71E-06	1.19E-05
	Nickel	62.44	2.10E-03	1.50E-05	6.56E-05
	POM	62.44	8.82E-05	6.29E-07	2.75E-06
	Selenium	62.44	2.40E-05	1.71E-07	7.49E-07
	Total HAPs	62.44	1.89E+00	1.35E-02	5.90E-02

Natural Gas-Fired Equipment	**Pollutant**	**Fuel Usage**	**Emission Factor**	**Potential Emissions**	
Natural Gas-Fired Curing Oven No. 3		**MMcu.ft./yr**	**lb/MMcu.ft.**	**lbs/hr**	**tpy**
AND	PM/PM10/PM2.5	74.00	7.60E+00	6.42E-02	2.81E-01
Natural Gas-Fired Curing Oven No. 4	SO2	74.00	6.00E-01	5.07E-03	2.22E-02
EU009	NOx	74.00	1.00E+02	8.45E-01	3.70E+00
MUA PB3 and MUA PB4	VOC	74.00	5.50E+00	4.65E-02	2.04E-01
4.224+4.224 MMBtu/hr	CO	74.00	8.40E+01	7.10E-01	3.11E+00
	CO2	74.00	1.20E+05	1.01E+03	4.44E+03
	N2O	74.00	2.20E+00	1.86E-02	8.14E-02
	CH4	74.00	2.30E+00	1.94E-02	8.51E-02
	CO2e	NA	NA	1.02E+03	4.47E+03
	Benzene	74.00	2.10E-03	1.77E-05	7.77E-05
	Arsenic	74.00	2.00E-04	1.69E-06	7.40E-06
	Beryllium	74.00	1.20E-05	1.01E-07	4.44E-07
	Cadmium	74.00	1.10E-03	9.29E-06	4.07E-05
	Cobalt	74.00	8.40E-05	7.10E-07	3.11E-06
	Chromium	74.00	1.40E-03	1.18E-05	5.18E-05
	Dichlorobenzene	74.00	1.20E-03	1.01E-05	4.44E-05
	Formaldehyde	74.00	7.50E-02	6.34E-04	2.78E-03
	Hexane	74.00	1.80E+00	1.52E-02	6.66E-02
	Lead	74.00	5.00E-04	4.22E-06	1.85E-05
	Naphthalene	74.00	6.10E-04	5.15E-06	2.26E-05
	Mercury	74.00	2.60E-04	2.20E-06	9.62E-06
	Toluene	74.00	3.40E-03	2.87E-05	1.26E-04
	Manganese	74.00	3.80E-04	3.21E-06	1.41E-05
	Nickel	74.00	2.10E-03	1.77E-05	7.77E-05
	POM	74.00	8.82E-05	7.45E-07	3.26E-06
	Selenium	74.00	2.40E-05	2.03E-07	8.88E-07
	Total HAPs	74.00	1.89E+00	1.60E-02	6.99E-02

Natural Gas-Fired Equipment	**Pollutant**	**Fuel Usage**	**Emission Factor**	**Potential Emissions**	
Natural Gas-Fired Curing Oven No. 5		**MMcu.ft./yr**	**lb/MMcu.ft.**	**lbs/hr**	**tpy**
and	PM/PM10/PM2.5	74.00	7.60E+00	6.42E-02	2.81E-01
Natural Gas-Fired Curing Oven No. 6	SO2	74.00	6.00E-01	5.07E-03	2.22E-02
EU010	NOx	74.00	1.00E+02	8.45E-01	3.70E+00
MUA PB5 and MUA PB6	VOC	74.00	5.50E+00	4.65E-02	2.04E-01
4.224 MMBtu/hr	CO	74.00	8.40E+01	7.10E-01	3.11E+00
	CO2	74.00	1.20E+05	1.01E+03	4.44E+03
	N2O	74.00	2.20E+00	1.86E-02	8.14E-02
	CH4	74.00	2.30E+00	1.94E-02	8.51E-02
	CO2e	NA	NA	1.02E+03	4.47E+03
	Benzene	74.00	2.10E-03	1.77E-05	7.77E-05
	Arsenic	74.00	2.00E-04	1.69E-06	7.40E-06
	Beryllium	74.00	1.20E-05	1.01E-07	4.44E-07
	Cadmium	74.00	1.10E-03	9.29E-06	4.07E-05
	Cobalt	74.00	8.40E-05	7.10E-07	3.11E-06
	Chromium	74.00	1.40E-03	1.18E-05	5.18E-05
	Dichlorobenzene	74.00	1.20E-03	1.01E-05	4.44E-05
	Formaldehyde	74.00	7.50E-02	6.34E-04	2.78E-03
	Hexane	74.00	1.80E+00	1.52E-02	6.66E-02
	Lead	74.00	5.00E-04	4.22E-06	1.85E-05
	Naphthalene	74.00	6.10E-04	5.15E-06	2.26E-05
	Mercury	74.00	2.60E-04	2.20E-06	9.62E-06
	Toluene	74.00	3.40E-03	2.87E-05	1.26E-04
	Manganese	74.00	3.80E-04	3.21E-06	1.41E-05
	Nickel	74.00	2.10E-03	1.77E-05	7.77E-05
	POM	74.00	8.82E-05	7.45E-07	3.26E-06
	Selenium	74.00	2.40E-05	2.03E-07	8.88E-07
	Total HAPs	74.00	1.89E+00	1.60E-02	6.99E-02

Natural Gas-Fired Equipment	Pollutant	Fuel Usage	Emission Factor	Potential Emissions	
		MMcu.ft./yr	lb/MMcu.ft.	lbs/hr	tpy
Natural Gas-Fired Curing Oven No. 7	PM/PM10/PM2.5	74.00	7.60E+00	6.42E-02	2.81E-01
EU011	SO2	74.00	6.00E-01	5.07E-03	2.22E-02
MUA PB7	NOx	74.00	1.00E+02	8.45E-01	3.70E+00
8.448 MMBtu/hr	VOC	74.00	5.50E+00	4.65E-02	2.04E-01
	CO	74.00	8.40E+01	7.10E-01	3.11E+00
	CO2	74.00	1.20E+05	1.01E+03	4.44E+03
	N2O	74.00	2.20E+00	1.86E-02	8.14E-02
	CH4	74.00	2.30E+00	1.94E-02	8.51E-02
	CO2e	NA	NA	1.02E+03	4.47E+03
	Benzene	74.00	2.10E-03	1.77E-05	7.77E-05
	Arsenic	74.00	2.00E-04	1.69E-06	7.40E-06
	Beryllium	74.00	1.20E-05	1.01E-07	4.44E-07
	Cadmium	74.00	1.10E-03	9.29E-06	4.07E-05
	Cobalt	74.00	8.40E-05	7.10E-07	3.11E-06
	Chromium	74.00	1.40E-03	1.18E-05	5.18E-05
	Dichlorobenzene	74.00	1.20E-03	1.01E-05	4.44E-05
	Formaldehyde	74.00	7.50E-02	6.34E-04	2.78E-03
	Hexane	74.00	1.80E+00	1.52E-02	6.66E-02
	Lead	74.00	5.00E-04	4.22E-06	1.85E-05
	Naphthalene	74.00	6.10E-04	5.15E-06	2.26E-05
	Mercury	74.00	2.60E-04	2.20E-06	9.62E-06
	Toluene	74.00	3.40E-03	2.87E-05	1.26E-04
	Manganese	74.00	3.80E-04	3.21E-06	1.41E-05
	Nickel	74.00	2.10E-03	1.77E-05	7.77E-05
	POM	74.00	8.82E-05	7.45E-07	3.26E-06
	Selenium	74.00	2.40E-05	2.03E-07	8.88E-07
	Total HAPs	74.00	1.89E+00	1.60E-02	6.99E-02

Calculations: AP42, Chapter 1.4, Natural Gas Combustion, 7/98.

Summary of PTE of Insignificant Activities Listed in the Permit Application

The Facility has the following insignificant activities under Minn. R. 7007.1300 and Minn. R. 7008.4110 (per the April 2, 2012 submittal):

Rule	Activity	Pollutants
subp. 3(H)(3)	soldering and welding	PM and HAP
subp. 3(I)	bus engine testing	combustion pollutants
	compressed natural gas fueling station	GHGs (<1,000 tpy CO_2e; assume this PTE in the totals below)
	paint prep area	$PM/PM_{10}/PM_{2.5}$ (calcs not provided - but conservatively assume PTE = 2000 lb/yr based on 3(I))
subp. 4	air make up units	combustion pollutants
7008.4110	grit blasting area	$PM/PM_{10}/PM_{2.5}$

The permittee listed the burners in that paint booths that cure the coatings as IAs under 7007.1300, subp. 4 based on combustion emissions, but these are not actually separate pieces of equipment - the burners are part of the booths. For this reason they are not considered IAs and remain in the permit.

The PTE of the listed IAs should be evaluated if they could affect the applicability of regulations. PTE estimates were includec in the reissuance application and supplemental submittals for fuel burning and grit blasting operations. Conservative estimates included in the totals below for compressed natural gas and paint prep.

Pollutant	Uncontrolled tpy	Controlled tpy
PM/PM10/PM2.5	86.6	7.70
SO2	0.144	0.144
NOx	17.7	17.7
VOC	1.15	1.15
CO	14.8	14.8
CO2e	22,734	22,734
Acetaldehyde	0.003	0.003
Acrolein	0.000	0.000
Benzene	0.005	0.005
1,3-butadiene	0.000	0.000
Arsenic	0.000	0.000
Beryllium	0.000	0.000
Cadmium	0.000	0.000
Cobalt	0.000	0.000
Chromium	0.058	0.058
Dichlorobenzene	0.000	0.000
Formaldehyde	0.018	0.018
Hexane	0.313	0.313
Lead	0.000	0.000
Naphthalene	0.000	0.000
Mercury	0.000	0.000
Toluene	0.002	0.002
Manganese	0.058	0.058
Nickel	0.001	0.001
POM	0.000	0.000
Selenium	0.000	0.000
Xylene	0.001	0.001
Total HAPs	0.462	0.462

Based on the controlled PTE of the calculated IAs and the limited PTE of the otherwise permitted units, it is appears that the IAs do not affect the applicability of regulations to the Facility.

Make-Up Air Units

Natural Gas-Fired Equipment	Pollutant	Fuel Usage MMcu.ft./yr	Emission Factor lb/MMcu.ft.	Potential Emissions lbs/hr	tpy
Natural Gas-Fired Heater No. 1	PM/PM10/PM2.5	30.75	7.60E+00	2.67E-02	1.17E-01
	SO2	30.75	6.00E-01	2.11E-03	9.22E-03
MUA 1	NOx	30.75	1.00E+02	3.51E-01	1.54E+00
3.51 MMBtu/hr	VOC	30.75	5.50E+00	1.93E-02	8.46E-02
	CO	30.75	8.40E+01	2.95E-01	1.29E+00
	CO2	30.75	1.20E+05	4.21E+02	1.84E+03
	N2O	30.75	2.20E+00	7.72E-03	3.38E-02
	CH4	30.75	2.30E+00	8.07E-03	3.54E-02
	CO2e	NA	NA	4.24E+02	1.86E+03
	Benzene	30.75	2.10E-03	7.37E-06	3.23E-05
	Arsenic	30.75	2.00E-04	7.02E-07	3.07E-06
	Beryllium	30.75	1.20E-05	4.21E-08	1.84E-07
	Cadmium	30.75	1.10E-03	3.86E-06	1.69E-05
	Cobalt	30.75	8.40E-05	2.95E-07	1.29E-06
	Chromium	30.75	1.40E-03	4.91E-06	2.15E-05
	Dichlorobenzene	30.75	1.20E-03	4.21E-06	1.84E-05
	Formaldehyde	30.75	7.50E-02	2.63E-04	1.15E-03
	Hexane	30.75	1.80E+00	6.32E-03	2.77E-02
	Lead	30.75	5.00E-04	1.76E-06	7.69E-06
	Naphthalene	30.75	6.10E-04	2.14E-06	9.38E-06
	Mercury	30.75	2.60E-04	9.13E-07	4.00E-06
	Toluene	30.75	3.40E-03	1.19E-05	5.23E-05
	Manganese	30.75	3.80E-04	1.33E-06	5.84E-06
	Nickel	30.75	2.10E-03	7.37E-06	3.23E-05
	POM	30.75	8.82E-05	3.10E-07	1.36E-06
	Selenium	30.75	2.40E-05	8.42E-08	3.69E-07
	Total HAPs	30.75	1.89E+00	6.63E-03	2.90E-02

