

# **Bay Area Air Quality Management District**

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## **Permit Evaluation and Statement of Basis for MAJOR FACILITY REVIEW PERMIT Significant Revision**

**for  
New United Motor Manufacturing Inc.  
Facility # A1438**

**Facility Address:**  
45500 Fremont Boulevard  
Fremont, CA 94538

**Mailing Address:**  
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Application Engineer: M. K. Carol Lee  
Site Engineer: Sanjeev Kamboj

Applications: 6914, 7048, 7119, 7151, 8370, 8419, 8493

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## Title V Statement of Basis

### A. Background

New United Motor Manufacturing Inc. (NUMMI) was issued a Major Facility Operating Permit (Title V Permit) on December 18, 2002. Since the initial issuance, NUMMI has requested that a number of changes be made, including the change of responsible official, removal of permitted sources, exemption of permitted sources, change of conditions for existing sources, and the correction of erroneous information. The District is proposing to revise the Title V permit in several respects, including the incorporation of several District permits issued or modified since the issuance of the Title V permit. District permits are applicable requirements, and so the incorporation of these permit revisions is necessary so that the Title V permit accurately reflects all applicable requirements. The proposed revisions include permit modifications made in seven District permit applications, the details of which are included in the attached Engineering Evaluation Reports. The potential increase of criteria pollutant emissions for each of these applications is summarized as follows:

Permit Application #	Pollutant Increase (tons/yr)				
	NOx	CO	POC	SO2	PM
6914	0.000	0.000	0.000	0.000	0.000
7047	Application Cancelled	Application Cancelled	Application Cancelled	Application Cancelled	Application Cancelled
7048	0.000	0.000	0.120	0.000	0.000
7119	0.000	0.000	0.000	0.000	0.000
7151	0.000	0.000	0.000	0.000	0.000
8325	This Application for Title V Revision	This Application for Title V Revision	This Application for Title V Revision	This Application for Title V Revision	This Application for Title V Revision
8370	0.000	0.000	0.000	0.000	0.000
8419	0.000	0.000	0.000	0.000	0.000
8493	0.000	0.000	0.000	0.000	0.000
<b>Total</b>	<b>0.000</b>	<b>0.000</b>	<b>0.120</b>	<b>0.000</b>	<b>0.000</b>

In addition to the changes requested by NUMMI, the District has made updates and corrections to the permit as noted below.

This is a “Significant Permit Revision” as defined by BAAQMD Regulation 2-6-226.3, because the monitoring requirements for the now exempt sources and insignificant particulate emitting sources were removed (see Appendix A). All other changes made to the permit are classified as either “Administrative Permit Amendments” or “Minor Permit Revisions”.

This facility is subject to the Major Facility Operating Permit requirements of Title V of the Federal Clean Air Act, Part 70 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a major facility as defined by BAAQMD Regulation 2-6-212. It is a major facility because it has the potential to emit, as

defined by BAAQMD Regulation 2-6-218, more than 100 tons per year of a regulated air pollutant.

Major Facility Operating permits (Title V permits) must meet specifications contained in 40 CFR 70. The permits must contain all applicable requirements (as defined in 40 CFR § 70.2), monitoring requirements, recordkeeping requirements, and reporting requirements. The permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

In the Bay Area, state and District requirements are also applicable requirements and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained in Sections I through VI of the permit.

Each facility in the Bay Area is assigned a facility number that consists of a letter and a 4-digit number. This facility number is also considered to be the identifier for the permit.

This statement of basis concerns only changes to the permit. A comprehensive statement of basis was prepared for the initial issuance of the permit and is considered to be the statement for basis for the entire permit. It is available on request.

**B. Facility Description**

New United Motor Manufacturing Inc. (NUMMI) manufactures automobiles and light-duty trucks. Its major sources of air emissions are its coating operations (VOC) and natural gas combustion (NOx) for VOC control and air heating.

**C. Permit Content**

The following is a brief explanation of the changes made to each section of the permit. The changes are discussed in the order in which they are presented in the permit.

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Per NUMMI’s request, the responsible official was changed from Steve St. Angelo to Ernesto Gonzalez-Beltran. Also the BAAQMD Executive Officer/APCO was changed from William C. Norton to Jack Broadbent.

**I. Standard Conditions**

The dates in Subsection A “Administrative Requirements” have been updated.

Minor changes were made to Subsections A and B to coincide with the District’s current standard language for these subsections. In addition, Subsection 1.B.1 was amended to reflect the applicability of the existing Title V permit until the revision is issued.

**II. Equipment**

Table II A - Permitted Sources

Per NUMMI’s request, the following sources were renamed to clarify or to correctly reflect their actual operational use:

Source	Current Source Name	New Source Name
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Source	Current Source Name	New Source Name
57	Bumper Prime & Topcoat Booth	Bumper Topcoat Booth
58	Bumper Oven, 2 Heater Boxes	Bumper Topcoat Oven
59	Bumper Booth # 2	Bumper Prime Booth
61	Passenger Blackout Chassis Booth w/POS	Passenger Blackout Chassis Booth
65	Bumper Oven # 2	Bumper Prime Oven
72	Passenger Exterior, Underbody & Engine Wax Booth	Passenger PVC Exterior, Underbody & Engine Wax Booth
101	Spare Parts ELPO Tank	Spare Parts ELPO Dip Tank
807	Passenger Anti-Chip Wheelhouse PVC Booth	Passenger Anti-Chip Wheelhouse Booth
808	Passenger Sealer Antichip Oven (Thermal Oxidizer Zones 1, 2, 3, 4, 5)	Passenger Antichip Oven
960	Bumper Line General Cleaning & Paint Cleaning	Plastic Plant Booth and General Cleaning
1002	Truck Ed Oven-Heater Boxes, 4-Durr Heater Boxes	Truck Ed Oven
1005	Truck PVC Undercoat Booth	Truck PVC Undercoat Area
1006	Truck Anti Chip Booth w/POS	Truck Anti Chip Booth
1008	Truck Prime Booth w/POS	Truck Prime Booth
1009	Truck Primer Surfacer Oven Heater	Truck Prime Oven
1014	Truck Topcoat Booth I – ASH	Truck Topcoat Booth
1015	Truck Topcoat Oven I – Heater Boxes	Truck Topcoat Oven
1061	Truck Axle Booth w/POS	Truck Axle Booth
1063	General Cleaning & Paint Cleaning	General Truck Axle Booth and Area Cleaning
1070	Instrument Panel Booth – Air Supply House w/POS	Instrument Panel Booth
3007	NPS Dry Oven Oven, Heater Boxes	NPS Dry Off Oven
3008	NPS Prime Booth w/POS	NPS Prime Booth
3009	NPS Prime Oven, Heater Boxes	NPS Prime Oven
3014	NPS Top Coat Booth # 1 w/POS	NPS Topcoat Booth #1
3015	NPS Top Coat Oven # 1, Heater Boxes	NPS Topcoat Oven # 1
3016	NPS Top Coat Booth # 2 w/POS	NPS Topcoat Booth # 2
3017	NPS Top Coat Oven # 2	NPS Topcoat Oven # 2

Numerous deletions were made to Table II A. These changes were the result of (1) the deletion of sources that have been permanently removed from service and (2) the exemption of sources no longer required to have District permits. The changes made to Table II A are summarized as follows:

Source	Description	Permit Action	Application #	Comments
S124	Small Parts Washer	Deleted	NA	Deleted as requested by NUMMI, 04/05/04
S627	PMB Tank	Exempted	NA	Exempted from permits, per Regulation 2-1-103, 12/15/03
S789	Cold Cleaner	Deleted	N/A	Deleted as requested by NUMMI, 06/12/03
S790	Cold Cleaner	Deleted	N/A	Deleted as requested by NUMMI, 06/12/03
S791	Cold Cleaner	Deleted	N/A	Deleted as requested by NUMMI, 06/12/03
S792	Cold Cleaner	Deleted	N/A	Deleted as requested by NUMMI,

Source	Description	Permit Action	Application #	Comments
				06/12/03
S798	Cold Cleaner	Deleted	N/A	Deleted as requested by NUMMI, 06/12/03
S817	Passenger Anti-Chip Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S818	Passenger Anti-Chip II Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S824	Cold Cleaner	Deleted	N/A	Deleted as requested by NUMMI, 06/12/03
S825	Cold Cleaner	Deleted	N/A	Deleted as requested by NUMMI, 06/12/03
S962	Cold Cleaner	Deleted	N/A	Deleted as requested by NUMMI, 10/21/03
S963	Cold Cleaner	Deleted	N/A	Deleted as requested by NUMMI, 10/21/03
S966	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S967	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S990	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S991	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S996	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S997	Paint Slop Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S998	Paint Slop Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S999	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1413	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1414	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1415	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1416	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1417	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1423	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1424	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1425	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1426	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1427	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1428	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03

Source	Description	Permit Action	Application #	Comments
S1439	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1440	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1441	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1442	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1443	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1444	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1445	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1446	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1447	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1449	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1450	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1451	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1457	Antichip Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1459	PVC Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1460	Sealer Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1480	Axle Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1482	Truck Fuel Tank Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1489	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1490	Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S1502	Gun Washer	Exempted	N/A	Exempted from permits, per Regulation 2-1-118.11, 06/4/03
S1503	Gun Washer	Exempted	N/A	Exempted from permits, per Regulation 2-1-118.11, 06/4/03
S1506	Gun Washer	Exempted	N/A	Exempted from permits, per Regulation 2-1-118.11, 06/4/03
S1507	Gun Washer	Exempted	N/A	Exempted from permits, per Regulation 2-1-118.11, 06/4/03
S2000	Cold Cleaner	Deleted	N/A	Deleted as requested by NUMMI, 12/24/03
S2001	Cold Cleaner	Deleted	N/A	Deleted as requested by NUMMI, 12/24/03
S2002	Cold Cleaner	Deleted	N/A	Deleted as requested by NUMMI, 06/12/03
S2004	Cold Cleaner	Deleted	N/A	Deleted as requested by NUMMI,