Natural Gas-Fired Equipment	Pollutant	Fuel Usage MMcu.ft./yr	Emission Factor lb/MMcu.ft.	Potential Emissions lbs/hr	tpy
Natural Gas-Fired Heater No. 2	PM/PM10/PM2.5	30.75	7.60E+00	2.67E-02	1.17E-01
	SO2	30.75	6.00E-01	2.11E-03	9.22E-03
MUA 2	NOx	30.75	1.00E+02	3.51E-01	1.54E+00
3.51 MMBtu/hr	VOC	30.75	5.50E+00	1.93E-02	8.46E-02
	CO	30.75	8.40E+01	2.95E-01	1.29E+00
	CO2	30.75	1.20E+05	4.21E+02	1.84E+03
	N2O	30.75	2.20E+00	7.72E-03	3.38E-02
	CH4	30.75	2.30E+00	8.07E-03	3.54E-02
	CO2e	NA	NA	4.24E+02	1.86E+03
	Benzene	30.75	2.10E-03	7.37E-06	3.23E-05
	Arsenic	30.75	2.00E-04	7.02E-07	3.07E-06
	Beryllium	30.75	1.20E-05	4.21E-08	1.84E-07
	Cadmium	30.75	1.10E-03	3.86E-06	1.69E-05
	Cobalt	30.75	8.40E-05	2.95E-07	1.29E-06
	Chromium	30.75	1.40E-03	4.91E-06	2.15E-05
	Dichlorobenzene	30.75	1.20E-03	4.21E-06	1.84E-05
	Formaldehyde	30.75	7.50E-02	2.63E-04	1.15E-03
	Hexane	30.75	1.80E+00	6.32E-03	2.77E-02
	Lead	30.75	5.00E-04	1.76E-06	7.69E-06
	Naphthalene	30.75	6.10E-04	2.14E-06	9.38E-06
	Mercury	30.75	2.60E-04	9.13E-07	4.00E-06
	Toluene	30.75	3.40E-03	1.19E-05	5.23E-05
	Manganese	30.75	3.80E-04	1.33E-06	5.84E-06
	Nickel	30.75	2.10E-03	7.37E-06	3.23E-05
	POM	30.75	8.82E-05	3.10E-07	1.36E-06
	Selenium	30.75	2.40E-05	8.42E-08	3.69E-07
	Total HAPs	30.75	1.89E+00	6.63E-03	2.90E-02

Natural Gas-Fired Equipment	Pollutant	Fuel Usage MMcu.ft./yr	Emission Factor lb/MMcu.ft.	Potential Emissions lbs/hr	tpy
Natural Gas-Fired Heater No. 3	PM/PM10/PM2.5	30.75	7.60E+00	2.67E-02	1.17E-01
	SO2	30.75	6.00E-01	2.11E-03	9.22E-03
MUA 3	NOx	30.75	1.00E+02	3.51E-01	1.54E+00
3.51 MMBtu/hr	VOC	30.75	5.50E+00	1.93E-02	8.46E-02
	CO	30.75	8.40E+01	2.95E-01	1.29E+00
	CO2	30.75	1.20E+05	4.21E+02	1.84E+03
	N2O	30.75	2.20E+00	7.72E-03	3.38E-02
	CH4	30.75	2.30E+00	8.07E-03	3.54E-02
	CO2e	NA	NA	4.24E+02	1.86E+03
	Benzene	30.75	2.10E-03	7.37E-06	3.23E-05
	Arsenic	30.75	2.00E-04	7.02E-07	3.07E-06
	Beryllium	30.75	1.20E-05	4.21E-08	1.84E-07
	Cadmium	30.75	1.10E-03	3.86E-06	1.69E-05
	Cobalt	30.75	8.40E-05	2.95E-07	1.29E-06
	Chromium	30.75	1.40E-03	4.91E-06	2.15E-05
	Dichlorobenzene	30.75	1.20E-03	4.21E-06	1.84E-05
	Formaldehyde	30.75	7.50E-02	2.63E-04	1.15E-03
	Hexane	30.75	1.80E+00	6.32E-03	2.77E-02
	Lead	30.75	5.00E-04	1.76E-06	7.69E-06
	Naphthalene	30.75	6.10E-04	2.14E-06	9.38E-06
	Mercury	30.75	2.60E-04	9.13E-07	4.00E-06
	Toluene	30.75	3.40E-03	1.19E-05	5.23E-05
	Manganese	30.75	3.80E-04	1.33E-06	5.84E-06
	Nickel	30.75	2.10E-03	7.37E-06	3.23E-05
	POM	30.75	8.82E-05	3.10E-07	1.36E-06
	Selenium	30.75	2.40E-05	8.42E-08	3.69E-07
	Total HAPs	30.75	1.89E+00	6.63E-03	2.90E-02

Natural Gas-Fired Equipment	Pollutant	Fuel Usage MMcu.ft./yr	Emission Factor lb/MMcu.ft.	Potential Emissions lbs/hr	tpy
Natural Gas-Fired Heater No. 4	PM/PM10/PM2.5	30.75	7.60E+00	2.67E-02	1.17E-01
	SO2	30.75	6.00E-01	2.11E-03	9.22E-03
MUA 4	NOx	30.75	1.00E+02	3.51E-01	1.54E+00
3.51 MMBtu/hr	VOC	30.75	5.50E+00	1.93E-02	8.46E-02
	CO	30.75	8.40E+01	2.95E-01	1.29E+00
	CO2	30.75	1.20E+05	4.21E+02	1.84E+03
	N2O	30.75	2.20E+00	7.72E-03	3.38E-02
	CH4	30.75	2.30E+00	8.07E-03	3.54E-02
	CO2e	NA	NA	4.24E+02	1.86E+03
	Benzene	30.75	2.10E-03	7.37E-06	3.23E-05
	Arsenic	30.75	2.00E-04	7.02E-07	3.07E-06
	Beryllium	30.75	1.20E-05	4.21E-08	1.84E-07
	Cadmium	30.75	1.10E-03	3.86E-06	1.69E-05
	Cobalt	30.75	8.40E-05	2.95E-07	1.29E-06
	Chromium	30.75	1.40E-03	4.91E-06	2.15E-05
	Dichlorobenzene	30.75	1.20E-03	4.21E-06	1.84E-05
	Formaldehyde	30.75	7.50E-02	2.63E-04	1.15E-03
	Hexane	30.75	1.80E+00	6.32E-03	2.77E-02
	Lead	30.75	5.00E-04	1.76E-06	7.69E-06
	Naphthalene	30.75	6.10E-04	2.14E-06	9.38E-06
	Mercury	30.75	2.60E-04	9.13E-07	4.00E-06
	Toluene	30.75	3.40E-03	1.19E-05	5.23E-05
	Manganese	30.75	3.80E-04	1.33E-06	5.84E-06
	Nickel	30.75	2.10E-03	7.37E-06	3.23E-05
	POM	30.75	8.82E-05	3.10E-07	1.36E-06
	Selenium	30.75	2.40E-05	8.42E-08	3.69E-07
	Total HAPs	30.75	1.89E+00	6.63E-03	2.90E-02

Natural Gas-Fired Equipment	Pollutant	Fuel Usage MMcu.ft./yr	Emission Factor lb/MMcu.ft.	Potential Emissions lbs/hr	tpy
Natural Gas-Fired Heater No. 5	PM/PM10/PM2.5	30.75	7.60E+00	2.67E-02	1.17E-01
	SO2	30.75	6.00E-01	2.11E-03	9.22E-03
MUA 5	NOx	30.75	1.00E+02	3.51E-01	1.54E+00
3.51 MMBtu/hr	VOC	30.75	5.50E+00	1.93E-02	8.46E-02
	CO	30.75	8.40E+01	2.95E-01	1.29E+00
	CO2	30.75	1.20E+05	4.21E+02	1.84E+03
	N2O	30.75	2.20E+00	7.72E-03	3.38E-02
	CH4	30.75	2.30E+00	8.07E-03	3.54E-02
	CO2e	NA	NA	4.24E+02	1.86E+03
	Benzene	30.75	2.10E-03	7.37E-06	3.23E-05
	Arsenic	30.75	2.00E-04	7.02E-07	3.07E-06
	Beryllium	30.75	1.20E-05	4.21E-08	1.84E-07
	Cadmium	30.75	1.10E-03	3.86E-06	1.69E-05
	Cobalt	30.75	8.40E-05	2.95E-07	1.29E-06
	Chromium	30.75	1.40E-03	4.91E-06	2.15E-05
	Dichlorobenzene	30.75	1.20E-03	4.21E-06	1.84E-05
	Formaldehyde	30.75	7.50E-02	2.63E-04	1.15E-03
	Hexane	30.75	1.80E+00	6.32E-03	2.77E-02
	Lead	30.75	5.00E-04	1.76E-06	7.69E-06
	Naphthalene	30.75	6.10E-04	2.14E-06	9.38E-06
	Mercury	30.75	2.60E-04	9.13E-07	4.00E-06
	Toluene	30.75	3.40E-03	1.19E-05	5.23E-05
	Manganese	30.75	3.80E-04	1.33E-06	5.84E-06
	Nickel	30.75	2.10E-03	7.37E-06	3.23E-05
	POM	30.75	8.82E-05	3.10E-07	1.36E-06
	Selenium	30.75	2.40E-05	8.42E-08	3.69E-07
	Total HAPs	30.75	1.89E+00	6.63E-03	2.90E-02

Natural Gas-Fired Equipment	Pollutant	Fuel Usage MMcu.ft./yr	Emission Factor lb/MMcu.ft.	Potential Emissions lbs/hr	tpy
Natural Gas-Fired Heater No. 6	PM/PM10/PM2.5	30.75	7.60E+00	2.67E-02	1.17E-01
	SO2	30.75	6.00E-01	2.11E-03	9.22E-03
MUA 6	NOx	30.75	1.00E+02	3.51E-01	1.54E+00
3.51 MMBtu/hr	VOC	30.75	5.50E+00	1.93E-02	8.46E-02
	CO	30.75	8.40E+01	2.95E-01	1.29E+00
	CO2	30.75	1.20E+05	4.21E+02	1.84E+03
	N2O	30.75	2.20E+00	7.72E-03	3.38E-02
	CH4	30.75	2.30E+00	8.07E-03	3.54E-02
	CO2e	NA	NA	4.24E+02	1.86E+03
	Benzene	30.75	2.10E-03	7.37E-06	3.23E-05
	Arsenic	30.75	2.00E-04	7.02E-07	3.07E-06
	Beryllium	30.75	1.20E-05	4.21E-08	1.84E-07
	Cadmium	30.75	1.10E-03	3.86E-06	1.69E-05
	Cobalt	30.75	8.40E-05	2.95E-07	1.29E-06
	Chromium	30.75	1.40E-03	4.91E-06	2.15E-05
	Dichlorobenzene	30.75	1.20E-03	4.21E-06	1.84E-05
	Formaldehyde	30.75	7.50E-02	2.63E-04	1.15E-03
	Hexane	30.75	1.80E+00	6.32E-03	2.77E-02
	Lead	30.75	5.00E-04	1.76E-06	7.69E-06
	Naphthalene	30.75	6.10E-04	2.14E-06	9.38E-06
	Mercury	30.75	2.60E-04	9.13E-07	4.00E-06
	Toluene	30.75	3.40E-03	1.19E-05	5.23E-05
	Manganese	30.75	3.80E-04	1.33E-06	5.84E-06
	Nickel	30.75	2.10E-03	7.37E-06	3.23E-05
	POM	30.75	8.82E-05	3.10E-07	1.36E-06
	Selenium	30.75	2.40E-05	8.42E-08	3.69E-07
	Total HAPs	30.75	1.89E+00	6.63E-03	2.90E-02

Natural Gas-Fired Equipment	Pollutant	Fuel Usage MMcu.ft./yr	Emission Factor lb/MMcu.ft.	Potential Emissions lbs/hr	tpy
Natural Gas-Fired Heater No. 7	PM/PM10/PM2.5	30.75	7.60E+00	2.67E-02	1.17E-01
	SO2	30.75	6.00E-01	2.11E-03	9.22E-03
MUA 7	NOx	30.75	1.00E+02	3.51E-01	1.54E+00
3.51 MMBtu/hr	VOC	30.75	5.50E+00	1.93E-02	8.46E-02
	CO	30.75	8.40E+01	2.95E-01	1.29E+00
	CO2	30.75	1.20E+05	4.21E+02	1.84E+03
	N2O	30.75	2.20E+00	7.72E-03	3.38E-02
	CH4	30.75	2.30E+00	8.07E-03	3.54E-02
	CO2e	NA	NA	4.24E+02	1.86E+03
	Benzene	30.75	2.10E-03	7.37E-06	3.23E-05
	Arsenic	30.75	2.00E-04	7.02E-07	3.07E-06
	Beryllium	30.75	1.20E-05	4.21E-08	1.84E-07
	Cadmium	30.75	1.10E-03	3.86E-06	1.69E-05
	Cobalt	30.75	8.40E-05	2.95E-07	1.29E-06
	Chromium	30.75	1.40E-03	4.91E-06	2.15E-05
	Dichlorobenzene	30.75	1.20E-03	4.21E-06	1.84E-05
	Formaldehyde	30.75	7.50E-02	2.63E-04	1.15E-03
	Hexane	30.75	1.80E+00	6.32E-03	2.77E-02
	Lead	30.75	5.00E-04	1.76E-06	7.69E-06
	Naphthalene	30.75	6.10E-04	2.14E-06	9.38E-06
	Mercury	30.75	2.60E-04	9.13E-07	4.00E-06
	Toluene	30.75	3.40E-03	1.19E-05	5.23E-05
	Manganese	30.75	3.80E-04	1.33E-06	5.84E-06
	Nickel	30.75	2.10E-03	7.37E-06	3.23E-05
	POM	30.75	8.82E-05	3.10E-07	1.36E-06
	Selenium	30.75	2.40E-05	8.42E-08	3.69E-07
	Total HAPs	30.75	1.89E+00	6.63E-03	2.90E-02

Natural Gas-Fired Equipment	Pollutant	Fuel Usage MMcu.ft./yr	Emission Factor lb/MMcu.ft.	Potential Emissions lbs/hr	tpy
Natural Gas-Fired Heater No. 8	PM/PM10/PM2.5	30.75	7.60E+00	2.67E-02	1.17E-01
	SO2	30.75	6.00E-01	2.11E-03	9.22E-03
MUA 8	NOx	30.75	1.00E+02	3.51E-01	1.54E+00
3.51 MMBtu/hr	VOC	30.75	5.50E+00	1.93E-02	8.46E-02
	CO	30.75	8.40E+01	2.95E-01	1.29E+00
	CO2	30.75	1.20E+05	4.21E+02	1.84E+03
	N2O	30.75	2.20E+00	7.72E-03	3.38E-02
	CH4	30.75	2.30E+00	8.07E-03	3.54E-02
	CO2e	NA	NA	4.24E+02	1.86E+03
	Benzene	30.75	2.10E-03	7.37E-06	3.23E-05
	Arsenic	30.75	2.00E-04	7.02E-07	3.07E-06
	Beryllium	30.75	1.20E-05	4.21E-08	1.84E-07
	Cadmium	30.75	1.10E-03	3.86E-06	1.69E-05
	Cobalt	30.75	8.40E-05	2.95E-07	1.29E-06
	Chromium	30.75	1.40E-03	4.91E-06	2.15E-05
	Dichlorobenzene	30.75	1.20E-03	4.21E-06	1.84E-05
	Formaldehyde	30.75	7.50E-02	2.63E-04	1.15E-03
	Hexane	30.75	1.80E+00	6.32E-03	2.77E-02
	Lead	30.75	5.00E-04	1.76E-06	7.69E-06
	Naphthalene	30.75	6.10E-04	2.14E-06	9.38E-06
	Mercury	30.75	2.60E-04	9.13E-07	4.00E-06
	Toluene	30.75	3.40E-03	1.19E-05	5.23E-05
	Manganese	30.75	3.80E-04	1.33E-06	5.84E-06
	Nickel	30.75	2.10E-03	7.37E-06	3.23E-05
	POM	30.75	8.82E-05	3.10E-07	1.36E-06
	Selenium	30.75	2.40E-05	8.42E-08	3.69E-07
	Total HAPs	30.75	1.89E+00	6.63E-03	2.90E-02

Natural Gas-Fired Equipment	Pollutant	Fuel Usage MMcu.ft./yr	Emission Factor lb/MMcu.ft.	Potential Emissions lbs/hr	tpy
Natural Gas-Fired Heater No. 9	PM/PM10/PM2.5	30.75	7.60E+00	2.67E-02	1.17E-01
	SO2	30.75	6.00E-01	2.11E-03	9.22E-03
MUA 9	NOx	30.75	1.00E+02	3.51E-01	1.54E+00
3.51 MMBtu/hr	VOC	30.75	5.50E+00	1.93E-02	8.46E-02
	CO	30.75	8.40E+01	2.95E-01	1.29E+00
	CO2	30.75	1.20E+05	4.21E+02	1.84E+03
	N2O	30.75	2.20E+00	7.72E-03	3.38E-02
	CH4	30.75	2.30E+00	8.07E-03	3.54E-02
	CO2e	NA	NA	4.24E+02	1.86E+03
	Benzene	30.75	2.10E-03	7.37E-06	3.23E-05
	Arsenic	30.75	2.00E-04	7.02E-07	3.07E-06
	Beryllium	30.75	1.20E-05	4.21E-08	1.84E-07
	Cadmium	30.75	1.10E-03	3.86E-06	1.69E-05
	Cobalt	30.75	8.40E-05	2.95E-07	1.29E-06
	Chromium	30.75	1.40E-03	4.91E-06	2.15E-05
	Dichlorobenzene	30.75	1.20E-03	4.21E-06	1.84E-05
	Formaldehyde	30.75	7.50E-02	2.63E-04	1.15E-03
	Hexane	30.75	1.80E+00	6.32E-03	2.77E-02
	Lead	30.75	5.00E-04	1.76E-06	7.69E-06
	Naphthalene	30.75	6.10E-04	2.14E-06	9.38E-06
	Mercury	30.75	2.60E-04	9.13E-07	4.00E-06
	Toluene	30.75	3.40E-03	1.19E-05	5.23E-05
	Manganese	30.75	3.80E-04	1.33E-06	5.84E-06
	Nickel	30.75	2.10E-03	7.37E-06	3.23E-05
	POM	30.75	8.82E-05	3.10E-07	1.36E-06
	Selenium	30.75	2.40E-05	8.42E-08	3.69E-07
	Total HAPs	30.75	1.89E+00	6.63E-03	2.90E-02

Natural Gas-Fired Equipment	Pollutant	Fuel Usage MMcu.ft./yr	Emission Factor lb/MMcu.ft.	Potential Emissions lbs/hr	tpy
Natural Gas-Fired Heater No. 10	PM/PM10/PM2.5	30.75	7.60E+00	2.67E-02	1.17E-01
	SO2	30.75	6.00E-01	2.11E-03	9.22E-03
MUA 10	NOx	30.75	1.00E+02	3.51E-01	1.54E+00
3.51 MMBtu/hr	VOC	30.75	5.50E+00	1.93E-02	8.46E-02
	CO	30.75	8.40E+01	2.95E-01	1.29E+00
	CO2	30.75	1.20E+05	4.21E+02	1.84E+03
	N2O	30.75	2.20E+00	7.72E-03	3.38E-02
	CH4	30.75	2.30E+00	8.07E-03	3.54E-02
	CO2e	NA	NA	4.24E+02	1.86E+03
	Benzene	30.75	2.10E-03	7.37E-06	3.23E-05
	Arsenic	30.75	2.00E-04	7.02E-07	3.07E-06
	Beryllium	30.75	1.20E-05	4.21E-08	1.84E-07
	Cadmium	30.75	1.10E-03	3.86E-06	1.69E-05
	Cobalt	30.75	8.40E-05	2.95E-07	1.29E-06
	Chromium	30.75	1.40E-03	4.91E-06	2.15E-05
	Dichlorobenzene	30.75	1.20E-03	4.21E-06	1.84E-05
	Formaldehyde	30.75	7.50E-02	2.63E-04	1.15E-03
	Hexane	30.75	1.80E+00	6.32E-03	2.77E-02
	Lead	30.75	5.00E-04	1.76E-06	7.69E-06
	Naphthalene	30.75	6.10E-04	2.14E-06	9.38E-06
	Mercury	30.75	2.60E-04	9.13E-07	4.00E-06
	Toluene	30.75	3.40E-03	1.19E-05	5.23E-05
	Manganese	30.75	3.80E-04	1.33E-06	5.84E-06
	Nickel	30.75	2.10E-03	7.37E-06	3.23E-05
	POM	30.75	8.82E-05	3.10E-07	1.36E-06
	Selenium	30.75	2.40E-05	8.42E-08	3.69E-07
	Total HAPs	30.75	1.89E+00	6.63E-03	2.90E-02

Natural Gas-Fired Equipment	Pollutant	Fuel Usage MMcu.ft./yr	Emission Factor lb/MMcu.ft.	Potential Emissions lbs/hr	tpy
Natural Gas-Fired Heater No. 11	PM/PM10/PM2.5	30.75	7.60E+00	2.67E-02	1.17E-01
	SO2	30.75	6.00E-01	2.11E-03	9.22E-03
MUA 11	NOx	30.75	1.00E+02	3.51E-01	1.54E+00
3.51 MMBtu/hr	VOC	30.75	5.50E+00	1.93E-02	8.46E-02
	CO	30.75	8.40E+01	2.95E-01	1.29E+00
	CO2	30.75	1.20E+05	4.21E+02	1.84E+03
	N2O	30.75	2.20E+00	7.72E-03	3.38E-02
	CH4	30.75	2.30E+00	8.07E-03	3.54E-02
	CO2e	NA	NA	4.24E+02	1.86E+03
	Benzene	30.75	2.10E-03	7.37E-06	3.23E-05
	Arsenic	30.75	2.00E-04	7.02E-07	3.07E-06
	Beryllium	30.75	1.20E-05	4.21E-08	1.84E-07
	Cadmium	30.75	1.10E-03	3.86E-06	1.69E-05
	Cobalt	30.75	8.40E-05	2.95E-07	1.29E-06
	Chromium	30.75	1.40E-03	4.91E-06	2.15E-05
	Dichlorobenzene	30.75	1.20E-03	4.21E-06	1.84E-05
	Formaldehyde	30.75	7.50E-02	2.63E-04	1.15E-03
	Hexane	30.75	1.80E+00	6.32E-03	2.77E-02
	Lead	30.75	5.00E-04	1.76E-06	7.69E-06
	Naphthalene	30.75	6.10E-04	2.14E-06	9.38E-06
	Mercury	30.75	2.60E-04	9.13E-07	4.00E-06
	Toluene	30.75	3.40E-03	1.19E-05	5.23E-05
	Manganese	30.75	3.80E-04	1.33E-06	5.84E-06
	Nickel	30.75	2.10E-03	7.37E-06	3.23E-05
	POM	30.75	8.82E-05	3.10E-07	1.36E-06
	Selenium	30.75	2.40E-05	8.42E-08	3.69E-07
	Total HAPs	30.75	1.89E+00	6.63E-03	2.90E-02

Natural Gas-Fired Equipment	Pollutant	Fuel Usage MMcu.ft./yr	Emission Factor lb/MMcu.ft.	Potential Emissions lbs/hr	tpy
Natural Gas-Fired Heater No. 12	PM/PM10/PM2.5	3.78	7.60E+00	3.28E-03	1.44E-02
	SO2	3.78	6.00E-01	2.59E-04	1.14E-03
MUA 12	NOx	3.78	1.00E+02	4.32E-02	1.89E-01
0.432 MMBtu/hr	VOC	3.78	5.50E+00	2.38E-03	1.04E-02
	CO	3.78	8.40E+01	3.63E-02	1.59E-01
	CO2	3.78	1.20E+05	5.18E+01	2.27E+02
	N2O	3.78	2.20E+00	9.50E-04	4.16E-03
	CH4	3.78	2.30E+00	9.94E-04	4.35E-03
	CO2e	NA	NA	5.22E+01	2.28E+02
	Benzene	3.78	2.10E-03	9.07E-07	3.97E-06
	Arsenic	3.78	2.00E-04	8.64E-08	3.78E-07
	Beryllium	3.78	1.20E-05	5.18E-09	2.27E-08
	Cadmium	3.78	1.10E-03	4.75E-07	2.08E-06
	Cobalt	3.78	8.40E-05	3.63E-08	1.59E-07
	Chromium	3.78	1.40E-03	6.05E-07	2.65E-06
	Dichlorobenzene	3.78	1.20E-03	5.18E-07	2.27E-06
	Formaldehyde	3.78	7.50E-02	3.24E-05	1.42E-04
	Hexane	3.78	1.80E+00	7.78E-04	3.41E-03
	Lead	3.78	5.00E-04	2.16E-07	9.46E-07
	Naphthalene	3.78	6.10E-04	2.64E-07	1.15E-06
	Mercury	3.78	2.60E-04	1.12E-07	4.92E-07
	Toluene	3.78	3.40E-03	1.47E-06	6.43E-06
	Manganese	3.78	3.80E-04	1.64E-07	7.19E-07
	Nickel	3.78	2.10E-03	9.07E-07	3.97E-06
	POM	3.78	8.82E-05	3.81E-08	1.67E-07
	Selenium	3.78	2.40E-05	1.04E-08	4.54E-08
	Total HAPs	3.78	1.89E+00	8.16E-04	3.57E-03

Natural Gas-Fired Equipment	Pollutant	Fuel Usage MMcu.ft./yr	Emission Factor lb/MMcu.ft.	Potential Emissions lbs/hr	tpy
Natural Gas-Fired Heater No. 13	PM/PM10/PM2.5	5.87	7.60E+00	5.09E-03	2.23E-02
	SO2	5.87	6.00E-01	4.02E-04	1.76E-03
MUA 13	NOx	5.87	1.00E+02	6.70E-02	2.93E-01
0.67 MMBtu/hr	VOC	5.87	5.50E+00	3.69E-03	1.61E-02
	CO	5.87	8.40E+01	5.63E-02	2.47E-01
	CO2	5.87	1.20E+05	8.04E+01	3.52E+02
	N2O	5.87	2.20E+00	1.47E-03	6.46E-03
	CH4	5.87	2.30E+00	1.54E-03	6.75E-03
	CO2e	NA	NA	8.09E+01	3.54E+02
	Benzene	5.87	2.10E-03	1.41E-06	6.16E-06
	Arsenic	5.87	2.00E-04	1.34E-07	5.87E-07
	Beryllium	5.87	1.20E-05	8.04E-09	3.52E-08
	Cadmium	5.87	1.10E-03	7.37E-07	3.23E-06
	Cobalt	5.87	8.40E-05	5.63E-08	2.47E-07
	Chromium	5.87	1.40E-03	9.38E-07	4.11E-06
	Dichlorobenzene	5.87	1.20E-03	8.04E-07	3.52E-06
	Formaldehyde	5.87	7.50E-02	5.03E-05	2.20E-04
	Hexane	5.87	1.80E+00	1.21E-03	5.28E-03
	Lead	5.87	5.00E-04	3.35E-07	1.47E-06
	Naphthalene	5.87	6.10E-04	4.09E-07	1.79E-06
	Mercury	5.87	2.60E-04	1.74E-07	7.63E-07
	Toluene	5.87	3.40E-03	2.28E-06	9.98E-06
	Manganese	5.87	3.80E-04	2.55E-07	1.12E-06
	Nickel	5.87	2.10E-03	1.41E-06	6.16E-06
	POM	5.87	8.82E-05	5.91E-08	2.59E-07
	Selenium	5.87	2.40E-05	1.61E-08	7.04E-08
	Total HAPs	5.87	1.89E+00	1.27E-03	5.54E-03

Calculations: AP42, Chapter 1.4, Natural Gas Combustion, 7/98.