Source	Description	Permit Action	Application #	Comments
				06/12/03
S2005	Cold Cleaner	Deleted	N/A	Deleted as requested by NUMMI, 06/12/03
S2006	Gun Washer	Exempted	N/A	Exempted from permits, per Regulation 2-1-118.11, 06/4/03
S2008	Cold Cleaner	Deleted	NA	Deleted as requested by NUMMI, 04/05/04
S2009	Cold Cleaner	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3018	NPS Prime Dry Sand, Wet Sand & Blackout Booth	Exempted	N/A	Exempted from permits, per Regulation 2-1-121.1, 1/22/04
S3019	NPS Off Line Repair Deck	Exempted	N/A	Exempted from permits, per Regulation 2-1-121.1, 1/22/04
S3020	NPS Dry Sand, Wet Sand & Blackout Booth	Exempted	N/A	Exempted from permits, per Regulation 2-1-121.1, 1/22/04
S3507	System #1 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3508	System #2 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3509	System #3 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3511	System #5 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3512	System #5 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3513	System #7 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3514	System #8 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3515	System #9 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3516	System #10 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3517	System #11 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3518	System #12 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3519	System #13 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3520	System #14 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3521	System #15 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3522	System #16 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3523	System #17 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3524	System #18 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3525	System #19 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03



Source	Description	Permit Action	Application #	Comments
S3526	System #20 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3527	System #21 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3529	System #23 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3530	System #24 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3531	System #25 Paint Mix Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3532	System #25 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3533	System #26 Paint Circulation Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3536	System #29 Paint Mix Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3543	System #1 Paint Mix Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3544	System #2 Paint Mix Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3545	System #3 Paint Mix Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3547	System #9 Paint Mix Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3548	System #10 Paint Mix Tank	Deleted	N/A	Deleted as requested by NUMMI, 06/03/03
S3549	System # 11 Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S3550	System # 12 Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S3551	System # 13 Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S3552	System # 14 Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S3553	System # 15 Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S3554	System # 16 Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S3555	System # 17 Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S3556	System # 18 Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S3557	System # 19 Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S3560	System # 24 Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S3565	System # 5 Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S3566	System # 6 Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S3567	System # 7 Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03
S3568	System # 8 Paint Mix Tank	Exempted	N/A	Exempted from permits, per Regulation 2-1-103, 12/15/03

Source	Description	Permit Action	Application #	Comments
	Tank			2-1-103, 12/15/03
S3600	Cold Cleaner	Deleted	N/A	Deleted as requested by NUMMI, 10/21/03
S3601	Cold Cleaner	Exempted	N/A	Exempted from permits, per Regulation 2-1-118.7, 06/03/03
S10112	NPS Recoat Sanding Booth	Exempted	N/A	Exempted from permits, per Regulation 2-1-121.1, 1/22/04

Notes on Comments:

- “Deleted as requested by NUMMI,” means that the District was notified in writing that the source was permanently removed from service and therefore a permit to operate was no longer required.
- “Exempted from permits,” means that the District was requested by NUMMI to re-review the permit requirements of their paint mix tanks. Upon review of the sources, the District determined the sources were exempt per the cited permit exemption and were not significant (< 2 TPY per source), based on emission calculations. The sources that are exempt per Regulation 2-1-103 emit less than 10 lb/day of any regulated air pollutant. Gun washers are exempt per Regulation 2-1-118.11. Their emissions are generally included in the cleanup solvent usage for the coating sources with which they are associated. When used in accordance with Regulation 8, their emissions are minimal. The recoat sanding operation at S10112 are exempt per Regulation 2-1-121.1 and their emissions are minimal because these are hand sanding operations that occur infrequently for touch up preparation purposes.

Per Application # 8419, the capacity of S-58 was increased to 9,886,000 BTU/hr (from 8,726,000 BTU/hr).

Table II B – Abatement Devices

Abatement devices for sources that have been replaced (A808, A1002, A10141, A10146, and A10021) by other abatement devices (A809, A10022, A10142, A10144, and A10022, respectively) have been deleted from the permit. As a result of Application # 8370, Conditions # 207, 9158, and 10578 was amended to substitute reference of replaced thermal oxidizers (A808 and A1002) with the new thermal oxidizers (A809 and A10022).

Per NUMMI’s request, the following abatement devices were renamed to clarify or to correctly reflect their actual operational use:

Abatement Device	Current Source Name	New Source Name
592	Carbon Rotor Desorb Air Heater	Plastic Plant VOC Concentrator
1007	Sealer Oven & Hood Thermal Heat Recovery	Truck Sealer Oven Thermal Oxidizer
1008	Truck Prime Booth Thermal Heat Recovery/Thermal	Truck Prime Booth Thermal Oxidizer
1009	Truck Primer Oven & Hood Thermal Heat Recovery	Truck Prime Oven Thermal Oxidizer
1015	Topcoat Oven 1 & Hood Thermal Heat Recovery	Truck Topcoat Oven Thermal Oxidizer
10082	Truck Prime Booth Activated Carbon	Truck Prime Booth Carbon Concentrator
10141	Truck Topcoat (Clearcoat) Booth I Thermal Oxidizer	Truck Topcoat (Clearcoat) Booth Thermal Oxidizer
10144	Topcoat Booth I (Basecoat) Activated	Topcoat Booth (Basecoat) Carbon Concentrator

Abatement Device	Current Source Name	New Source Name
	Carbon	
10612	Booth Venturi Scrubber	Truck Axle Particulate Water Scrubber
10704	IP Booth Venturi Scrubber	IP Booth Water Contact Scrubber

Many dry filter abatement devices listed in Table IIB have been removed because they are not abatement devices for the sources (See Section VI for explanation). The abatement device numbers are A593, A10081, A10143, A10145, A10503, A10703, A30141-A30144, and A30161-A30164.

### III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit. If a generally applicable requirement applies specifically to a source that is permitted or significant, the standard will also appear in Section IV and the monitoring for that requirement will appear in Sections IV and VII of the permit. Parts of this section apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound) are placed in this section.

Changes to this section of the permit include updating the text to the current standard, updating the applicable requirements in Table III to reflect the current versions of the cited regulations and the addition of generally applicable requirements that were overlooked in the initial Title V permit.

Language has been added to Section III to clarify that this section contains requirements that may apply to temporary sources. This provision allows contractors that have "portable" equipment permits that require them to comply with all applicable requirements to work at the facility on a temporary basis, even if the permit does not specifically list the temporary source. Examples are temporary sand-blasting or soil-vapor extraction equipment.

Requirements for sources exempted (BAAQMD Regulation 8, Rule 2 and 16) have been placed in Section III. BAAQMD Regulation 6 is already in Section III.

### IV. Source-Specific Applicable Requirements

This section of the permit lists the applicable requirements that apply to permitted or significant sources. These applicable requirements are contained in tables that pertain to one or more sources that have the same requirements. The order of the requirements is:

- District Rules
- SIP Rules (if any) are listed following the corresponding District rules. SIP rules are District rules that have been approved by EPA for inclusion in the California State Implementation Plan. SIP rules are "federally enforceable" and a "Y" (yes) indication will appear in the "Federally Enforceable" column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the "Federally Enforceable" column will have a "Y" for "yes". If the SIP rule is not the current District rule, the SIP rule or the necessary portion of the SIP rule is cited separately after the District rule. The SIP portion will be federally

enforceable; the non-SIP version will not be federally enforceable, unless EPA has approved it through another program.

- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District’s or EPA’s websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section C.VII of this permit evaluation/statement of basis.

Changes to this Section IV are primarily routine and include the updating of text to the current standard, updating the applicable requirements tables to reflect the current versions of the cited regulations, addition and deletion of applicable requirements tables for sources that have been added or removed as discussed in Part II above. However, in some cases applicable requirements have been added or removed at the request of NUMMI where there were errors or omissions in the initial permit. A discussion of these “non-routine” changes follows.

Particulate monitoring conditions were removed from many of the coating sources. The reasons are explained in detail in Section VI. The following table is a summary of monitoring requirements after the changes noted in Section VI:

<b>S# &amp; Description</b>	<b>Particulate Monitoring</b>
S3009, S3015, S3017 (combustion sources)	None-these ovens are negligible sources of particulate
S41, S1005	None – no particulate emissions
S57, S58, S59, S65, S1050, S1061, S1062, S1070, S1071, S3008, S3014, S3016	Water contact scrubbing system monitoring
S60, S61, S62, S71, S72, S101, S802, S803, S804, S805, S807, S818, S1001, S1003, S1010, S1017, S1018, S1020, S1021, S1809	None – emits inside a building; negligible emissions observed
S900	Visible emissions check when in use
S1008, S1014	None – abated by Carbon Concentrator
S1003, S1011, S1012	None – negligible emissions from minor touch up sanding operation

<b>S# &amp; Description</b>	<b>Particulate Monitoring</b>
S1004, S1010, S1019, S1021, S1053	None – negligible emissions from minor manual touch-up operations

Requirements for sources exempted (BAAQMD Regulation 8, Rule 2 and 16) have been placed in Section III, Generally Applicable Requirements.

Sources S3018, S3019, and S3020 have been removed from the permit because they are exempt from permitting requirements per Regulation 2-1-121.1 and they are also not subject to 40 CFR 60, Subpart MM because these sources are only involved in repair coating operations and not in the primarily coating application of passenger vehicle and light duty truck bodies.

Table IV-AR

Sources S1050 and S1051 are not subject to 40 CFR 60 Subpart MM because they are for the coating of truck gas tanks. Subpart MM only applies to passenger vehicle and light duty truck bodies, not gas tanks.

Additional change

All references to SIP Rule 1-523.5 have been deleted because this section has not been approved into the SIP.

Regulation 6-311 was added to the tables, where applicable, in Section IV because it was omitted in error. The requirement is already cited in the Section VII tables.

**V. Schedule of Compliance**

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10 which provides that a major facility review permit shall contain the following information and provisions:

“409.10 A schedule of compliance containing the following elements:

- 10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;
- 10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and
- 10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.”

Since the District has not determined that the facility is out of compliance with an applicable requirement, the schedule of compliance for this permit only contains elements 2-6-409.10.1 and 2-6-409.10.2.