Total Capacity: 39.712

System Specifications:
Pressure - 80 psi
Nozzles - 2 @ 3/8-inches
Rated Throughput - 975 lbs/hr, per gun
- The operation period reflects full time operation with a 75% physical operation constraint due to the time required to move a frame assembly in/out of the booth and prep for blasting. A line shift (coach advance) takes place once every four hours. One hour is required for crane movement, securing frame on jack stands, and plugging frame holes to prevent grit from entering frame during blasting. After exiting the grit blasting booth the frame assembly moves directly to the zinc priming booth. Therefore 3 hours is available for grit blasting. 3 hours blasting / 4 hours per line shift = 75% utilization.

Uncontrolled Potential Emissions

Period (hrs)	Throughput (lb/hr abrasive)	Pollutant	Emission Factor (lb/1,000 lb abrasive)	Emissions (lb/hr)	Emissions (ton/yr)
6570	1950	PM	13	25.4	83.3
6570	1950	PM10	13	25.4	83.3
6570	1950	PM2.5	1.3	2.54	8.33

AP42, Chapter 13.2.6, Table 13.2.6-1.
Note: Because emissions occur indoors and not subject to wind, PM & PM10 assumed equivalent.

Controlled Potential Emissions

Period (hrs)	Throughput (lb/hr abrasive)	Pollutant	Emission Factor (lb/1,000 lb abrasive)	Emissions (lb/hr)	Emissions (ton/yr)
6570	1950	PM	0.69	1.35	4.42
6570	1950	PM10	0.69	1.35	4.42
6570	1950	PM2.5	0.69	1.35	4.42

AP42, Chapter 13.2.6, Table 13.2.6-1.
No data to differentiate PM vs. $PM_{2.5}$ for controlled factor, so assume all is PM2.5 for worst case estimate.

MPCA Adjustments/Calculations
We must also look at any rules that limit the short term potential emissions. Minn. R. 7011.0715 applies. This rule sets limits based on either process weight rate, or airflow, which ever gives the less restrictive limit. For the blasting operation, vented indoors directly, so we only look at the process weight of the grit.

Maximum Process Weight Rate (lb/hr)	Table 1 (lb/hr)	Table 1 (tpy)
1950	3.53	15.5

The controlled emission rate is significantly under the allowable emissions.
The grit blasting operation is actually not vented during operation - it is enclosed and the grit is collected and recycled. Once blasting is completed, the unit is opened into the building.

Permittee's calculations

Assumes diesel as worst-case fuel type and largest size bus engine

Bus Engine			
Hours	**Horsepower (HP)**	**Heating Content (Btu/HP-hr)**	**Maximum Heat Input MMBtu/hr**
4,563	280.00	7,000	1.96

Total hours - Assumes: 125 min/coach total run time at all stations, and
Production: 6 coaches per day * 365 days/yr = 2190 coaches per year (so 2190*125/60 = 4563 hrs

Criteria Air Pollutants	**CAS#**	**Emission Factor (g/HP-hr)**	**Pollutant Emissions**	
			lb/hr	**TPY**
Nitrogen Oxides (NO_x)[a]	10102-43-9	2.00E-01	0.123	0.282
Carbon Monoxide (CO)[d]	630-08-0	1.65E-01	0.102	0.232
Carbon Dioxide (CO_2)[b]	-	5.22E+02	322	735
Particulate Matter (PM)[a]	-	1.00E-02	0.006	0.014
Particulate Matter < 10 Microns (PM_{10})[a]	-	1.00E-02	0.006	0.014
Particulate Matter < 2.5 Microns ($PM_{2.5}$)[a]	-	1.00E-02	0.006	0.014
Volatile Organic Compounds (VOC)[a]	-	1.40E-01	0.086	0.197
Sulfur Dioxide (SO_2)[c]	7446-09-5	2.79E-02	0.017	0.039

Notes:

[a] 2007-2010 EPA Heavy-Duty Engine and Vehicle Standards
[b] Emission factors from AP-42 (10/96), Table 3.3-1
[c] Emission factors from AP-42 (10/96), Table 3.3-1 (adjusted for 15 ppm vs. 500 ppm S in fuel)
[d] Emission factor from Mobile 6.2, Urban Buses, 2012+ model year

MPCA adjustments/discussion

The above are a reasonable estimate of the annual-ized emissions, but they do not project the maximum short-term emissions.

For short-term, assume all 6 buses that are made in one day are running at the same time for 1-hr

Criteria Air Pollutants	**CAS#**	**Emission Factor (g/HP-hr)**	**Pollutant Emissions**
			lb/hr
Nitrogen Oxides (NO_x)[a]	10102-43-9	2.00E-01	0.741
Carbon Monoxide (CO)[d]	630-08-0	1.65E-01	0.611
Carbon Dioxide (CO_2)[b]	-	522	1932
Particulate Matter (PM)[a]	-	1.00E-02	0.037
Particulate Matter < 10 Microns (PM_{10})[a]	-	1.00E-02	0.037
Particulate Matter < 2.5 Microns ($PM_{2.5}$)[a]	-	1.00E-02	0.037
Volatile Organic Compounds (VOC)[a]	-	1.40E-01	0.519
Sulfur Dioxide (SO_2)[c]	7446-09-5	2.79E-02	0.103

Only performance standard that applies to the engine testing is Minn. R. 7011.2300
The sulfur dioxide limit from that rule is 0.5 lb/MMBtu, compared to 0.00879 lb/MMBtu from the emissions factor above
This is less than 2% of the allowable limit.

Permittee did not include HAP calculations. HAPs are very small, but are provided below based on Chpt. 3.3 of AP-42

Hazardous Air Pollutants	**CAS#**	**Emis Factor (lb/MMBtu)**	**Pollutant Emissions**	
			lb/hr	**TPY**
Acetaldehyde	75-07-0	7.67E-04	1.50E-03	3.43E-03
Acrolein	107-02-8	9.25E-05	1.81E-04	4.14E-04
Benzene	71-43-2	9.33E-04	1.83E-03	4.17E-03
1,3-Butadiene	NA	3.91E-05	7.66E-05	1.75E-04
Formaldehyde	50-00-0	1.18E-03	2.31E-03	5.28E-03
Toluene	108-88-3	4.09E-04	8.02E-04	1.83E-03
Xylenes	1330-20-7	2.85E-04	5.59E-04	1.27E-03
Total PAH	129-00-0	1.68E-04	3.29E-04	7.51E-04
Total HAPs =			0.008	1.73E-02

			Welding Wire Purchased					
		AWS # Class:	**309**	**308LSI**	**E71T-1**	**ER70S-6**	**Total Welding**	
		Vendor:	**Central McGowan**	**Central McGowan**	**Central McGowan**	**Central McGowan**	**Emissions:**	
Amount Used Per Bus		(lb)	1.7	0.0	0.0	148.5		
Maximum Bus Production		(per day)	6	6	6	6		
Annual Amount Used		(lb/yr)	3723	0	0	325215	328938	(lb/yr)
PM	**Emissions Factor**	(lb/10^3 lb)	5.4	5.4	15.1	5.2		
	Emissions	(lb/hr)	0.002	0.000	0.000	0.193	0.195	(lb/hr)
		(ton/yr)	0.010	0.000	0.000	0.846	0.856	(ton/yr)
Mn	**Cmpd Emissions Factor**	(lb/10^4 lb)	3.46	3.46	6.62	3.18		
	Emissions	(lb/hr)	0.000	0.000	0.000	0.012	0.012	(lb/hr)
		(ton/yr)	0.001	0.000	0.000	0.052	0.052	(ton/yr)
Cr	**Cmpd Emissions Factor**	(lb/10^4 lb)	5.24	5.24	0.02	0.01		
	Emissions	(lb/hr)	2.23E-04	0.00E+00	0.00E+00	3.71E-05	2.60E-04	(lb/hr)
		(ton/yr)	6.44E-04	0.00E+00	0.00E+00	5.17E-02	5.24E-02	(ton/yr)
Ni	**Cmpd Emissions Factor**	(lb/10^4 lb)	1.84	1.84	0.04	0.01		
	Emissions	(lb/hr)	7.82E-05	0.00E+00	0.00E+00	3.71E-05	1.15E-04	(lb/hr)
		(ton/yr)	3.43E-04	0.00E+00	0.00E+00	1.63E-04	5.05E-04	(ton/yr)
Co	**Cmpd Emissions Factor**	(lb/10^4 lb)	0.01	0.01	0.01	0.01		
	Emissions	(lb/hr)	4.25E-07	0.00E+00	0.00E+00	3.71E-05	3.76E-05	(lb/hr)
		(ton/yr)	1.86E-06	0.00E+00	0.00E+00	1.63E-04	1.64E-04	(ton/yr)

Notes:

(1) Emission factors taken from "Compilation of Air Pollutant Emission Factors", AP-42, 5th Edition, Jan. 1995, Tables 12-19-1 and 12-19-2
using the E208 electrode type for 309 electrode type.

MPCA adjustment

The above are the emissions based on ACTUAL usage per bus * maximum buses per year. This is not really the maximum emissions per year since it is based on actua
usage. In addition, for the short-term, it averages the emissions over a 24-hour period rather than basing it on the maximum that could be used in an hou
To account for the uncertainty in the short-term emissions, the adjusted hourly rates are based on information provided verbally by Ken Day
From Ken, it takes at least 38 hrs of welding time per frame. Can calculate the weight of material used/hr-frame from this number. Then assume all 10 frames are in
process at the same time (in order to make 2190 buses/year, need to have 10 in-process at any point in time)

In addition, the annual numbers are adjusted by a factor of 10% to account for the maximum usage per bus

			Welding Wire Purchased					
		AWS # Class:	**309**	**308LSI**	**E71T-1**	**ER70S-6**	**Total Welding**	
		Vendor:	**Central McGowan**	**Central McGowan**	**Central McGowan**	**Central McGowan**	**Emissions:**	
Amount Used Per Bus		(lb)	1.7	0.0	0.0	148.5		
Maximum Buses in Welding		(per day)	10	10	10	10		
Hours of welding per Bus		(hrs)	38	38	38	38		
Amount Used Per Hour Per Bus		(lb/hr-bus)	0.045	0.000	0.000	3.91		
Amount Used Per Hour		(lb/hr)	0.447	0	0	39.1		
Annual Amount Used		(lb/yr)	6205	0	0	542025	548230	(lb/yr)
PM	**Emissions Factor**	(lb/10^3 lb)	5.4	5.4	15.1	5.2		
	Emissions	(lb/hr)	0.002	0.000	0.000	0.203	0.206	(lb/hr)
		(ton/yr)	0.011	0.000	0.000	0.930	0.941	(ton/yr)
Mn	**Cmpd Emissions Factor**	(lb/10^4 lb)	3.46	3.46	6.62	3.18		
	Emissions	(lb/hr)	0.000	0.000	0.000	0.012	0.013	(lb/hr)
		(ton/yr)	0.001	0.000	0.000	0.057	0.058	(ton/yr)
Cr	**Cmpd Emissions Factor**	(lb/10^4 lb)	5.24	5.24	0.02	0.01		
	Emissions	(lb/hr)	2.34E-04	0.00E+00	0.00E+00	3.91E-05	2.74E-04	(lb/hr)
		(ton/yr)	7.08E-04	0.00E+00	0.00E+00	5.69E-02	5.76E-02	(ton/yr)
Ni	**Cmpd Emissions Factor**	(lb/10^4 lb)	1.84	1.84	0.04	0.01		
	Emissions	(lb/hr)	8.23E-05	0.00E+00	0.00E+00	3.91E-05	1.21E-04	(lb/hr)
		(ton/yr)	3.77E-04	0.00E+00	0.00E+00	1.79E-04	5.56E-04	(ton/yr)
Co	**Cmpd Emissions Factor**	(lb/10^4 lb)	0.01	0.01	0.01	0.01		
	Emissions	(lb/hr)	5.11E-11	0.00E+00	0.00E+00	3.91E-05	3.91E-05	(lb/hr)
		(ton/yr)	2.05E-06	0.00E+00	0.00E+00	1.79E-04	1.81E-04	(ton/yr)

MPCA Adjustments

We must also look at any rules that limit the short term potential emissions. Minn. R. 7011.0715 applies
This rule sets limits based on either process weight rate, or airflow, which ever gives the less restrictive limit
For the welding operations, the MPCA does not have airflow data, so we only look at the process weight of the welding rod

Maximum Process Weight Rate (lb/hr)	Table 1 (lb/hr)
148.5	0.72

This maximum hourly emissions rate from above is significantly under this allowable rate

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

FACILITY DESCRIPTION: GROUPS (GP)

Show: Active and Pending Records
Action: PER 007
AQD Facility ID: 14100059
Facility Name: New Flyer of America Inc - St Cloud

	ID No.	Group Status	Added By (Action)	Retired By (Action)	Include in EI	Operator ID for Item	Group Description	Group Items
1	GP 001	Active	PER 004		☐		Booths	EU 002, EU 004, EU 007, EU 008, EU 009, EU 010, EU 011, EU 017
2	GP 001	Active	PER 007		☐		Coating Operations	EU 002, EU 004, EU 007, EU 008, EU 009, EU 010, EU 011, EU 017
3	GP 002	Active	PER 004		☐		Industrial Process Equipment Requirements	EU 002, EU 004, EU 007, EU 008, EU 009, EU 010, EU 011, EU 017
4	GP 002	Removed	PER 007		☐		Industrial Process Equipment Requirements	EU 002, EU 004, EU 007, EU 008, EU 009, EU 010, EU 011, EU 017
5	GP 003	Active	PER 004		☐		Panel Filter Requirements	CE 001, CE 002, CE 003, CE 004, CE 005, CE 006, CE 007, CE 011
6	GP 003	Active	PER 007		☐		Panel Filter Requirements- no CAM	CE 002, CE 003, CE 005, CE 007, CE 011
7	GP 004	Removed	PER 004		☐		Coating Usage Limits	EU 008, EU 009, EU 010, EU 011, EU 012
8	GP 005	Active	PER 007		☐		Panel Filter Requirements - CAM	CE 001, CE 004

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

FACILITY DESCRIPTION: STACK/VENTS (SV)

Show: Active and Pending Records
Action: PER 007
AQD Facility ID: 14100059
Facility Name: New Flyer of America Inc - St Cloud

	ID No.	Stack/ Vent Status	Added By (Action)	Retired By (Action)	Operator ID for Item	Operators Description	Height of Opening From Ground (feet)	Inside Dimensions		Design Flow Rate at Top (ACFM)	Exit Gas Temperature at Top (ºF)	Flow Rate/ Temperature Information Source	Discharge Direction
								Diameter or Length (feet)	Width (feet)				
1	SV 001	Active	PER 004			frame priming booth	40	3.5		16000	70	Estimate	Up, No Cap
2	SV 002	Active	PER 004			frame priming booth	40	3.5		16000	70	Estimate	Up, No Cap
3	SV 003	Active	PER 004			undercoat booth	40	3.5		16000	70	Estimate	Up, No Cap
4	SV 004	Active	PER 004			undercoat booth	40	3.5		16000	70	Estimate	Up, No Cap
5	SV 005	Active	PER 004			Paint Booth #1	41.67	3.5		32000	100	Estimate	Up, No Cap
6	SV 006	Active	PER 004			Paint Booth #1	41.67	3.5		32000	100	Estimate	Up, No Cap
7	SV 007	Active	PER 004			Paint Booth #2	41.67	3.5		32000	100	Estimate	Up, No Cap
8	SV 008	Active	PER 004			Paint Booth #2	41.67	3.5		32000	100	Estimate	Up, No Cap
9	SV 009	Active	PER 004			Paint Booth #3	41.67	3.5		26000	100	Estimate	Up, No Cap
10	SV 010	Active	PER 004			Paint Booth #3	41.67	3.5		26000	100	Estimate	Up, No Cap
11	SV 011	Active	PER 004			Paint Booth #3	41.67	3.5		26000	100	Estimate	Up, No Cap
12	SV 012	Active	PER 004			Paint Booth #4	41.67	3.5		26000	100	Estimate	Up, No Cap
13	SV 013	Active	PER 004			Paint Booth #4	41.67	3.5		26000	100	Estimate	Up, No Cap
14	SV 014	Active	PER 004			Paint Booth #4	41.67	3.5		26000	100	Estimate	Up, No Cap
15	SV 015	Active	PER 004			Paint Booth #5	41.67	3.5		26000	100	Estimate	Up, No Cap
16	SV 016	Active	PER 004			Paint Booth #5	41.67	3.5		26000	100	Estimate	Up, No Cap
17	SV 017	Active	PER 004			Paint Booth #5	41.67	3.5		26000	100	Estimate	Up, No Cap
18	SV 018	Active	PER 001				40	3.33		16000	100	Estimate	Up, No Cap
19	SV 019	Active	PER 001				40	3.33		14000	100	Estimate	Up, No Cap
20	SV 020	Active	PER 001				40	3.33		14000	100	Estimate	Up, No Cap
21	SV 021	Active	PER 004			emergency generator	40	0.67		3400	100	Estimate	Up, No Cap
22	SV 021	Active	PER 007			emergency generator	40	0.67		3400	980	Estimate	Up, No Cap
23	SV 022	Active	PER 004			fume exhauster	31.67	1.417		700	70	Estimate	Horizontal
24	SV 023	Active	PER 004			fume exhauster	31.67	1.417		700	70	Estimate	Horizontal
25	SV 024	Active	PER 004			fume exhauster	31.67	1.417		700	70	Estimate	Horizontal
26	SV 025	Active	PER 004			fume exhauster	31.67	1.417		700	70	Estimate	Horizontal
27	SV 026	Active	PER 004			fume exhauster	31.67	1.417		700	70	Manufacturer	Horizontal

FACILITY DESCRIPTION: STACK/VENTS (SV)

Show: Active and Pending Records
Action: PER 007
AQD Facility ID: 14100059
Facility Name: New Flyer of America Inc - St Cloud

	ID No.	Stack/ Vent Status	Added By (Action)	Retired By (Action)	Operator ID for Item	Operators Description	Height of Opening From Ground (feet)	Inside Dimensions		Design Flow Rate at Top (ACFM)	Exit Gas Temperature at Top (ºF)	Flow Rate/ Temperature Information Source	Discharge Direction
								Diameter or Length (feet)	Width (feet)				
28	SV 027	Active	PER 004			fume exhauster	31.67	1.417		700	70	Manufacturer	Horizontal
29	SV 028	Active	PER 004			fume exhauster	31.67	1.417		700	70	Manufacturer	Horizontal
30	SV 029	Active	PER 004			fume exhauster	31.67	1.417		700	70	Manufacturer	Horizontal
31	SV 030	Active	PER 004			fume exhauster	31.67	1.417		700	70	Manufacturer	Horizontal
32	SV 031	Active	PER 004			fume exhauster	31.67	1.417		700	70	Manufacturer	Horizontal
33	SV 032	Active	PER 004			fume exhauster	31.67	1.417		700	70	Manufacturer	Horizontal
34	SV 033	Active	PER 004			fume exhauster	31.67	1.417		700	70	Manufacturer	Horizontal
35	SV 034	Active	PER 004			fume exhauster	31.67	1.417		700	70	Manufacturer	Horizontal
36	SV 035	Active	PER 004			fume exhauster	31.67	1.417		700	70	Manufacturer	Horizontal
37	SV 036	Active	PER 004			fume exhauster	31.67	1.417		700	70	Manufacturer	Horizontal
38	SV 037	Active	PER 004			fume exhauster	31.67	1.417		700	70	Manufacturer	Horizontal
39	SV 038	Active	PER 004			new undercoat booth	40	3.5		16000	70	Manufacturer	Up, No Cap
40	SV 039	Active	PER 004			new undercoat booth	40	3.5		16000	70	Manufacturer	Up, No Cap
41	SV 040	Active	PER 004			Building vent exhaust #16	31.67	4.66	4.66	30000	70	Manufacturer	Up, No Cap
42	SV 041	Active	PER 004			Buildign vent exhaust #15	31.67	4.66	4.66	30000	70	Manufacturer	Up, No Cap
43	SV 042	Active	PER 004			Building vent exhaust #14	31.67	4.66	4.66	30000	70	Manufacturer	Up, No Cap

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

FACILITY DESCRIPTION: CONTROL EQUIPMENT (CE)

Show: Active and Pending Records
Action: PER 007
AQD Facility ID: 14100059
Facility Name: New Flyer of America Inc - St Cloud

	ID No.	Control Equip. Status	Added By (Action)	Retired By (Action)	Operator ID for Item	Control Equip. Type	Control Equipment Description	Manufacturer	Model	Pollutants Controlled	Capture Efficiency (%)	Destruction/ Collection Efficiency (%)	Afterburner Combustion Parameters
1	CE 001	Active	PER 001			058	Mat or Panel Filter	Binks	Paint Pockets	PM10 PM	100 100	94 94	
2	CE 001	Active	PER 007			058	Mat or Panel Filter	Binks	Paint Pockets	PM2.5 PM10 PM10 PM PM	100 100 100 100 100	92 94 92 94 92	
3	CE 002	Active	PER 001			058	Mat or Panel Filter	Binks	Paint Pockets	PM10 PM	100 100	94 94	
4	CE 002	Active	PER 007			058	Mat or Panel Filter	Binks	Paint Pockets	PM2.5 PM10 PM10 PM PM	100 100 100 100 100	92 94 92 94 92	
5	CE 003	Active	PER 001			058	Mat or Panel Filter	Binks	Paint Pockets	PM	100	94	
6	CE 003	Active	PER 007			058	Mat or Panel Filter	Binks	Paint Pockets	PM2.5 PM PM	100 100 100	92 94 92	
7	CE 004	Active	PER 001			058	Mat or Panel Filter	Binks	Paint Pockets	PM10 PM	100 100	94 94	
8	CE 004	Active	PER 007			058	Mat or Panel Filter	Binks	Paint Pockets	PM2.5 PM10 PM10 PM PM	100 100 100 100 100	92 94 92 94 92	
9	CE 005	Active	PER 001			058	Mat or Panel Filter	Binks	Paint Pockets	PM10 PM	100 100	94 94	
10	CE 005	Active	PER 007			058	Mat or Panel Filter	Binks	Paint Pockets	PM2.5 PM10 PM10 PM PM	100 100 100 100 100	92 94 92 94 92	
11	CE 006	Active	PER 001			058	Mat or Panel Filter	Binks	Paint Pockets	PM10 PM	100 100	94 94	
12	CE 006	Active	PER 007			058	Mat or Panel Filter	Binks	Paint Pockets	PM10 PM	100 100	94 94	
13	CE 007	Active	PER 001			058	Mat or Panel Filter	Binks	Paint Pockets	PM10 PM	100 100	94 94	
14	CE 007	Active	PER 007			058	Mat or Panel Filter	Binks	Paint Pockets	PM2.5 PM10 PM10 PM PM	100 100 100 100 100	92 94 92 94 92	

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

FACILITY DESCRIPTION: CONTROL EQUIPMENT (CE)

Show: Active and Pending Records
Action: PER 007
AQD Facility ID: 14100059
Facility Name: New Flyer of America Inc - St Cloud

	ID No.	Control Equip. Status	Added By (Action)	Retired By (Action)	Operator ID for Item	Control Equip. Type	Control Equipment Description	Manufacturer	Model	Pollutants Controlled	Capture Efficiency (%)	Destruction/ Collection Efficiency (%)	Afterburner Combustion Parameters
15	CE 008	Removed	PER 004			058	Mat or Panel Filter	Binks	Paint Pockets	PM	100	94	
16	CE 009	Retired	PER 004			099	Solvent recovery	Finish Thompson Inc	LS55II				
17	CE 010	Active	PER 001			099	Bag filter on sander	Dust Control	408801 Fine Filter	PM10 PM	100 100	99 99	
18	CE 010	Removed	PER 007			099	Bag filter on sander	Dust Control	408801 Fine Filter	PM2.5 PM10 PM	100 100 100	93 99 99	
19	CE 011	Active	PER 003			058	Mat or Panel Filter			PM10 PM	100 100	92 92	
20	CE 011	Active	PER 007			058	Mat or Panel Filter	Binks	Paint Pockets	PM2.5 PM10 PM	100 100 100	92 92 92	

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

FACILITY DESCRIPTION: EMISSION UNIT (EU)

Show: Active and Pending Records
Action: PER 007
AQD Facility ID: 14100059
Facility Name: New Flyer of America Inc - St Cloud

	ID No.	Emission Unit Status	Added By (Action)	Retired By (Action)	Insignif-icant Activity	Operator ID for Item	Stack/ Vent ID No(s).	Control Equip. ID No(s).	Operator Description	Manufacturer	Model Number	SIC	Max. Design Capacity	Maximum Design Capacity			Max Fuel Input (mil Btu)
														Materials	Units n	Units d	
1	EU 001	Removed	EIS 005		☐				Power Wash Booth	Custom Made	NA	3713	3.5		Gal	Min	
2	EU 002	Active	PER 001		☐		SV 001 (M) SV 002 (P)	CE 001	Primer Booth	BlowTherm	TH 18-18-32	3713	16		Floz	Min	
3	EU 002	Active	PER 007		☐		SV 001 (M) SV 002 (P)	CE 001	Primer Booth	BlowTherm	TH 18-18-32	3713	32	Product	Floz	Min	
4	EU 003	Retired	EIS 005		☐				Adhesive Application	Custom Made	NA	3713	1000	Product	Each	Hr	
5	EU 004	Active	PER 001		☐		SV 003 (M) SV 004 (P)	CE 002	Undercoat Booth	Custom Made	NA	3713	1000	Product	Each	Hr	
6	EU 004	Active	PER 007		☐		SV 003 (M) SV 004 (P)	CE 002	Undercoat Booth	Custom Made	NA	3713	6	Product	Each	Day	
7	EU 005	Retired	EIS 005		☐				Floor Prep	Custom Made	NA	3713	1000	Product	Each	Hr	
8	EU 006	Active	PER 004		☒		SV 005	CE 010	Paint Prep	Custom Made	NA	3713	1000	Product	Each	Hr	
9	EU 006	Removed	PER 007		☐				Paint Prep	Custom Made	NA	3713	1000	Product	Each	Hr	
10	EU 007	Active	PER 004		☐		SV 005 (M) SV 006 (P)	CE 003	Base Coat/Prime Booth	BlowTherm	to be determined	3713	32		Floz	Min	6.6
11	EU 007	Active	PER 007		☐		SV 005 (M) SV 006 (P)	CE 003	Base Coat/Prime Booth	BlowTherm	NA	3713	32	Product	Floz	Min	7.1
12	EU 008	Active	PER 004		☐		SV 007 SV 008 (M)	CE 004	Topcoat Booth	BlowTherm	to be determined	3713	32		Floz	Min	6.6
13	EU 008	Active	PER 007		☐		SV 007 SV 008 (M)	CE 004	Topcoat Booth	BlowTherm	NA	3713	32	Product	Floz	Min	7.1
14	EU 009	Active	PER 004		☐		SV 009 SV 010 SV 011 (M)	CE 005	Touch-up Booth	BlowTherm	to be determined	3713	32		Floz	Min	6.6
15	EU 009	Active	PER 007		☐		SV 009 SV 010 SV 011 (M)	CE 005	Touch-up Booth	BlowTherm	NA	3713	32	Product	Floz	Min	8.4
16	EU 010	Active	PER 004		☐		SV 012 SV 013 SV 014	CE 006	Touch-up Booth	BlowTherm	to be determined	3713	32		Floz	Min	6.6
17	EU 010	Active	PER 007		☐		SV 012 SV 013 SV 014	CE 006	Touch-up Booth	BlowTherm	NA	3713	32	Product	Floz	Min	8.4
18	EU 011	Active	PER 004		☐		SV 015 SV 016 SV 017	CE 007	Topcoat Booth	BlowTherm	to be determined	3713	32		Floz	Min	6.6