Changes to the permit in this revision:

There have been no changes in the facility's compliance status since the Title V permit was issued on December 1, 2003.

**VI. Permit Conditions**

As part of the Title V permit revision, the District is proposing changes made to several permit conditions, these include: deleted conditions for sources that no longer have permits, added conditions for new sources, and, as appropriate, revised conditions for clarity and enforceability. The Title V permit is being updated to accurately reflect these applicable requirements. All changes to existing permit conditions are clearly shown in “strike-out/underline” format in the proposed permit. When the permit is issued, all ‘strike-out’ language will be deleted; all “underline” language will be retained, subject to consideration of comments received. Where changes have been made more than once as a result of comments from NUMMI, the original underlined text has been struck through and the proposed new text is italicized and underlined.

Although most changes to this section of the permit are a result of the various additions and deletions of permitted sources discussed in Part II “Equipment”, revisions were made to the permit conditions for existing sources as follows:

Based on a site visit and inspection, the District determined that many of the monitoring requirements for the booth dry filters are unnecessary because the booth dry filters do not control the particulate emissions from the booths. The booth dry filters are used to clean any recycled air before it is vented INTO the booth. As a result, the monitoring for booth filters has been removed, as noted in the condition amendments.

A separate water scrubbing system that runs under the booths controls particulate emissions to the atmosphere. The water scrubbing system was manufactured by Haden, and is used to remove paint overspray from the exhaust air. The Hydrospin scrubbers are designed specifically to operate with a minimum amount of cleaning and maintenance compared with competitive systems, but maintenance is still required to ensure reliable operation in the long run. The scrubbing system abates particulate from the air by accelerating the air/paint/water exhaust system to a high velocity at the Dynatube exit nozzles. The paint particles are impact scrubbed into the water pond. The water is removed from the exhaust air through impaction and by baffles in the exhaust plenum. The high nozzle exit air velocity causes the scrubbing and controls the efficiency. The water serves primarily to keep the system clean and flush paint solids away, although a minimum flow of water is needed to achieve peak scrubbing efficiency. This is very different from most other scrubbers, which rely primarily on water volume for scrubbing efficiency. Normal fluctuations of water flow will not cause air balance problems or variations in scrubbing efficiency. Booth maintenance is intended to maintain even water flow to minimize booth fouling and to maintain cleanliness of areas critical to air flow and system air balance. The system is tolerant of paint fouling. Hence, as long as the water is flowing, the scrubbing system is working effectively to abate particulate emissions. Without water flow, the booth processes automatically shutdown resulting in no painting or generation of any particulate emissions. Therefore, monitoring of the water system is not necessary. However, NUMMI shall

record any downtime of the water scrubbing system to verify that no painting is ongoing when the water scrubbing system is down.

Condition # 207

As a result of Application # 8370, Conditions # 207, 9158, and 10578 was amended to substitute reference of replaced thermal oxidizers (A808 and A1002) with the new thermal oxidizers (A809 and A10022).

Part 3.a.1 was amended to add the clause “or an outlet concentration of 10 ppm by volume or less.” If very-low VOC content ELPO is used at this source resulting in very-low emissions, it is reasonable that the outlet concentration from the thermal oxidizer is hard to detect. As a result, 10 ppmv is an acceptable alternative to abatement efficiency and consistent with standard District permit conditions regarding abatement efficiency requirements.

Part 3.a.2 was amended to add “(A102)” to clarify that this requirement is specific for the Spare Parts ELPO Oven Catalytic Thermal Oxidizer.

Part 4.a was amended to add reference for the allowable temperature excursion parameters for the Spare Parts Thermal Oxidizer (A102).

Part 11.a was deleted from the permit. A plant inspection verified that the sources for Part 11.a. of Condition 207 are inside the assembly building and are not sources of fugitive emissions of particulate to the atmosphere. The sources generate no visible emissions, and even if they did it there are no exhaust stacks that these emissions would be vented from. Hence, visual inspection of the building is unnecessary.

Part 11.b was deleted from the permit. Sources 2 and 101 are dip tanks and do not generate particulate matter. The dipping operation is automated to slowly lower vehicle frames into the coating. No splashing or visible particulate emissions are generated into the atmosphere. The other sources referenced in Part 11.b did not require any dry filter systems and consequently have no dry filter systems. Review of their operation indicates that dry filter systems are not needed because no particulate emissions are generated from their operation. As a result, pressure drop monitoring is not needed.

Condition # 4159

The source (S900) is used on an as needed basis. Consequently there are weeks when it isn't used. Therefore, NUMMI has requested that the pressure drop readings be taken during the times the equipment is used. Part 1 of Condition # 4159 has been amended to require NUMMI to operate the baghouse 5 minutes before and 5 minutes after the lime slurry system is operating.

Condition # 4281

Part 6 was amended to remove the redundancy of notifying and submitting reports both Permits Division and Source Test of the District.

Part 8 was amended to clarify are required once per “calendar” year.

Condition # 7343

Part 2 was amended to delete reference to purchase records because purchase records can be misleading. Materials purchased and materials used do not always match up because some materials are disposed of or never used for various reasons. The shops keep track of the materials used in their respective areas and these records should be used to determine usage. These records are more accurate.

S1809 referenced in Parts 4 and 5 is inside a building and no resulting fugitive particulate emissions are expected to be emitted from the building. Furthermore, the Compliance Assurance Monitoring: Final Rule, Vol. 62, No. 204, Page 54916 Dated October 22, 1997 states “In addition, fugitive emissions are generally not controlled through the use of control devices, so there is no need for special applicability or monitoring provisions for fugitive emission sources.” Hence, no monitoring is required.

Condition # 9156

S1001 Truck ED Bath does not generate visible emissions because it is an enclosed system of dip tanks. The operations for S1010 Truck Off-Line Repair and S1020 Offline Assembly Hospital are located inside the truck paint and assembly buildings and coating operations use brushes and very small detailing guns, which do not cause visible emissions or generate any noticeable particulate emissions. Hence, monitoring is not required and Part 10 has been deleted.

There is no dry filter system for the particulate matter generated by the sources referenced in Part 11 (S1003-S1006, S1011, S1012, S1017-S1019, and S1021). These sources also do not have combustion equipment. There is no need for visible emissions monitoring because there are no visible emissions that results when the sources are in operation. Any paint overspray is contained with the booth by the surrounding walls and ceiling. As a result, no monitoring is required and Part 11 has been deleted.

Condition # 9158

As a result of Application # 8370, Condition # 207, 9158, and 10578 was amended to remove reference of replaced thermal oxidizers (A808 and A1002) with the new thermal oxidizers (A809 and A10022).

Condition # 9159

Parts 10 and 11 are monitoring conditions for particulate matter generated by S1005. However, review of the operations of S1005 during a plant inspection determined that the operation does not generate particulate emissions. Any paint overspray stays within the booth area and is not released into the atmosphere. As a result, no monitoring is required, and these parts are deleted.

Part 12 is a monitoring condition for NO<sub>x</sub> emissions generated by S1005. However, this source does not generate NO<sub>x</sub>. As result, no monitoring is required, and this part is deleted.

Condition # 9161

Parts 6, 7, and 8 refer to particulate control and monitoring conditions that have been deleted from the permit because S1006 does not generate particulate emissions. The material applied at this source is a heavy waxy substance that is not air atomized. As a result, no particulate



emissions are generated. Part 6 is not enforceable because if there are no particulate emissions it is difficult to prove 98% abatement efficiency.

Condition # 9163

The particulate emissions from S1008 are removed using a water contact scrubbing system. The booth water is then processed through the facilities wastewater treatment facility and the particulate in the water is removed as sludge. A bank of air filters is used to clean the booth exhaust air before it goes into the carbon concentrators. By the time the air is abated by the carbon concentrator, no particulate is emitted into the atmosphere. In fact, the purpose of the air filters is to protect the carbon concentrator from any particulates plugging the carbon. Hence, the possibility of carbon leaving the carbon concentrator and venting into the atmosphere is very remote and unlikely. As a result, Parts 21 and 22 have been deleted.

Condition # 9164

The particulate emissions from S1014 are removed using a water contact scrubbing system. The booth water is then processed through the facilities wastewater treatment facility and the particulate in the water is removed as sludge. A bank of air filters is used to clean the booth exhaust air before it goes into the carbon concentrators. By the time the air is abated by the carbon concentrator, no particulate is emitted into the atmosphere. In fact the air filters are to protect the carbon concentrator from any particulates plugging the carbon. Hence, the possibility of carbon leaving the carbon concentrator and venting into the atmosphere is very remote and unlikely. As a result, Parts 20 and 21 have been deleted.

Condition # 9166

As a result of Application # 8493, Condition # 9166 was deleted and replaced with new permit conditions. See the evaluation report in the appendix for details of the changes. No monitoring of particulate is required because S1012 Touch-up Booth is a negligible particulate source, which is used infrequently and only manual, touch-up coating is performed.

Condition # 9170

Past operating permits never required a dry filter system for S1018. Consequently, there is no dry filter system for the exhaust of this source. There is little or no particulate matter generated by S1018. Any paint overspray stays within the booth area and is not released into the atmosphere. Part 5 is not enforceable because if there are no particulate emissions it is difficult to prove 98% abatement efficiency. As a result, Parts 5, 6 and 7 are deleted.

Condition # 9174

Part 5 was amended to clarify that source tests are required once per calendar year, which is consistent with the other permit conditions.

Condition # 9257

S1001 is a series of dip tanks and the applicators referenced in Part 4 are not used in the Truck ED Bath system at all. Hence, this condition is unnecessary and has been deleted.

Condition # 10011

Past operating permits never required a dry filter system for S1010 and S1017. Consequently, there is no dry filter system for the exhaust from these sources. These sources involve minor

touchup using brushes and detailing guns. There is negligible paint overspray at these sources because the touchup work involves use of very little coating per job. Also these sources are contained within a building and no particulate emissions would be vented into the atmosphere from these sources. Part 6 is not enforceable because if there are no particulate emissions it is hard to prove 98% abatement efficiency. As a result, Parts 6, 7, and 8 are deleted.