FACILITY DESCRIPTION: EMISSION UNIT (EU)

	ID No.	Emission Unit Status	Added By (Action)	Comm-ence Const. Date	Initial Startup Date	Removal Date	Firing Method	Pct. Fuel/ Space Heat	Bottleneck	Elevator Type
1	EU 001	Removed	EIS 005	10/15/1998	05/15/1999	12/31/2002				
2	EU 002	Active	PER 001	10/15/1998	05/15/1999					
3	EU 002	Active	PER 007	10/15/1998	05/15/1999					
4	EU 003	Retired	EIS 005	10/15/1998	05/15/1999	12/31/2002				
5	EU 004	Active	PER 001	10/15/1998	05/15/1999					
6	EU 004	Active	PER 007	10/15/1998	05/15/1999					
7	EU 005	Retired	EIS 005	10/15/1998	05/15/1999	12/31/2002				
8	EU 006	Active	PER 004	10/15/1998	05/15/1999					
9	EU 006	Removed	PER 007	10/15/1998	05/15/1999					
10	EU 007	Active	PER 004	10/15/1998	05/15/1999					
11	EU 007	Active	PER 007	10/15/1998	05/15/1999	08/01/2012				
12	EU 008	Active	PER 004	10/15/1998	05/15/1999					
13	EU 008	Active	PER 007	10/15/1998	05/15/1999					
14	EU 009	Active	PER 004	10/15/1998	05/15/1999					
15	EU 009	Active	PER 007	10/15/1998	05/15/1999					
16	EU 010	Active	PER 004	10/15/1998	05/15/1999					
17	EU 010	Active	PER 007	10/15/1998	05/15/1999					
18	EU 011	Active	PER 004	10/15/1998	05/15/1999					

FACILITY DESCRIPTION: EMISSION UNIT (EU)

Show: Active and Pending Records
Action: PER 007
AQD Facility ID: 14100059
Facility Name: New Flyer of America Inc - St Cloud

	ID No.	Emission Unit Status	Added By (Action)	Retired By (Action)	Insignif-icant Activity	Operator ID for Item	Stack/ Vent ID No(s).	Control Equip. ID No(s).	Operator Description	Manufacturer	Model Number	SIC	Max. Design Capacity	Maximum Design Capacity			Max Fuel Input (mil Btu)
														Materials	Units n	Units d	
19	EU 011	Active	PER 007		☐		SV 015 SV 016 SV 017	CE 007	Topcoat Booth	BlowTherm	NA	3713	32	Product	Floz	Min	8.4
20	EU 012	Removed	EIS 005		☐				Touch-up Booth	BlowTherm	to be determined	3713	32		Floz	Min	6.6
21	EU 013	Retired	EIS 005		☐				Gun Cleaning	Finish Thompson Inc	LS 55-II	3713	1000	Product	Each	Hr	
22	EU 014	Active	PER 004		☐				Standby Diesel Generator	TBD	to be determined	3713	500	Energy	Hp		3.5
23	EU 014	Active	PER 007		☐				Standby Diesel Generator	Cummins	NTH855-65	3713	500	Energy	Hp		3.5
24	EU 015	Active	PER 004		☒		SV 022 SV 023 SV 024 SV 025 SV 026 SV 027 SV 028 SV 029 SV 030 SV 031 SV 032 SV 033 SV 034 SV 035 SV 036 SV 037		Bus Engine Testing	New Flyer	custom made	3713	600	Energy	Hp		4.2
25	EU 015	Removed	PER 007		☒		SV 023 SV 024 SV 025 SV 026 SV 027 SV 028 SV 029 SV 030 SV 031 SV 032 SV 033 SV 034 SV 035 SV 036 SV 037		Bus Engine Testing	New Flyer	custom made	3713	600	Energy	Hp		4.2
26	EU 016	Active	PER 004		☒				grit blasting -- not vented	unknown	unknown	3713	2250		Lb	Hr	
27	EU 016	Removed	PER 007		☐				grit blasting -- not vented	unknown	unknown	3713	1950	Shot	Lb	Hr	
28	EU 017	Active	PER 004		☐		SV 038 SV 039	CE 011	Undercoating Booth No. 2	Spray Booth Systems		3713	6		Each	Day	

FACILITY DESCRIPTION: EMISSION UNIT (EU)

	ID No.	Emission Unit Status	Added By (Action)	Comm-ence Const. Date	Initial Startup Date	Removal Date	Firing Method	Pct. Fuel/ Space Heat	Bottleneck	Elevator Type
19	EU 011	Active	PER 007	10/15/1998	05/15/1999					
20	EU 012	Removed	EIS 005	10/15/1998	05/15/1999	12/31/2002				
21	EU 013	Retired	EIS 005	10/15/1998	05/15/1999	12/31/2002				
22	EU 014	Active	PER 004	10/15/1998	05/15/1999					
23	EU 014	Active	PER 007	10/15/1998	05/15/1999					
24	EU 015	Active	PER 004	10/15/1998	05/15/1999					
25	EU 015	Removed	PER 007	10/15/1998	05/15/1999	08/01/2012				
26	EU 016	Active	PER 004	10/15/1998	05/15/1999					
27	EU 016	Removed	PER 007	10/15/1998	05/15/1999	08/01/2012				
28	EU 017	Active	PER 004							

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

FACILITY DESCRIPTION: EMISSION UNIT (EU)

Show: Active and Pending Records
Action: PER 007
AQD Facility ID: 14100059
Facility Name: New Flyer of America Inc - St Cloud

	ID No.	Emission Unit Status	Added By (Action)	Retired By (Action)	Insignif-icant Activity	Operator ID for Item	Stack/ Vent ID No(s).	Control Equip. ID No(s).	Operator Description	Manufacturer	Model Number	SIC	Max. Design Capacity	Maximum Design Capacity			Max Fuel Input (mil Btu)
														Materials	Units n	Units d	
29	EU 017	Active	PER 007		☐		SV 038 SV 039	CE 011	Undercoating Booth No. 2	Spray Booth Systems	NA	3713	6		Each	Day	
30	EU 018	Active	PER 004		☐				Cleaning Solvents, Cleaners, Adhesives and Sealants Usage			3711					
31	EU 018	Removed	PER 007		☐				Cleaning Solvents, Cleaners, Adhesives and Sealants Usage	NA	NA	3711					

FACILITY DESCRIPTION: EMISSION UNIT (EU)

	ID No.	Emission Unit Status	Added By (Action)	Comm-ence Const. Date	Initial Startup Date	Removal Date	Firing Method	Pct. Fuel/ Space Heat	Bottleneck	Elevator Type
29	EU 017	Active	PER 007	12/31/2001	05/02/2002					
30	EU 018	Active	PER 004							
31	EU 018	Removed	PER 007			08/01/2012				

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

25 October, 2012 14:19

FACILITY DESCRIPTION: BUILDINGS (BG)

Show: Active and Pending Records
Action: PER 007
AQD Facility ID: 14100059
Facility Name: New Flyer of America Inc - St Cloud

	ID No.	Added By (Action)	Retired By (Action)	Operator ID for Item	Length (feet)	Width (feet)	Roof Height from Ground (feet)	Description/Comment	Building Status
1	BG 001	PER 001			1170	380	30	Building dimensions include on bay on SE side.	Active

COMPLIANCE PLAN CD-01

Facility Name: New Flyer of America Inc - St Cloud

Permit Number: 14100059 - 007

Subject Item: **Total Facility**

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	SOURCE-SPECIFIC REQUIREMENTS
2.0		CD	Minn. R. 7007.0800, subp. 2	Permit Appendices: This permit contains appendices as listed in the permit Table of Contents. The Permittee shall comply with all requirements contained in the appendices.
3.0		CD	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR Section 63.2	This permit establishes limits on the facility to keep it a minor source under New Source Review and 40 CFR pt. 63. The Permittee cannot make any change at the source that would make the source a major source under New Source Review or under 40 CFR pt. 63, or subject to regulation for greenhouse gases under 40 CFR Section 52.21(b)(49)(v), until a permit amendment has been issued. This includes changes that might otherwise qualify as insignificant modifications and minor or moderate amendments.
4.0		S/A	Minn. R. 7007.0800, subp. 2	Annual Report: due 31 days after end of each calendar year following Permit Issuance. The Permittee shall submit an annual report by January 31st that describes the changes made at the facility during the previous calendar year using the latest MPCA application forms. The report shall include the emission unit, stack/vent, group, and control equipment data for any new or replaced units or control devices. The report shall be submitted with the annual Compliance Certification listed in Table B.
5.0		CD	Minn. R. 7007.0800, subp. 2	Equipment Labeling: The Permittee shall permanently affix a unique number to each emissions unit for tracking purposes. The numbers shall correlate the unit to the appropriate EU and GP numbers used in this permit. The number can be affixed by placard, stencil, or other means and maintained so that it is readable and visible at all times from a safe distance. If equipment is added, it shall be given a new unique number; numbers from replaced or removed equipment shall not be reused.
6.0		CD	Minn. R. 7007.0800, subp. 2	Equipment Inventory: The Permittee shall maintain a written list of all emissions units and control equipment on site. The Permittee shall update the list to include any replaced, modified, or new equipment prior to making any changes. The list shall correlate the units to the numbers used in this permit (EU, GP, CE) and shall include the data on GI-05A or GI-05B. The date of construction shall be the date the change was made for replaced, modified, or new equipment.
7.0		CD	hdr	OPERATIONAL REQUIREMENTS
8.0		CD	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); 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.
9.0		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.
10.0		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.
11.0		CD	Minn. R. 7007.0800, subps. 14 and 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.
12.0		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.

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13.0		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.
14.0		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.
15.0		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).
16.0		CD	Minn. R. 7007.0800, subp. 16	The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.
17.0		CD	hdr	MONITORING REQUIREMENTS
18.0		CD	Minn. R. 7007.0800, subp. 4(D)	Monitoring Equipment Calibration: The Permittee shall calibrate all required monitoring equipment at least once every 12 months (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, unless otherwise specified within this permit, 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. 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.

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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 following Permit Issuance. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. If no deviations have occurred, the Permittee shall submit the report stating no deviations.
30.0		CD	Minn. R. 7007.1150 - 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). Performance testing deadlines from the General Provisions of 40 CFR pt. 60 and pt. 63 are examples of deadlines for which the MPCA does not have authority to grant extensions and therefore do not meet 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 following Permit Issuance (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 - 7019.3100	Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance, to be submitted on a form approved by the Commissioner.
35.0		CD	Minn. R. 7002.0005 - 7002.0095	Emission Fees: due 60 days after receipt of an MPCA bill.

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Facility Name: New Flyer of America Inc - St Cloud

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Subject Item: **GP 001 Coating Operations**

Associated Items: EU 002 Primer Booth

EU 004 Undercoat Booth

EU 007 Base Coat/Prime Booth

EU 008 Topcoat Booth

EU 009 Touch-up Booth

EU 010 Touch-up Booth

EU 011 Topcoat Booth

EU 017 Undercoating Booth No. 2

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	EMISSION LIMITS
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 140.0 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 non-combustion VOC-emitting equipment at the Facility, other than those listed in Appendix I of the permit, is subject to this limit. VOC contents for each VOC-containing material shall be determined as described under the Material Content requirement in GP 001. The calculation of VOCs used may take into account recovered/recycled VOCs as described under the Waste Credit requirement in GP 001.
3.0		CD	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 & Minn. R. 7007.3000	VOC Limit Continued: If the Permittee replaces any existing VOC-emitting equipment, adds new VOC-emitting equipment, or modifies the existing equipment, such equipment is subject to this permit limit as well as all of the requirements of GP 001. 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 or requires revisions to the limits or monitoring and recordkeeping in this permit.
4.0		LIMIT	Title I Condition: To avoid major source classification under 40 CFR Section 63.2	HAPs - Total: less than or equal to 23.0 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 non-combustion HAP-emitting equipment at the Facility, other than those listed in Appendix I this permit, is covered by this limit. HAP contents for each HAP-containing material (i.e. coatings, gun cleaner,...) shall be determined as described under the Material Content requirement in GP 001. The calculation of HAPs used may take into account recovered/recycled HAPs as described under the Waste Credit requirement in GP 001.
5.0		LIMIT	Title I Condition: To avoid major source classification under 40 CFR Section 63.2	HAP-Single: less than or equal to 8.0 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 non-combustion HAP-emitting equipment at the Facility, other than those listed in Appendix I this permit, is covered by this limit. HAP contents for each HAP-containing material (i.e. coatings, gun cleaner,...) shall be determined as described under the Material Content requirement in GP 001. The calculation of HAPs used may take into account recovered/recycled HAPs as described under the Waste Credit requirement in GP 001.

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6.0		CD	Title I Condition: To avoid major source classification under 40 CFR Section 63.2	HAP Limits Continued: If the Permittee replaces any existing HAP-emitting equipment or adds new HAP-emitting equipment, such equipment is subject to this permit limit as well as all of the requirements of GP 001. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable. A permit amendment may be needed if the change will be subject to a new applicable requirement or requires revisions to limits or the monitoring and recordkeeping in this permit.
7.0		LIMIT	Minn. R. 7011.0715, subp. 1(A)	Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to meet the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735. This standard applies individually to each emission unit in GP 001. Other permit requirements (e.g., control requirements and coating usage limits) are more restrictive, for particulate matter emissions, than this rule.
8.0		LIMIT	Minn. R. 7011.0715, subp. 1(B)	Opacity: less than or equal to 20 percent opacity . This standard applies individually to each emission unit in GP 001.
9.0		CD	Title I Condition: To avoid classification as major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	The Permittee shall vent emissions from all spray booths, including existing, modified, or new spray booths, to panel filters meeting the following requirements: - for all spray booths subject to Compliance Assurance Monitoring (CAM, under 40 CFR pt. 64), to control equipment meeting the requirements of GP 005; and -- for all spray booths not subject to CAM, to control equipment meeting the requirements of GP 003.
10.0		CD	hdr	RECORDKEEPING
11.0		CD	Title I Condition: To avoid classification as major source and modification under 40 CFR 52.21 and Minn. R. 7007.3000; to avoid major source classification under 40 CFR 63.2; Minn. R. 7007.0800, subps. 4 and 5	Recordkeeping of Materials Used. Coating Materials: On each day of operation, the Permittee shall calculate, record, and maintain the total quantity of all VOC and HAP-containing coatings, thinners, and other coating additives used at the facility. This shall be based on written/electronic usage logs, flowmeters, and/or delivery records. Other VOC and HAP-containing materials: The Permittee shall calculate, record, and maintain monthly usage records showing the quantity of each material used. This shall be based on either written/electronic usage logs or purchase/delivery records.
12.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Monthly Recordkeeping -- VOC Emissions. 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 and solids contents of each material as determined by the Material Content requirement of this permit; 2) The VOC emissions for the previous month using the formulas specified in this permit; and 3) 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.
13.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Monthly Calculation -- VOC Emissions. The Permittee shall calculate VOC emissions using the following equations: VOC (tons/month) = V - W V = (A1 x B1) + (A2 x B2) + (A3 x B3) + ... W = (C1 x D1) + (C2 x D2) + C3 x D3) + ...
14.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Monthly VOC Emissions Calculation Continued: where: V = 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; 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.

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15.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Monthly Recordkeeping - HAP Emissions. By the 15th of the month, the Permittee shall calculate and record the following using the formulas specified in this permit: 1). The total HAP-containing materials used in the previous calendar month using the daily usage records. This record shall also include the individual and total HAP contents of each HAP-containing material used in the previous month, as determined by the Material Content requirement of this permit; 2). The total and individual HAP emissions for the previous month using the formulas specified in this permit; and 3). The 12-month rolling sum total and individual HAP emissions for the previous 12-month period by summing the monthly emissions data for the previous 12 months.
16.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Monthly Calculation -- HAP Emissions. The Permittee shall calculate each individual HAP and total HAP emissions using the following equations: HAP Emissions (tons/month) = H - W H = (A1 x B1) + (A2 x B2) + (A3 x B3) + ... W = (C1 x D1) + (C2 x D2) + (C3 x D3) + ...
17.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Monthly HAP Emissions Calculation Continued: Where: H = the amount of each pollutant (either total HAP or each individual HAP), used, in tons/month. A# = Amount of each HAP-containing material used in the previous month, in tons/month. B# = weight percent of each individual or total HAP in A#, as a fraction (e.g., 50% is 0.50). W = the amount of each pollutant (either total HAP or each individual HAP) shipped in waste, in tons/month. C# = amount, in tons/month, of each HAP-containing waste material shipped. If the Permittee chooses to not take credit for waste shipments, this parameter would be zero. D# = weight percent of each individual or total HAP in C#, as a fraction.
18.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Waste Credit: If the Permittee elects to obtain credit for HAPs and/or VOC shipped in waste materials, the Permittee shall either use item 1 or 2 to determine the VOC and/or total and individual HAP content for each credited shipment. 1) The Permittee shall analyze a composite sample of each waste shipment to determine the weight content of VOC, total HAP, and each individual HAP, excluding water. 2) The Permittee may use supplier data for raw materials to determine the VOC and total and individual HAP contents 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 and total and individual HAP content of any of the materials.
19.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Material Content. VOC and HAP contents in all materials shall be determined by the Material Safety Data Sheet (MSDS) or Environmental Data Sheet (EDS) provided by the supplier for each material used. If a material content range is given on the sheet, 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 and HAP contents. The Commissioner reserves the right to require the Permittee to determine the VOC and HAP contents 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/EDS.
20.0		CD	Minn. R. 7005.0100, subp. 35a	Maximum Contents of Materials and Maximum Equipment Capacities: The Permittee assumed certain worst-case contents of materials and equipment capacities when determining the short term potential to emit of units in GP001. These assumptions are listed in Appendix II of this permit. Changing to a material that has a higher content of any of the given pollutants or changing the process such that it has a greater capacity 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.

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Facility Name: New Flyer of America Inc - St Cloud

Permit Number: 14100059 - 007

Subject Item: **GP 003 Panel Filter Requirements- no CAM**

Associated Items: CE 002 Mat or Panel Filter

CE 003 Mat or Panel Filter

CE 005 Mat or Panel Filter

CE 007 Mat or Panel Filter

CE 011 Mat or Panel Filter

	NC/ CA	Type	Citation	Requirement
1.0		CD	Minn. R. 7007.0800, subp.	Unless otherwise specified, the requirements in GP 003 apply separately to each control device in GP 003.
2.0		CD	hdr	EMISSION AND OPERATIONAL LIMITS
3.0		LIMIT	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency, for PM < 10 micron: greater than or equal to 92 percent control efficiency
4.0		LIMIT	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency, for PM < 2.5 micron: greater than or equal to 92 percent control efficiency
5.0		LIMIT	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency, for Total Particulate Matter: greater than or equal to 92 percent control efficiency
6.0		CD	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	The Permittee shall operate and maintain the panel filters any time that any process equipment controlled by the panel filters is(are) in operation. The Permittee shall document periods of non-operation of the control equipment.
7.0		CD	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	For all panel filters controlling spray booths not subject to CAM: If the Permittee replaces any existing panel filter, adds new panel filters, or modifies the panel filters listed in GP 003, such equipment is subject to all of the requirements of GP 003. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable.
8.0		CD	hdr	MONITORING AND RECORDKEEPING
9.0		CD	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 and 5	Daily Inspections: Once each operating day, the Permittee shall visually inspect the condition of each panel filter with respect to alignment, saturation, tears, holes and any other condition that may affect the filter's performance. The Permittee shall maintain a daily written record of filter inspections.
10.0		CD	Minn. R. 7007.0800, subps. 4, 5, and 14	Periodic Inspections: The Permittee shall inspect the control equipment components as required by the manufacturing specifications. The Permittee shall maintain a written record of these inspections.
11.0		CD	Minn. R. 7007.0800, subps. 4, 5, and 14	Corrective Actions: If the filters or any of their components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall 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 filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.
12.0		CD	Minn. R. 7007.0800, subp. 14	Operation and Maintenance of Filters: The Permittee shall operate and maintain each filter 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.

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Facility Name: New Flyer of America Inc - St Cloud

Permit Number: 14100059 - 007

Subject Item: **GP 005 Panel Filter Requirements - CAM**

Associated Items: CE 001 Mat or Panel Filter

CE 004 Mat or Panel Filter

	NC/ CA	Type	Citation	Requirement
1.0		CD	Minn. R. 7007.0800, subp.	Unless otherwise specified, the requirements in GP 005 apply separately to each control device in GP 005.
2.0		CD	hdr	EMISSION AND OPERATIONAL LIMITS
3.0		CD	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	The Permittee shall operate and maintain each the panel filter at all times that any emission unit controlled by the panel filter is in operation. The Permittee shall document periods of non-operation of the control equipment.
4.0		LIMIT	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 10 micron: greater than or equal to 92 percent control efficiency
5.0		LIMIT	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for PM < 2.5 micron: greater than or equal to 92 percent control efficiency
6.0		LIMIT	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	The Permittee shall operate and maintain control equipment such that it achieves a control efficiency for Total Particulate Matter: greater than or equal to 92 percent control efficiency
7.0		CD	Minn. R. 7007.0800, subp. 14	The Permittee shall operate and maintain the panel filter 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.
8.0		CD	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	For all panel filters controlling spray booths subject to CAM: If the Permittee replaces any existing panel filter, adds new panel filters, or modifies the panel filters listed in GP 005, such equipment is subject to all of the requirements of GP 005. Prior to making such a change, the Permittee shall apply for and obtain the appropriate permit amendment, as applicable.
9.0		CD	hdr	MONITORING AND RECORDKEEPING
10.0		CD	Title I Condition: To avoid classification as a major source and modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; 40 CFR Section 64.3; Minn. R. 7017.0200	Daily Inspections: At least once per 24-hour period, the Permittee shall visually inspect the condition of the panel filter with respect to alignment, saturation, tears, holes and any other matter that may affect the filter's performance. The Permittee shall record the time and date of each inspection and any actions resulting from the inspection.
11.0		CD	40 CFR Section 64.3; Minn. R. 7017.0200	Periodic Inspections: The Permittee shall inspect the control equipment components as required by the manufacturing specifications. The Permittee shall maintain a written record of these inspections.
12.0		CD	40 CFR Section 64.7(d); Minn. R. 7017.0200	Corrective Actions: The Permittee shall take corrective action as soon as possible if the panel filter or any of its components are found during the inspections to need repair. Corrective actions shall 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 panel filter. The Permittee shall keep a record of the type and date of any corrective action taken for the panel filter.
13.0		CD	40 CFR Section 64.7(e); Minn. R. 7017.0200	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing monitoring, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change.

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14.0		CD	40 CFR Section 64.9(a)(2); Minn. R. 7017.0200	As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report listed in Table B of this permit and/or the Notification of Deviations Endangering Human Health and the Environment listed earlier in Table A of this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64: 1) Summary information on the number, duration, and cause of excursions or exceedances, as applicable, and the corrective action taken; and 2) Summary information on the number, duration, and cause for monitor downtime incidents.
15.0		CD	40 CFR Section 64.9(b); Minn. R. 7017.0200	The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.

COMPLIANCE PLAN CD-01

Facility Name: New Flyer of America Inc - St Cloud

Permit Number: 14100059 - 007

Subject Item: **EU 014 Standby Diesel Generator**

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	EMISSION AND OPERATING LIMITS
2.0		LIMIT	Minn. R. 7011.2300, subp. 1	Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained.
3.0		LIMIT	Minn. R. 7011.2300, subp. 2	Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input . Potential to emit for this unit is 0.29 lb/MMBtu due to equipment design and allowable fuels.
4.0		LIMIT	Minn. R. 7007.0800, subp. 2	Sulfur Content of Fuel: less than 0.5 percent by weight
5.0		CD	Minn. R. 7005.0100, subp. 35a	Fuel type: Diesel/distillate fuel oil, by design.
6.0		CD	hdr	RECORDKEEPING
7.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Hours of Operation: The Permittee shall maintain documentation on site that the unit is an emergency generator by design that qualifies under the U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995, limiting operation to 500 hours per year.
8.0		CD	Minn. R. 7007.0800, subps. 4 and 5	The Permittee shall keep records of fuel type and usage on a monthly basis.
9.0		CD	Minn. R. 7007.0800, subps. 4 and 5	Fuel Supplier Certification: The Permittee shall obtain and maintain a fuel supplier certification for each shipment of diesel fuel, certifying that the sulfur content does not exceed 0.5% by weight.
10.0		CD	hdr	NESHAP APPLICABILITY
11.0		CD	40 CFR Section 63.6595(a)(1); Minn. R. 7011.8150	The Permittee shall comply with the applicable limitations from 40 CFR pt. 63, subp. ZZZZ, including those listed below, no later than May 3, 2013.
12.0		CD	hdr	NESHAP OPERATIONAL REQUIREMENTS
13.0		CD	40 CFR Section 63.6603; 40 CFR Section 63.6640; and Table 2d to subpart ZZZZ of Part 63; Minn. R. 7011.8150	Change oil and filter every 500 hours of operation or annually, whichever comes first. The Permittee has the option of utilizing an oil analysis program in order to extend the oil change requirement as described below.
14.0		CD	40 CFR Section 63.6603; 40 CFR Section 63.6640; and Table 2d to subpart ZZZZ of Part 63; Minn. R. 7011.8150	Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.
15.0		CD	40 CFR Section 63.6603; 40 CFR Section 63.6640; and Table 2d to subpart ZZZZ of Part 63; Minn. R. 7011.8150	Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
16.0		CD	40 CFR Section 63.6605(a); Minn. R. 7011.8150	The Permittee shall be in compliance with the operating limitations that apply at all times.
17.0		CD	40 CFR Section 63.6605(b); Minn. R. 7011.8150	At all times the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.
18.0		CD	40 CFR Section 63.6625(e); Minn. R. 7011.8150	The Permittee shall operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop a maintenance plan which shall provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
19.0		CD	40 CFR Section 63.6625(f); Minn. R. 7011.8150	The Permittee shall install a non-resettable hour meter by May 3, 2013, if one is not already installed.
20.0		CD	40 CFR Section 63.6625(h); Minn. R. 7011.8150	The Permittee shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup apply.