#### Condition # 10320

As a result of Application # 7151, Part 10 was amended to remove a section that was added in error, and to return the throughput back before the change was made. References to the deleted cold cleaners were deleted. References to the exempt paint mix tanks were also deleted.

Parts 3 and 12 were amended to clarify what sources this provision of the permit applies to.

Part 14 was amended to remove the requirement for keeping records of operating time of booths and the amount of coatings and solvents purchased. Records of coating applied and solvents are the only records required to determine booth emissions.

Part 15 was amended to clarify that particulate emissions from the referenced sources are removed using a water contact scrubbing system. The booth water is processed through the facilities wastewater treatment facility and the particulate is recovered as paint sludge. The efficiency of this system was verified during compliance verification source start-up. A requirement has been added to part 15 that the owner/operator monitor any downtime of the water contact system.

Part 25 was deleted because Part 7 of this condition already requires calculation for NO<sub>x</sub> and CO on a quarterly basis and specifies using emission factors obtained from the annual source test results for the Thermal Oxidizer, A571.

Part 29 and 30 were deleted because the primary method for removing particulate matter from S59 is the water contact scrubbing system. This requirement would have a negligible effect of ensuring particulate matter is removed from the booth since the dry filters are used to abate the air entering the booth and not the exhaust leaving the booth.

Parts 31 through 34 were amended to remove reference to sources that were exempted or deleted.

Parts 35 through 40 were deleted to remove reference to sources that were exempted, per Regulation 2-1-103.3. Exempt sources do not generally have permit conditions.

Part 44 was amended to reflect the fact that because the primary method for removing particulate matter from S1072 is the water contact scrubbing system. This requirement would have a negligible effect of ensuring particulate matter is removed from the booth since the dry filters are used to abate the air entering the booth and not the exhaust leaving the booth. Parts 45 and 46 were deleted because there is no direct correlation between pressure drop across the water scrubbing system and collection efficiency. The efficiency of the system was proven during the initial booth start up. Instead, a requirement has been added to part 44 that the owner/operator monitor any downtime of the water contact system.

Part 47 was added to correct an oversight on the District's part that a condition be added to stipulate the zeolite concentrator's minimum destruction efficiency and its applicable source test requirement.

As a result of Application # 7048, Condition # 10426 was amended to reduce the emission limit of the IP Booth (S1070) and IP Oven (S1071) combined from 21.61 to 21.49 tons per year of POC and to reduce the coating throughput from 37,071 to 36,865 for Solvent-borne Topcoat and from 16,279 to 16,189 for Water-borne Topcoat to provide contemporaneous emission reductions for the increase in emissions at S1900. The parts of this condition subsequently were combined with Condition # 10320 as Parts 41 through 45 when the initial Title V was issued. The changes noted on Application # 7048 have been applied to Condition # 10320.

#### Condition # 10484

As a result of Application # 8493, Parts 1 and 2 were amended to provide contemporaneous emission reductions for the increase of emissions at S1012. See the evaluation report in the appendix for details of the changes.

Part 7 was amended to remove the requirement to maintain records of operating time of sources S1061 and S1062 because only records of coatings applied and solvents used are required to determine booth emissions. The phrase "using the method specified in the EPA protocol" from section b of Part 7 was deleted because the EPA protocol is not identified or necessary. Records showing the amount of coating applied at the booth should be sufficient to determine compliance.

Part 8 was amended to correctly reflect the fact that because the primary method for removing particulate matter from S1061 is the water contact scrubbing system. This requirement would have a negligible effect of ensuring particulate matter is removed from the booth since the dry filters are used to abate the air entering the booth and not the exhaust leaving the booth. Parts 9 and 10 were deleted because there is no direct correlation between pressure drop across the water scrubbing system and collection efficiency. The efficiency of the system was proven during the initial booth start up. Instead, a requirement has been added to part 8 that the owner/operator monitor any downtime of the water contact system.

#### Condition # 10578

As a result of Application # 8370, Condition # 207, 9158, and 10578 was amended to remove reference of replaced thermal oxidizers (A808 and A1002) with the new thermal oxidizers (A809 and A10022).

Part 4 was amended to remove the requirement for keeping records of operating time of booth and the amount of coatings and solvents purchased. Records of coatings applied and the solvents used at the source are the only records required to determine booth emissions.

Part 5 requires that the particulate matter exhaust from the booth (S1050) be vented into the thermal oxidizer (A809). As a result, negligible particulate matter will be emitted into the atmosphere and no particulate monitoring is required.

Condition # 14205

References to the exempt paint mix tanks were deleted.

Part 7 was amended to clarify what source this provision of the permit condition applies to.

Part 11 was amended to remove reference for keeping records of the amount of coatings and solvent purchased. Records of coatings applied and solvents used should be sufficient to determine compliance with emissions limits.

Condition # 14206

Part 7 was amended to reflect what actually occurs at the facility. The particulate emissions from S3008 are removed using a water contact scrubbing system. The booth water is then processed through the facilities water treatment facility and the particulate in the water is removed as sludge. A bank of air filters is used to clean the booth exhaust air before it goes into the optional carbon concentrator. By the time the air is processed by the carbon concentrator and recirculated back into the booth, no particulate is emitted into the atmosphere. As a result of this amendment, Part 15 and 16 are deleted from the permit. Instead of measuring pressure drop, a requirement has been added to part 7 that the owner/operator monitor any downtime of the water contact system.

Part 18 was added to correct an oversight on the District's part. The District and NUMMI agreed to have a condition be added to stipulate to the BACT required carbon concentrator's minimum destruction efficiency and its applicable source test requirement.

Condition # 14207

Part 7 was amended to reflect what actually occurs at the facility. The particulate emissions from S3014 and S3016 are removed using a water contact scrubbing system. The booth water is then processed through the facilities water treatment facility and the particulate in the water is removed as sludge. A bank of air filters is used to clean the booth exhaust air before it goes into the optional carbon concentrator. By the time the air is processed by the carbon concentrator and recirculated back into the booth, no particulate is emitted into the atmosphere. The water contact system is required to be monitored to note any downtime of water contact scrubbers. As a result, of this amendment, Part 15 and 16 are deleted from the permit.

Condition # 14208

Because S3018 was determined to be exempt from permitting requirements per Regulation 2-1-121.1, Condition # 14208 was deleted.

Condition # 14209

Because S3019 was determined to be exempt from permitting requirements per Regulation 2-1-121.1, Condition # 14209 was deleted.

Condition # 14213

Condition deleted for the exempt paint mix tanks.

Condition # 16780

References to the deleted cold cleaners were deleted.

Condition # 17797

S41 Passenger Body Phosphate Washer is an enclosed bath system which is used to wash the vehicle frames after they are formed and before the coating operations. Emissions of particulate and visible emissions are not estimated from this source at all. As a result, it is unnecessary to conduct a visible emissions inspection for this source. Parts 1 and 2 were deleted.

Condition # 17799

Because S10112 was determined to be exempt from permitting requirements per Regulation 2-1-121.1, Condition # 17799 was deleted.

Condition # 18533

As a result of Application # 7048, Condition # 18533 was amended to increase the material usage limit from 13 to 50 gallons per consecutive twelve-month period of adhesion promoter.

**VII. Applicable Limits and Compliance Monitoring Requirements**

This section of the permit is a summary of numerical limits and related monitoring requirements for each source. The summary includes a citation for each monitoring requirement, frequency of monitoring, and type of monitoring. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

Changes made to this section of the permit generally reflect the changes to other parts of the permit that have previously been discussed. However, a significant change to monitoring that has not been discussed is the removal of monitoring requirements for sources that were initially included in the Title V permit, but have subsequently been exempted from permitting requirements. The exempt sources have been reviewed and their emissions calculated. It was determined that their emissions would not be significant (< 2 TPY per exempt source). The maximum emissions are also less 10% of the 15 lb/day limit in BAAQMD Regulation 8, Rule 2. As a result, no monitoring is required.

The emissions from the mix tanks when opened are similar to those of a non-boiling liquid pool. U.S. EPA's equation for emissions from the "Evaporation from a Non-boiling Liquid Pool" can be found at:

( <http://www.air-dispersion.com/usource.html#Non-Boiling%20Liquid%20Pool>)

The following equation predicts the rate at which liquid evaporates from the surface of a pool of liquid, which is at or near the ambient temperature.

$$(1) E = \frac{(0.284) * (u)^{0.875} * (M)^{0.667} * (A) * (P)}{(R)(T)}$$

where: E = evaporation rate, lb / minute  
u = windspeed just above the pool liquid surface, m/second  
M = molecular weight of the pool liquid  
A = surface area of the pool liquid, ft<sup>2</sup>

- P = vapor pressure of the pool liquid at the pool temperature, mm Hg
- T = pool liquid temperature, °K
- R = the Universal Gas Law constant = 82.05 (atm-cm<sup>3</sup>)/(gmol-°K)

The U.S. EPA also defined the pool depth as 0.033-ft (i.e., 1 cm) so that the surface area of the pool liquid could be calculated as:

$$(2) A = (\text{cubic feet of pool liquid}) / (0.033 \text{ ft})$$

All of the units in the above Equation (1) and Equation (2) are a mixture of metric usage and United States usage, which are the units developed by the U.S. EPA and so their units were retained here.

Note: gmol = gram mole.

System 5 Tank Volume 350 Gallons. Dimensions: Inside Diameter = 5 feet ==> R = 2.5 feet  
 (the mix tanks referenced in this application are actually less than 350 gallon capacity, but NUMMI is using worst-case assumption)

$$(A) \text{ Surface Area of Tank} = \pi R^2 \implies \pi(2.5 \text{ ft})^2 \quad 19.6 \text{ ft}^2$$

$$(u) \text{ Assume wind speed} = (2 \text{ miles/hour}) * (\text{hr}/3600 \text{ sec}) * (1690 \text{ meters/mile}) \\ = 0.93 \text{ meters/second}$$

(M) Molecular Weight = 116.16 (assumed since 80% of material is n-Butyl Acetate, it is used for the molecular weight of the material).

(P) Vapor Pressure = 16.1 mm Hg (source MSDS)

(T) Liquid Pool Temperature = 70 °F (assume standard conditions) = 294°K

$$E = \frac{(0.284) * (0.93)^{0.875} * (116.16)^{0.667} * (19.6) * (16.1)}{(82.05)(294)} \\ = \frac{2,005.47}{24,122.70}$$

$$E = 0.084 \text{ lb /minute}$$

NUMMI has a schedule and procedure for its workers in the paint mix area (See attached).

Viscosity of each system of tanks (i.e., a group of tanks) is checked once per shift for approximately 4 minutes per day. NUMMI operates two shifts of 8 hours per shift.

Assuming that NUMMI operates three shifts per day and that each shift takes 5 minutes to check the viscosity, a total of 15 minutes of period of time may occur when the lid is

opened. Thinner may be added during this period of time. The maximum VOC emissions from the worst case would be 1.26 lbs per day per mix tank.

$$\begin{aligned}
 \text{Maximum VOC Emissions} &= (\text{open lid filling operating time}) * (\text{evaporation factor}) \\
 &= (15 \text{ minutes}) * (0.084 \text{ lb /minute}) \\
 &= 1.26 \text{ lbs/day/source} \\
 &= 0.225 \text{ tons/yr/source}
 \end{aligned}$$

For sources subject to particulate monitoring in Conditions 10320, 10484, and 14206, the monitoring has been changed to records of scrubber system downtime, because the sources are abated by scrubbers, not the upstream filters.

Following is a summary of the changes to monitoring for particulate sources:

PM Sources

<b>S# &amp; Description</b>	<b>Emission Limit Citation</b>	<b>Federally Enforceable Emission Limit</b>	<b>Monitoring</b>
S41, S1005	BAAQMD Regulation 6-301	Ringelmann 1.0	None – no particulate emissions
	BAAQMD Regulation 6-310	0.15 gr/dscf	None – no particulate emissions
S57, S58, S59, S65, S1050, S1061, S1062, S1070, S1071, S3008, S3014, S3016	BAAQMD Regulation 6-301	Ringelmann 1.0	Water contact scrubbing system monitoring
	BAAQMD Regulation 6-310	0.15 gr/dscf	Water contact scrubbing system monitoring
S60, S61, S62, S71, S72, S101, S802, S803, S804, S805, S807, S818, S1001, S1003, S1010, S1017, S1018, S1020, S1021, S1809	BAAQMD Regulation 6-301	Ringelmann 1.0	None – emits inside a building; negligible emissions observed
	BAAQMD Regulation 6-310	0.15 gr/dscf	None – emits inside a building; negligible emissions observed
S900	BAAQMD Regulation 6-301	Ringelmann 1.0	Visible emissions check when in use
	BAAQMD Regulation 6-310	0.15 gr/dscf	Visible emissions check when in use
S1008, S1014	BAAQMD Regulation 6-301	Ringelmann 1.0	None – abated by Carbon Concentrator

PM Sources

<b>S# &amp; Description</b>	<b>Emission Limit Citation</b>	<b>Federally Enforceable Emission Limit</b>	<b>Monitoring</b>
	BAAQMD Regulation 6-310	0.15 gr/dscf	None – abated by Carbon Concentrator
S1003, S1011, S1012	BAAQMD Regulation 6-301	Ringelmann 1.0	None – negligible emissions from minor touch up sanding operation
	BAAQMD Regulation 6-310	0.15 gr/dscf	None – negligible emissions from minor touch up sanding operation
S1004, S1010, S1019, S1021, S1053	BAAQMD Regulation 6-301	Ringelmann 1.0	None – negligible emissions from minor manual touch-up operations
	BAAQMD Regulation 6-310	0.15 gr/dscf	None – negligible emissions from minor manual touch-up operations
S3009, S3015, S3017 (combustion sources)	BAAQMD Regulation 6-301	Ringelmann 1.0	None – these ovens are insignificant sources of particulate
	BAAQMD Regulation 6-310	0.15 gr/dscf	None – these ovens are insignificant sources of particulate

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APPENDIX A  
BAAQMD ENGINEERING EVALUATION REPORTS

**ENGINEERING EVALUATION**

**New United Motor Manufacturing Inc.; PLANT # 1438; APPLICATION # 6914**

**Background**

New United Motor Manufacturing Inc. (NUMMI) has applied for Accelerated Permits to Operate for the following:

- S-3602 Cold Cleaner, ADF Model 11, 160 Gallon Capacity**
- S-3603 Cold Cleaner, ADF Model 11, 160 Gallon Capacity**

to replace existing sources S-786 and S-787 Cold Cleaners, which are used to clean coating off of pump parts and accessories from coating application equipment, which are coated with paints, adhesives and other coating materials.

**Emissions**

Typically, emissions from this type of cold cleaners are determined from the net solvent usage. This mass balance is simply the amount of solvent (NUMMI Reclaimed Purge Thinner) used minus the amount of solvent recovered.

**POC:** Basis: Maximum solvent usage: 20 gallons/yr/source

$$(20 \text{ gallons/yr})(7.2 \text{ lbs/gal}) = 144 \text{ lb/year/source}$$

**For Both Sources:**

**Total POC for New Sources = 288 lbs/yr = 0.14 TPY**

**Emission Decrease for Shutdown of S-786 and S-787 = 0.14 TPY**

**Cumulative Increase**

		<u>Current</u>		<u>Increase</u>		<u>Decrease</u>		<u>New Total</u>
		<u>tons/yr</u>		<u>tons/yr</u>		<u>tons/yr</u>		<u>tons/yr</u>
<b>POC</b>	=	<b>0.00</b>	+	<b>0.14</b>	-	<b>0.14</b>	=	<b>0.0</b>
<b>NPOC</b>	=	<b>0.00</b>	+	<b>0.0</b>	-	<b>0</b>	=	<b>0.0</b>
<b>NO<sub>x</sub></b>	=	<b>0.00</b>	+	<b>0.0</b>	-	<b>0</b>	=	<b>0.0</b>
<b>SO<sub>2</sub></b>	=	<b>0.00</b>	+	<b>0.0</b>	-	<b>0</b>	=	<b>0.0</b>
<b>CO</b>	=	<b>0.00</b>	+	<b>0.0</b>	-	<b>0</b>	=	<b>0.0</b>
<b>PM<sub>10</sub></b>	=	<b>0.00</b>	+	<b>0.0</b>	-	<b>0</b>	=	<b>0.0</b>
<b>PM<sub>&gt;10</sub></b>	=	<b>0.00</b>	+	<b>0.0</b>	-	<b>0</b>	=	<b>0.0</b>
<b>Toxic Emissions</b>								

NUMMI Reclaimed Purge Thinner contains butyl cellosolve. However, the total POC emissions from the use of NUMMI Reclaimed Purge Thinner are estimated at well below its respective Table 2-1-316 trigger level [3.9E+03 lb/yr]. Therefore, a toxic risk screening is not required.

## **Statement of Compliance**

### **Regulation**

S-3602 and S-3603 shall be used to clean coating off of pump parts and accessories from coating application equipment, which are coated with paints, adhesives and other coating materials. Hence, these sources are exempt from the aqueous cleaning requirement of Regulation 8-16-303.5, per Regulation 8-16-123:

**8-16-123 Limited Exemption, Specific Cleaning Operations:** Effective June 1, 2003, Section 8-16-303.5 shall not apply to (i) the cleaning of aerospace components, electrical and electronic components, precision optics, medical devices, or cleaning of resin, coating, ink and adhesive mixing, molding and application equipment; or (ii) cleaning associated with research and development operations; performance testing to determine coating, adhesive or ink performance; or testing for quality control or quality assurance purposes.

*(Adopted October 16, 2002)*

### **BACT**

BACT is not triggered for S-3602 and S-3603 because maximum daily emissions are estimated at less than 10 lb/day pursuant to Regulation 2-2-301.

### **Water's Bill**

The project is not within 1000 feet from the nearest school. Therefore, this application is not subject to the public notification requirements of Regulation 2-1-412.

### **Toxics Risk Screening**

A toxic risk screening is not required because there are no proposed chemicals with potential emissions that exceed the risk screening trigger level.

### **Offsets**

Offsets are not required because the emissions increase of S-3602 and S-3603 will be contemporaneous offset by the emission reductions resulting from the shutdown of S-786 and S-787.

### **CEQA**

This application is considered ministerial under the District's proposed CEQA guidelines (Regulation 2-1-311) and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emission factors in accordance with Permit Handbook Chapter 6.1.

### **PSD, NSPS, NESHAPS**

Because this application results in no increase of PSD emissions (e.g., carbon monoxide), this project is not subject to PSD review. There is currently no applicable NSPS Subpart in 40 CFR 60 or NESHAP Subpart in 40 CFR 61. This source is not subject to NESHAP 40 CFR 63, Subpart T, because the solvent is not halogenated.

## Permit Conditions

### Conditions for S-3602 and S-3603

1. The owner/operator of S-3602 and S-3603, Cold Cleaners, shall not use more than 40 gallons (combined net usage) of NUMMI Reclaimed Purge Thinner in any consecutive twelve-month period. [Cumulative Increase]
2. The owner/operator may use solvents other than the materials specified or usages in excess of that specified in part 1 at S-3602 and S-3603, provided that the owner/operator can demonstrate to the District in advance of any usage that both of the following are satisfied: [Cumulative Increase]
  - a. Total VOC emissions from S-3602 and S-3603 do not exceed 288 pounds in any consecutive twelve-month period; and
  - b. The use of these materials does not increase toxic emissions above any risk screening trigger level.
3. In order to demonstrate compliance with the above condition, the owner/operator shall keep the following records in a District approved log. Entries shall be made to the records whenever solvent is added or removed from the source. These records shall be kept on site and made available for District inspection for a minimum period of 5 years from the date on which a record is made. [Recordkeeping; Regulation 8-16-501]
  - a. Type and monthly usage (total solvent added to source) of all VOC containing materials used;
  - b. Quantities of each type of solvent recovered for disposal or recycling
  - c. Net usage of each type of solvent
  - d. If a material other than that specified in condition #1 is used, VOC and toxic component contents of each material used; and mass emission calculations to demonstrate compliance with condition #2, on a monthly basis;
  - e. Monthly usage and/or emission calculations shall be totaled for each consecutive twelve month period;

## Recommendation

Waive Authority to Construct and issue a Permit to Operate for the following equipment:  
**S-3602 Cold Cleaner, ADF Model 11, 160 Gallon Capacity**  
**S-3603 Cold Cleaner, ADF Model 11, 160 Gallon Capacity**

**Archive sources S-786 and S-787.**

By: \_\_\_\_\_  
M.K. Carol Lee  
Senior Air Quality Engineer

**EVALUATION REPORT**

<b>Company</b>	<b><u>New United Motor Manufacturing Inc.</u></b>	<b>Application #</b>	<b><u>7048</u></b>
		<b>Plant #</b>	<b><u>1438</u></b>

**1. Background:**

New United Motor Manufacturing Inc. (NUMMI) has requested a Change of Conditions for the following:

**S-1900 Plastic Parts Adhesion Operation**

to increase the use of an "adhesion promoter" (from 13 to 50 gallons per year), which is used to ensure proper attachment of fender flare adhesive pads to the fender flares.