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21.0		CD	40 CFR Section 63.6625(i); Minn. R. 7011.8150	The Permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement. The oil analysis shall be performed at the same frequency specified for changing the oil. The analysis program shall at a minimum analyze the following 3 parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. (continued below)
22.0		CD	40 CFR Section 63.6625(i); Minn. R. 7011.8150	(continued from above) If none of the condemning limits are exceeded, the Permittee is not required to change the oil. If any of the limits are exceeded, the Permittee shall change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the Permittee shall change the oil within 2 days or before commencing operation, whichever is later. The Permittee shall keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program shall be part of the maintenance plan for the engine.
23.0		CD	40 CFR Section 63.6640(a); 40 CFR Section 63.6655(d); 40 CFR pt. 63 subp. ZZZZ, Table 6	The Permittee shall operate and maintain the stationary RICE according to the manufacturer's emission related operation and maintenance instructions; or the Permittee shall develop and follow a maintenance plan which shall provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
24.0		CD	40 CFR Section 63.6665; Minn. R. 7011.8150	The Permittee shall comply with the applicable provisions of 40 CFR pt. 63, subp. A, as required by Table 8 of 40 CFR pt. 63, subp. ZZZZ.
25.0		CD	40 CFR Section 63.6665; 40 CFR Section 63.4(b); Minn.R. 7011.7000	The Permittee shall not build, erect, install, or use any article, machine, equipment, or process to conceal an emission that would otherwise constitute noncompliance with a relevant standard. Such concealment includes, but is not limited to: 1. The use of diluents to achieve compliance with a relevant standard based on the concentration of a pollutant in the effluent discharged to the atmosphere; 2. The use of gaseous diluents to achieve compliance with a relevant standard for visible emissions.
26.0		CD	hdr	NESHAP REQUIREMENTS FOR EMERGENCY STATIONARY RICE
27.0		CD	40 CFR Section 63.6640(f)(1); Minn. R. 7011.8150	The Permittee shall operate the emergency stationary RICE according to the requirements in paragraphs 40 CFR Section 63.6640 (f)(1)(i) through (iii). Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in 40 CFR Section 63.6640(f)(i) through (iii), is prohibited. If the engine is not operated according to the requirements in 40 CFR Section 63.6640(f)(1)(i) through (iii), the engine will not be considered an emergency engine under 40 CFR pt. 63, subp. ZZZZ and will need to meet all requirements for non-emergency engines.
28.0		CD	40 CFR Section 63.6640(f)(1)(i) - (ii); Minn. R. 7011.8150	(i) There is no time limit on the use of emergency stationary RICE in emergency situations. (ii) The Permittee shall operate the emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indication that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.

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29.0		CD	40 CFR Section 63.6640(f)(1)(iii); Minn. R. 7011.8150	(iii) The Permittee shall operate the emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that the Permittee may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. (continued below)
30.0		CD	40 CFR Section 63.6640(f)(1)(iii); Minn. R. 7011.8150	(continued from above) The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation shall be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph, as long as the power provided by the financial arrangement is limited to emergency power.
31.0		CD	hdr	NESHAP RECORDKEEPING REQUIREMENTS
32.0		CD	40 CFR Section 63.6665(a); Minn. R. 7011.8150	The Permittee shall keep the following records: 1) A copy of each notification and report submitted to comply with 40 CFR pt. 63, subp. ZZZZ, including all documentation supporting any Initial Notification or Notification of Compliance Status submitted according to the requirement in 40 CFR Section 63.10(b)(2)(xiv). 2) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. 3) Records of performance tests and performance evaluations as required in 40 CFR Section 63.10(b)(2)(viii). 4) Records of all required maintenance performed on the air pollution control and monitoring equipment; and 5) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR Section 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.
33.0		CD	40 CFR Section 63.6655(e); Minn. R. 7011.8150	The Permittee shall keep records of the maintenance conducted on the stationary RICE in order to demonstrate that the Permittee operated and maintained the stationary RICE and after-treatment control device (if any) according to the maintenance plan.
34.0		CD	40 CFR Section 63.6655(f); Minn. R. 7011.8150	The Permittee shall keep records of the hours of operation of the engine that are recorded through the non-resettable hour meter. The Permittee shall document how many hours are spent for emergency operation; including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for demand response operation, the Permittee shall keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.
35.0		CD	40 CFR Section 63.6660; 40 CFR Section 63.10(b)(1); Minn. R. 7011.8150	The Permittee shall keep records in a form suitable and readily available for expeditious review according to 40 CFR Section 63.10(b)(1). As specified in 40 CFR Section 63.10(b)(1), the Permittee shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or record.
36.0		CD	hdr	NESHAP REPORTING AND NOTIFICATION REQUIREMENTS
37.0		CD	40 CFR Section 63.6640(b); 40 CFR Section 63.6650(f);Minn. R. 7011.8150	The Permittee shall report each instance in which the stationary RICE did not meet each applicable operating limitation. These instances are deviations from the operating limitations. These deviations shall be reported with the deviations report required by Table A (listed at the Total Facility level) and B of this permit.

ATTACHMENT 4
CAM Plan

Small Pollutant Specific Emission Source Monitoring Approach.

EU002/CE001 – Primer Booth
EU008/CE004 – Topcoat Booth
EU009/CE005 – Touchup Booth
EU010/CE006 – Touchup Booth
EU011/CE007 – Topcoat Booth

I. Indicators	Indicator No. 1 Visual Inspection	Indicator No. 2 Inspection/Maintenance
A. Measurement Approach	Visual inspection once per operating day of panel filter condition, including alignment, saturation, tears and holes.	Performance is monitored by observing equipment condition.
II. Indicator Range	Proper filter alignment and condition.	Routine inspections are performed by personnel.
III. Performance Criteria	If the panel filter condition is not in good operating order corrective action shall be taken according to the manufacturer's specifications and the equipment Operation and Maintenance Manual.	If inspections reveal repair work is needed, maintenance activities are initiated.
A. Representativeness	All operating panel filters will be visually inspected.	NA.
B. Monitoring Frequency	Once per 24-hour period when emission units are operating.	Routine observations and maintenance.
C. QA/QC Practices	Regularly scheduled performance evaluations shall take place in accordance with the Operating and Maintenance Plan and manufacturer specifications.	Personnel perform inspections/maintenance.
D. Data Collection	Observation result, date and time, as well as corrective actions taken, will be manually recorded. Maintain records.	Maintain records of all maintenance activities performed.
E. Averaging Period	NA	NA

Justification

The monitoring approach is consistent with the EPA CAM Technical Guidance Document, Section B.1, Fabric Filters, Item Nos. 1a. and 1.c. Fabric Filter for PM Control, (1/05). As indicated in the guidance, fabric filter sources that are considered small pollutant specific emission sources (i.e., less than 100 tons per year post-control potential to emit) do not require continuous monitoring with four or more data points averaged over each hour.

The first indicator used to monitor panel filter operation is visual inspection of panel filter condition, including but not limited to, alignment, saturation, tears and holes. Improper alignment, tears or holes may result in bypass of the panel filter and excess emissions. Saturated filters may result in lower air flow through the filter decreasing capture or resulting in filter failure. Observed panel filter condition will be documented and reported, and corrective action will be initiated if necessary.

The second indicator used to monitor panel filter operation is inspection and maintenance. Filter performance is monitored by routine inspections of equipment performed by plant personnel. All excursions and maintenance activities will be documented and reported in a maintenance log.

Consistent with CAM guidance, no emission test correlation is provided for the small pollutant specific emission sources because the proposed indicator is "visual inspection" and not a specific level, or range, of opacity or emissions. Compliance testing is not required to establish a visual inspection parameter to avoid potential emissions exceedences. Visual inspections as specified by the operating permit is adequate to have a reasonable assurance of compliance and to ensure that the panel filter continues to operate properly and achieve the desired control efficiency.

In accordance with 40 CFR 64.4(d)(2) an owner or operator may submit indicator ranges that rely on engineering assessments and other data provided that the owner or operator demonstrates that such data makes compliance or performance testing unnecessary. The proposed filter operating parameters are based on manufacturer recommendations, additional evaluation is not required.

ATTACHMENT 5
NESHAP Documentation

From: Ken Day [Ken_Day@newflyer.com]
Sent: Tuesday, October 02, 2012 11:46 AM
To: Bartz, Margaret (MPCA)
Cc: Greg Raetz (E-mail)
Subject: RE: Area Source Standard for Surface Coating

Hi Peggy,

I discussed with Greg, and this is how we viewed this regulation and applicability to our operation:

Subpart HHHHHH, National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources applies to sources that perform one or more of the following:

1) Perform paint stripping using MeCl for the removal of dried paint. NEW FLYER DOES NOT PERFORM PAINT STRIPPING USING MeCl.
2) Perform spray application of coatings to motor vehicles and mobile equipment. This means owners or operators of motor vehicle or mobile equipment surface coating operations. The definition of motor vehicle or mobile equipment surface coating under 63.11180 is the spray application of coatings to assembled motor vehicles or mobile equipment. For the purposes of this subpart, it does not include the surface coating of motor vehicle or mobile equipment parts or subassemblies at a vehicle assembly plant or parts manufacturing plant. NEW FLYER IS A VEHCILE ASSEMBLY PLANT THAT PERFORMS SURFACE COATING TO SUBASSEMBLIES AS THEY ARE ASSEMBLED (I.E., THE FRAME COATING, BODY COMPONENTS, ETC.). THEREFORE, THIS SECTION DOES NOT APPLY.
3) Perform miscellaneous spray application of coatings that contain the target HAP, which include: chromium, lead, manganese, nickel or cadmium. A REVIEW OF THE 2011 ROLLING SUM EMISSIONS REPORT INDICATES NO EMISSIONS OF THE TARGET HAPS.

A review of the rule preamble and previous proposed rule indicates that the intent of the rule was to target paint stripping and autobody refinishing paint shops. The final rule made an attempt to clarify applicability and provided the three categories above. The exclusion of vehicle or mobile equipment parts or subassemblies at vehicle assembly plant would indicate that facilities such as New Flyer were not intended to be covered. This would make sense because facilities such as ours already employ all the techniques/practices required by the rule.

Ken Day

From: Bartz, Margaret (MPCA) [mailto:margaret.bartz@state.mn.us]
Sent: Tuesday, September 25, 2012 9:48 AM
To: Ken Day
Cc: Greg Raetz (E-mail)
Subject: Area Source Standard for Surface Coating

Ken, can you tell me if you have evaluated the applicability of 40 CFR pt. 63, subp. HHHHHH to your facility? It was promulgated in January 2008 and the compliance date was back in 2011.
http://www.epa.gov/ttn/atw/6h/fr09ja08.pdf

Generally speaking, this standard applies to surface coating of motor vehicles at area sources. Just based on the definitions within this standard, it seems to apply to your facility.

Peggy Bartz
651.757.2213

From: Ken Day [Ken_Day@newflyer.com]
Sent: Tuesday, October 02, 2012 1:49 PM
To: Bartz, Margaret (MPCA)
Subject: FW: Area Source Standard for Surface Coating

Peggy,

See Greg's response below.

Ken

From: Raetz, Gregory [mailto:Gregory.Raetz@hdrinc.com]
Sent: Tuesday, October 02, 2012 12:12 PM
To: Ken Day
Subject: RE: Area Source Standard for Surface Coating

Ken,

With regard to Subpart XXXXXX, if a facility is primarily engaged in one or more of nine listed source categories the requirements apply. Primarily engaged means that at least 50 percent of the production at a facility is represented by a given source categories.

The nine source categories include the following:

1) Electrical and electronic – NOT APPLICABLE, manufacturing of electrical machinery (generators, extension cords, bells, chimes, etc.)
2) Fabricated metal products – NOT APPLICABLE, manufacturing metal products such as safes, vaults, boxes, ladders, household articles, etc.
3) Fabricated plate work – NOT APPLICABLE, manufacturing boilers and pressure tanks.
4) Fabricated structural metal manufacturing – NOT APPLICABLE, manufacturing building materials.
5) Heating equipment – NOT APPLICABLE, manufacturing heaters.
6) Industrial machinery and equipment finishing – NOT APPLICABLE, manufacturing heavy machinery and equipment such as cranes, bulldozers, pavers, etc. NEW FLYER MANUFACTURERS TRANSPORTATION EQUIPMENT, NOT HEAVY INDUSTRIAL EQUIPMENT.
7) Iron and steel forging – NOT APPLICABLE, forging.
8) Primary metal products manufacturing – NOT APPLICABLE, manufacturing products from wire (i.e., nails, spikes, etc.)
9) Valves and pipe fittings. – NOT APPLICABLE, pipes and valves.

GREGORY RAETZ | **HDR Engineering, Inc.**

P.E. | Professional Associate/Environmental Engineer

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gregory.raetz@hdrinc.com | hdrinc.com

From: Bartz, Margaret (MPCA) [mailto:margaret.bartz@state.mn.us]
Sent: Monday, October 01, 2012 9:24 AM
To: Ken Day
Subject: RE: Area Source Standard for Surface Coating

I have the same question about 40 CFR pt. 63, subp. XXXXXX (metal fabrication which includes metal blasting and welding).

Peggy Bartz
651.757.2213