**2. Emission Calculations:**

Based on the maximum, proposed usage limits of the solvent-borne containing material to be used in the Plastic Parts Adhesion Operation, the following increase of organic emissions are estimated:

**New Adhesive Limit (VOC = 6.26 lb/gal) = 50 gals/yr**  
**Old Adhesive Limit (VOC = 6.26 lb/gal) = 13 gals/yr**

**POC = [50 - 13 gals/yr](6.26 lb/gal) = 232 lbs/yr**  
**POC = 0.12 TPY**

**3. Statement of Compliance:**

The Plastic Parts Adhesion Operation (S-1900) is exempt from the requirements of Regulation 8-51 (Adhesive and Sealant Products), per Regulation 8-51-118.3. The operation (S-1900) is subject to and in compliance with the requirements of Regulation 8-4, because emissions from this source are less than 5 tons per year.

Because this source (S-1900) is not estimated to exceed 10 lbs/day, BACT review is not required. Because NUMMI's facility emissions are over 50 TPY, POC offsets are required. NUMMI has requested that the emission limit specified in Condition # 10426 for S-1070 IP Booth and S-1071 IP Oven be reduced to provide the offsets. Sources S-1070 and S-1071 were fully offset as part of Application No. 10740 (Instrument Panel Line). In accordance with Regulation 2-2-605, the sources (S-1070 and S-1071) were analyzed to determine the applicable emissions reductions credit. Subsections 2-2-605.4 through 605.6 applies for the sources that were fully offset. The baseline is equal to the permit limit of 21.61 TPY. NUMMI complies with the existing VOC standards of Regulation 8-13. NUMMI has requested that 0.12 TPY be reduced from their overall emission cap. Regulation 8-13 applies for operation of these coating sources (S-1070 and S-1071) and there is no amendments proposed in the recently adopted Clean Air Plan for amending Regulation 8-13. As a result, a 0.12 TPY reduction from the emission cap of 21.61 TPY (to 21.49 TPY) would generate an emission reduction of 0.12 TPY because there is no RACT adjustment required.

In accordance with Regulation 2-2-302, I recommend the following emissions be offset for S-1900 by reducing the emissions limit of S-1070 and S-1071 by 0.12 TPY:

**Offsets Required = 0.12 TPY (1.0 for contemporaneous reduction)**  
**Offsets Required = 0.12 TPY**

An Air Toxics Risk Screening is not required, because the estimated emissions of total organic compounds are less than the Air Toxics Screening trigger levels of the toxics (e.g., xylene, cyclohexane, isopropanol, methanol) found in the adhesives. As a result, an Air Toxics Screening is not required.

The emissions from this application do not trigger **Regulation 10 - New Source Performance Standard**; or **Regulation 11 - Hazardous Pollutants**. Because this application is ministerial (permit handbook chapter 11.9), it is not subject to the requirements of the California Environmental Quality Act (CEQA). Because this facility is not located within 1000 feet of any school, a public notice is not required.

**4. Conditions:**

I recommend that Condition # 18533 be amended as follows: [strikethroughs indicate deletions while underlines indicate additions]

1. **Usage of adhesion promoter at S-1900 shall not exceed ~~43~~ 50 gallons in any consecutive twelve month period, unless otherwise allowed in part 2 of this condition.**
2. **Material usage in excess of that specified in part 1 of this condition, may be used at S-1900 provided NUMMI can demonstrate that both of the following are satisfied:**
  - a. **Total POC emissions from S-1900 do not exceed ~~84~~ 313 pounds in any consecutive twelve month period; and**
  - b. **The use of these materials does not increase toxic emissions above any risk screening trigger level listed in Table 2-1-316 of Regulation 2-1.**  
**(basis: Cumulative Increase or Toxic Risk Screen)**
3. **To demonstrate compliance with parts 1 and 2 of this condition, NUMMI shall maintain the following records and provide all of the data necessary to evaluate compliance with the stipulations of this condition, including, but not necessarily limited to, the following information:**
  - a. **Monthly usage of all POC containing materials used;**
  - b. **If a material other than that specified in part 1 is used or a material specified in part 1 is used in excess of the limit specified in part 1 and/or 2a, POC and toxic component contents of each material used; and mass emission calculations to demonstrate compliance with parts 1 and 2a, on a monthly basis;**
  - c. **Monthly usage and/or emission calculations shall be totaled for each consecutive twelve month period.**

**All records shall be recorded in a District-approved log. All records shall be retained on-site for years, from the date of entry, and made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations.**

**(basis: Cumulative Increase, Toxic Risk Screen)**

I recommend that Parts 1 and 2 of Condition # 10426 be amended to reduce the emissions limit from 21.61 to 21.49 TPY:

1. In no event shall the total annual coating emissions from IP Booth (S-1070) and IP Oven (S-1071) combined exceed ~~21.61~~ 21.49 tons per year of Precursor

Organic Compounds (POC).

2. The total coating usage at this facility shall not exceed the following specified usages unless the operator of this source can demonstrate to the satisfaction of the APCO that a change in coating usage and/or composition would not result in emissions exceeding those stipulated in Condition #1:

Top Coat(Solventborne) ~~37,074~~ 36,865 gal/year  
Top Coat (Waterborne) ~~16,279~~ 16,189 gal/year  
(less water)

NUMMI shall use either a solvent borne or water borne coating, but not a combination of both, except at times of trials or periods of overlap during the coating changeover.

**5. Authority to Construct:**

See Section 4.

**6. Exemptions:**

None.

12/80-ER1

By \_\_\_\_\_  
M.K. Carol Lee, Senior Air Engineer

Date \_\_\_\_\_

**Applicant** New United Motor Manufacturing Inc.      **Application Number** 7119  
**Plant Number** 1438

## 1. BACKGROUND

New United Motor Manufacturing, Inc. (NUMMI) has submitted an application for the following:

**S-3510 System # 4 Paint Mix/Circulation Tank, Custom Built, 120 Gallons**  
**S-3528 System # 22 Paint Mix/Circulation Tank, Custom Built, 120 Gallons**  
**S-3534 System # 27 Paint Mix/Circulation Tank, Custom Built, 80 Gallons**  
**S-3535 System # 28 Paint Mix/Circulation Tank, Custom Built, 80 Gallons**  
**S-3537 System # 29 Paint Mix Tank/Circulation Tank, Custom Built, 80 Gallons**  
**S-3538 System # 43 Paint Mix/Circulation Tank, Custom Built, 80 Gallons**  
**S-3539 System # 44 Paint Mix/Circulation Tank, Custom Built, 80 Gallons**  
**S-3546 System # 4 Paint Mix/Circulation Tank, Custom Built, 160 Gallons**  
**S-3559 System # 22 Paint Mix/Circulation Tank, Custom Built, 120 Gallons**  
**S-3561 System # 27 Paint Mix/Circulation Tank, Custom Built, 120 Gallons**  
**S-3562 System # 28 Paint Mix/Circulation Tank, Custom Built, 120 Gallons**  
**S-3563 System # 43 Paint Mix/Circulation Tank, Custom Built, 120 Gallons**  
**S-3564 System # 44 Paint Mix/Circulation Tank, Custom Built, 120 Gallons**

These paint mix tanks were originally permitted as part of Application # 25397 (New Passenger Paint Shop). However, in January 2001, NUMMI requested that the above-described sources be deleted because they claimed that these tanks were never installed or operated. However, they have since installed S-3510, S-3537, and S-3546 in December 2002. In addition, they intend to install the rest soon.

## 2. EMISSION CALCULATIONS

The Paint Mix Tanks (S-3510, S-3528, S-3534 thru S-3539, S-3546, S-3559, S-3561, S-3562, S-3563, and S-3564) will be used to store coatings for the passenger line. Coating, which is already pre-made, is received in totes from the coating manufacturer. The coating is pumped from the totes to the mix tanks where it is perpetually mixed by their integrated mixers. The coating is eventually pumped through coating lines to the coating applicators, which are in passenger line spray booths. The mix tanks are kept covered except when the operators test for viscosity of the coating. The coating must be maintained at a minimum viscosity to ensure that the coating does not "gunk" up the coating lines or coating applicators. Depending on the room temperature, solvent may have to be added to maintain the desired viscosity. However, the adding of solvent to reduce viscosity is minimal (0.03 gallon (0.5 cup) per 40 gallons of coating). However, other than the checking of viscosity or the addition of solvent, the mix tanks are not opened. Hence, minimum emissions result from the mix tank operations. The emissions from coating mainly occur during spray coating and oven operations when the solvent in the coating is evaporated in the booth and oven areas. In Application # 25397, the emissions from the mix tanks were included with rest of the coating sources, because a mass balance was used in calculating POC emissions, based on the maximum amount of coating and solvent usage and their respective VOC content [See spreadsheet TABLE X: PROCESS SPREADSHEET from Application # 252397]. Although coating emissions were calculated after abatement, solvent (thinner and cleanup solvent) emissions were calculated assuming no abatement (fugitive emissions). The emissions from coating usage are limited by Condition # 14206 and 14207, while the emissions from fugitive solvent usage are limited by Condition # 14210. All emissions from the coating and solvent usage were offset by NUMMI for Application # 24397. A copy of the evaluation report for Application # 24397 is attached.

The existing paint mix tanks for the passenger line are limited to only "mixing" coating used at the passenger line. Although the paint mix tanks have no limit to the quantity of coating processed



through the paint mix tanks, they are limited to mixing only coating used at the passenger line coating sources, which have limits to the quantity of coating applied and emissions emitted.

It is difficult to quantify emissions that may result from mix tank operations because the mix tanks are usually kept covered. The proposed Paint Mix Tanks will be limited to mixing coating that is used for the passenger line. The passenger line is limited to the following quantity of coatings:

<u>Coating</u>	<u>Gallons per Year</u>
Primer	60,869
Interior Color	32,435
Black Out	8,105
Soft Chip	8,225
Base Coat	123,552
Clear Coat	91,289
NMHS	52,452
Repair	6,322
<b>TOTAL</b>	<b>383,249 gals/yr</b>

Assuming that 0.5 cup or 0.03 gals of purge thinner are added for each 40 gallons of coating would result in 277 gallons of purge thinner added per year:

$$383,249 \text{ gals/yr} (0.03 \text{ gal}/40 \text{ gal}) = 287 \text{ gals/yr}$$

Although the purge thinner and coating would be stored in the closed mix tank and negligible emissions would result, it is assumed that at a worst-case the added purge thinner would be the resulting emissions from the paint mix tanks and would result in 1.11 TPY of emissions:

$$\text{POC} = 277 \text{ gals/yr} (7.2 \text{ lb/gal}) = 1,994.40 \text{ lbs/yr or } 1.00 \text{ TPY}$$

NUMMI also uses purge thinner also to “purge” out the paint lines when cleaning the lines to prepare for the coating of a different color. This purge is recovered and recycled (offsite). They record net purge thinner usage monthly in their records. A condition has been added to limit the purge usage to that allowed under Condition # 14210.

### 3. COMPLIANCE DETERMINATION

The Paint Mix Tanks (S-3510, S-3528, S-3534 thru S-3539, S-3546, S-3559, S-3561, S-3562, S-3563, and S-3564) are not subject to Regulation 8-35 because NUMMI does not manufacture coating from raw materials. They purchase and receive already manufactured coatings. As a result, the Paint Mix Tanks are subject to Regulation 8-4. Because minimal solvent is estimated to be evaporated from the Paint Mix Tanks, the sources are estimated to comply with Regulation 8-4 requirements.

#### BACT

On a worst-case daily basis, it is assumed, that POC emissions may exceed 10 lbs per day. As a result, Best Available Control Technology (BACT) review is triggered.

According to EPA’s Con-Co\$t spreadsheets, it would cost approximately \$85,648 per year to abate the 5,000 cfm (not including ducting expenses). To abate the POC emissions (1.00 TPY) would result in a cost of \$85,648 per ton of POC reduced, which is greater than \$17,500 per ton (District’s cost-effectiveness maximum). Hence, it is not cost-effective to require abatement. In addition, it should be noted that in performing the cost-analysis, it was assumed that the emissions from the paint mix tanks could be captured together.

Because there is no established BACT for paint mix tanks, it is recommended that Regulation 8-35 standards for a portable storage vat be used. As a result, the paint mix tanks will have similar permit

conditions to those that already apply to the other paint mix tanks of the passenger line (Condition # 14213).

#### OFFSETS

Because the emissions estimated from each paint mix tanks (S-3510, S-3528, S-3534 thru S-3539, S-3546, S-3559, S-3561, S-3562, S-3563, and S-3564) were accounted for as part of Application # 25397, and because NUMMI did not receive emissions reduction credits for the archiving of these sources in January 2001, the emissions from the tanks are still included as part of Application No. 25397. NUMMI still intends to use these sources only to store coatings for the passenger line. As a result, the cumulative increase resulting from the re-permitting of the paint mix tanks is contemporaneously offset by the prior emission reduction resulting from the archiving of these same sources, which were all offset as part of Application # 25397. No additional offsets are required.

The emissions from this application do not trigger Regulation 10 - New Source Performance Standard; or Regulation 11 - Hazardous Pollutants. Because this application is ministerial [Permit Handbook Chapters 11.9], the California Environmental Quality Act (CEQA) is not triggered.

Because the estimated POC emissions from the Paint Mix Tanks (S-3510, S-3528, S-3534 thru S-3539, S-3546, S-3559, S-3561, S-3562, S-3563, and S-3564) will not result in emissions of any toxic above its risk screening trigger level, an Air Toxics Risk Screening is not required.

#### 4. PERMIT CONDITIONS

I recommend that Condition No. 14213, which is the permit condition for the Paint Mix Tanks of the New Passenger Paint Shop be amended to include reference to tanks: [underlines indicate additions, while strikethroughs indicate deletions]

COND# 14213 -----

FOR S3507, SYSTEM #1 PAINT CIRCULATION TANK, S3508, SYSTEM #2 PAINT CIRCULATION TANK, S3509, System #3 Paint Circulation Tank, S-3510, System # 4 Paint Mix/Circulation Tank, S3511, System #5 Paint Circulation Tank, S3512, System #5 Paint Circulation Tank, S3513, System #7 Paint Circulation Tank, S3514, System #8 Paint Circulation Tank, S3515, System #9 Paint Circulation Tank, S3516, System #10 Paint Circulation Tank, S3517, System #11 Paint Circulation Tank, S3518, System #12 Paint Circulation Tank, S3519, System #13 Paint Circulation Tank, S3520, System #14 Paint Circulation Tank, S3521, System #15 Paint Circulation Tank, S3522, System #16 Paint Circulation Tank, S3523, System #17 Paint Circulation Tank, S3524, System #18 Paint Circulation Tank, S3525, System #19 Paint Circulation Tank, S3526, System #20 Paint Circulation Tank, S3527, System #21 Paint Circulation Tank, S-3528 SYSTEM # 22 PAINT MIX/CIRCULATION TANK, S3529, System #23 Paint Circulation Tank, S3530, System #24 Paint Circulation Tank, S3531, System #25 Paint Mix Tank, S3532, System #25 Paint Circulation Tank, S3533, System #26 Paint Circulation Tank, S-3534, SYSTEM # 27 PAINT MIX/CIRCULATION TANK, S-3535, SYSTEM # 28 PAINT MIX/CIRCULATION TANK, S3536, System #29 Paint Circulation Tank, S-3537, SYSTEM # 29 PAINT MIX TANK/CIRCULATION TANK, S-3538, SYSTEM # 43 PAINT MIX/CIRCULATION TANK, S-3539, SYSTEM # 44 PAINT MIX/CIRCULATION TANK, S3543, System #1 Paint Mix Tank, S3544, System #2 Paint Mix Tank, S3545, System #3 Paint Mix Tank, S-3546, SYSTEM # 4 PAINT MIX/CIRCULATION TANK, S3547, System #9 Paint Mix Tank, S3548, System #10 Paint Mix Tank, S3549, System #11 Paint Mix Tank, S3550, System #12 Paint Mix Tank, S3551, System #13 Paint Mix Tank, S3552, System #14 Paint Mix Tank, S3553, System #15 Paint Mix Tank, S3554, System #16 Paint Mix Tank, S3555, System #17 Paint Mix Tank, S3556, System #18 Paint Mix Tank, S3557, System #19 Paint Mix Tank, S3558, System #21 Paint Mix Tank, S-3559, System # 22 Paint Mix/Circulation Tank,

S3560, System #24 Paint Mix Tank, S-3561, SYSTEM # 27 PAINT MIX/CIRCULATION TANK, S-3562 SYSTEM # 28 PAINT MIX/CIRCULATION TANK, S-3563 SYSTEM # 43 PAINT MIX/CIRCULATION TANK, S-3564, SYSTEM # 44 PAINT MIX/CIRCULATION TANK, S3565, System #5 Paint Mix Tank, S3566, System #6 Paint Mix Tank, S3567, System #7 Paint Mix Tank, And S3568, SYSTEM #8 PAINT MIX TANK:

1. The owner/operator shall use these sources only to shall be used to mix coatings for the passenger line coating sources. (basis: Cumulative Increase)
2. The owner/operator shall keep these sources shall be kept covered, except to add ingredients or to take samples, with lids which are maintained in good condition, such that when in place, they maintain contact with the rim for at least 90 percent of the circumference of the rim of the source. (basis: Cumulative Increase)
3. The owner/operator shall ensure that the difference between the diameter of the mixer shaft and the diameter of the opening in the lid for the mixer shaft shall be no greater than 5.1 cm. (2 inches). (basis: Cumulative Increase)
4. The owner/operator shall ensure that these sources shall be cleaned using a closed cleaning system free of liquid leaks. The walls and the lids of the sources can be hand-cleaned with solvent, as necessary. Solvent, including waste solvent, shall not be stored or disposed of in such a manner that will cause or allow evaporation into the atmosphere. (basis: Cumulative Increase)
5. The owner/operator shall keep records of the amount of purge thinner added to these sources and make such records available for inspection upon request for a period of 5 years from the date of record. These records shall be summarized on a monthly and consecutive twelve-month basis. The owner/operator shall include the POC emissions resulting from this purge solvent usage with that of S-30960 Fugitive Cleanup. The emissions of S-30960 are limited by Condition # 14210, Part 1. (basis: Cumulative Increase)

## 5. AUTHORITY TO CONSTRUCT:

I recommend that the Authority to Construct be waived, and Permits to Operate be reissued for the following:

**S-3510 System # 4 Paint Mix/Circulation Tank, Custom Built, 120 Gallons**  
**S-3528 System # 22 Paint Mix/Circulation Tank, Custom Built, 120 Gallons**  
**S-3534 System # 27 Paint Mix/Circulation Tank, Custom Built, 80 Gallons**  
**S-3535 System # 28 Paint Mix/Circulation Tank, Custom Built, 80 Gallons**  
**S-3537 System # 29 Paint Mix Tank/Circulation Tank, Custom Built, 80 Gallons**  
**S-3538 System # 43 Paint Mix/Circulation Tank, Custom Built, 80 Gallons**  
**S-3539 System # 44 Paint Mix/Circulation Tank, Custom Built, 80 Gallons**  
**S-3546 System # 4 Paint Mix/Circulation Tank, Custom Built, 160 Gallons**  
**S-3559 System # 22 Paint Mix/Circulation Tank, Custom Built, 120 Gallons**  
**S-3561 System # 27 Paint Mix/Circulation Tank, Custom Built, 120 Gallons**  
**S-3562 System # 28 Paint Mix/Circulation Tank, Custom Built, 120 Gallons**

**S-3563 System # 43 Paint Mix/Circulation Tank, Custom Built, 120 Gallons**  
**S-3564 System # 44 Paint Mix/Circulation Tank, Custom Built, 120 Gallons**

**6. EXEMPTIONS:**

None.

\_\_\_\_\_  
By M.K. Carol Lee  
Senior Air Quality Engineer

\_\_\_\_\_  
Date

**EVALUATION REPORT**

**Company** New United Motor Manufacturing Inc.  
**Application #** 7151  
**Plant #** 1438

**1. Background:**

New United Motor Manufacturing Inc. (NUMMI) has proposed to change the prime coating used to coat bumpers. The new coating is a water-borne material and is intended to replace the current solvent-borne material. Originally, in permitting the Bumper Booths and Ovens, Regulation 8-13-307.1 and Best Available Control Technology (BACT) standards required the use of a thermal oxidizer to abate the emissions from the bumper coating booth and oven operations.

However, upon proposing to change the formulation of the coating, (NUMMI) has applied for a Change of Conditions for the Bumper Prime Booth (S-59) and Bumper Prime Oven (S-58) to discontinue using the Bumper Thermal Oxidizer system (A-571 and A-592) to abate VOC emissions from the bumper prime coating operations when using a water-borne coating with a VOC content of 1.7 pounds per gallon or less. Emissions from the topcoat operations will continue to be abated by the thermal oxidizer (A-571).

**2. Emission Calculations:**

Condition # 10320 limits POC emissions from S-57, S-58, S-59, and S-65 (after abatement) to 173 TPY. POC emissions from the use of Primer are approximately 57 TPY. The POC emissions from the bumper line required the use of abatement comply with the applicable standards of District Regulation 8, Rule 13, Section 307 (Limits, Flexible Parts Coatings). The following is a comparison of the regulation standards and current solvent-borne and proposed waterborne coating proposed for use at NUMMI's bumper prime coating operation:

<u>Coating</u>	<u>VOC (g/l-H2O)</u>	<u>VOC (lb/gal-H2O)</u>
<b>Flexible Primer (Reg 8-13-307.1)</b>	<b>490</b>	<b>4.1</b>
<b>NUMMI, Current Limits</b>	<b>708</b>	<b>5.91</b>
<b>NUMMI, Proposed Limits</b>	<b>180</b>	<b>1.7</b>

Because NUMMI currently uses solvent-borne primer, topcoats, and basecoats that exceed the limits specified in Regulation 8-13-307, their bumper coating operations (S-59 and S-65) are abated to an equivalent level by use of an air pollution abatement device with an abatement device efficiency of at least 90%, as required by Regulation 8-13-307. The thermal oxidizer (A-591) is required in the permit conditions to attain at least a minimum efficiency of 95% - 98.5 (depending on inlet concentration).

By replacing the solvent-borne coating with a water-borne coating, NUMMI proposes to use a coating that will comply with the VOC standard in Regulation 8-13-307 (without the need for abatement). As a result, NUMMI has requested that their new coating operation (without abatement) be also limited to the existing Primer usage limit of 61,606 gallons per year. Although the proposed water-borne coating has a VOC content of 1.06 pounds per gallon, NUMMI has requested a VOC limit of 1.7 pounds per gallon. Their proposed new limits relative to the current permitted emissions from the various scenarios are listed in the table below. Detailed calculations are in the attached appendix.

VOC (TPY)      Reduction from

Current Permit Limits	Solvent-Based & Abatement	56.6	Current Permit 0
NUMMI Proposed w/o BACT	Water-Based w/o abatement	52.4	4.2 TPY
NUMMI Proposed w/BACT	Water-Based w/abatement	15.9	40.7 TPY

Comparison of toxics between the existing and permitted solvent-borne coating and the proposed water-borne coating indicates that a risk screening is not triggered.

**3. Statement of Compliance:**

The POC emissions from the bumper painting operation are exempt from the provisions of NSPS Subpart MM (Standards of Performance for Automobile and Light Duty Surface Coating Operations), by 40 CFR 60.390(b), for operations used to coat body components. Offsets and PSD requirements are not triggered because there is no increase of emissions proposed.

As indicated in Section 2, the proposed use of water-borne coating (without abatement) is subject to and in compliance with Regulation 8-13-307. However, the use of water-borne coating (without abatement) does not meet Best Available Control Technology (BACT) requirements. BACT for Motor Vehicle Assembly Plant Coatings (Permit Handbook Pages 161.4.1 through 161.4.4) requires that ovens be abated to an overall abatement efficiency of 85% (BACT2 for ovens); and booths are to be abated to an overall abatement efficiency of at least 90% (BACT1 for booths), if it is cost effective. According to the EPA Con-Co\$t spreadsheets (which include the capital cost), the following are the estimated annualized abatement costs:

50,000 cfm carbon concentrator	\$156,496
5,000 cfm thermal oxidizer ducting	\$112,054
	<u>\$9,890</u>
	<b>\$278,440</b>
Inflation Adjustment (3% for 5 Yrs)	(1+0.03) <sup>5</sup>
Total Annual Cost of Abatement	<b>\$322,788</b>

To abate 52.4 TPY of emissions with an overall efficiency of 69.7% (current estimated capture efficiency of carbon concentrator/thermal oxidizer system) would result in a cost of \$8,844 per ton of POC emissions reduced. As a result, it would be cost-effective to require abatement for the booth in addition to abating the oven (achieved in practice).

Comparison with other recently permitted automobile manufacturing facilities in Indiana (Toyota), Mississippi (Nissan) and Alabama (Honda) confirmed that when it is determined cost-effective, the use of water-based coating is abated.

NUMMI has not agreed to abate the use of water-borne coating. Therefore, staff recommends that this application be denied, because it does not meet BACT requirement, per Regulation 2-2-310.

NUMMI has stipulated that their Change of Conditions applications does not result in the modification of the sources (S-59 and S-65), and therefore is not subject to BACT requirements (see NUMMI's May 9, 2003 letter). However, to prevent circumvention of BACT, the District's approach is to review whether the bumper prime coating operation alone requires BACT controls if originally NUMMI had requested a water-borne coating instead of a solvent-borne, non-complying coating. The District has determined that BACT controls would have still been required if NUMMI had originally proposed a water-borne coating. As a result, staff recommends that this application be denied, per Regulation 2-2-310, Failure to Use BACT.

Because this application is recommended for denial, this application is exempt from the requirements of the California Environmental Quality Act (CEQA), per Regulation 2-1-312.1. Because this facility is not located within 1000 feet of any school, public noticing requirements of Regulation 2-1-412 are not triggered.

#### 4. Conditions

In reviewing Condition # 10320, it was discovered that an error was made in allowing the unabated usage of non-complying coating during periods of training and malfunction in the IP Booth, because the equivalency determination performed for Application # 25096 was incorrectly performed on an annual averaged basis and not on a continuous basis. Hence, the following paragraph from Part 10 of Condition # 10320 will be amended as follows: [strikethrough indicates deletions while underlines indicate additions]. However, by deleting the clause indicated below and thereby, requiring the abatement of the "manual zone", the usage limit of Primer will be returned to the original limit of 61,606 gals/yr. A copy of the entire text of 10320 is attached to this evaluation report.

10. The total coating usage for sources S57, S58, S59, and S65 shall not exceed the following specified limits unless they can demonstrate to the satisfaction of the APCO that a change in coating limits and/or composition will not result in emissions exceeding those in Part 9 of Condition 10320:

Primer	<del>57,994</del> <u>61,606</u> gallons per year
Non-Metallic	
High Solids	32,586 gallons per year
Base Coat	37,127 gallons per year
Clear Coat	48,350 gallons per year

~~Of the total Primer usage for sources S57, S58, S59, and S65, 2054 gallons per year may be applied manually at S57, but only during periods of training and malfunction (including paint defects) of the automated painting system in S57 Bumper Booth. Records of the amount of manually applied coating will be kept on site for a period of 5 years from the date the recording was made. The coating amount, if any, shall be included in NUMMI's monthly report to the Director of Enforcement. The manual and automatic zones of S59 Bumper Booth shall be abated by A571 and A592, or else the total quantity of coating manually applied in both Booths (S57 and S59) shall be limited to 2,054 gallons per year. Application of the prime coat shall only occur in the automatic zones of S-57 Spray Booth or in the manual or automatic zones of S-59 Spray Booth, until NUMMI abates the manual zones of the Spray Booth (S-57) with A571.~~

#### 5. Authority to Construct:

I recommend that the application be denied under Regulation 2-2-310, Denial, and Failure to Use BACT. However, the condition correction indicated in Section 4 shall be implemented.

**6. Exemptions:**

None.

12/80-ER1

\_\_\_\_\_  
By M.K. Carol Lee  
Senior Air Quality Engineer

Date\_\_\_\_\_



**APPENDIX – Detailed Emission Calculations for Various Scenarios**

Emissions for NUMMI's Current Limits

Booth/Oven Split = 88%/12%

Capture Efficiency of Booth = 80%

Capture Efficiency of Carbon Concentrator = 88%

Capture Efficiency of Oven = 95%

Destruction Efficiency of Thermal Oxidizer = 95% (minimum)

Solvent Coating w/Abatement = Emission Loss from Booth +

Emission Losses from Carbon Concentrator +

Emission Losses from Oven +

Emission Losses from Thermal Oxidizer

= 61,606 gal/yr(5.91 lb/gal)x{88% to booth

loss]] + x[(20% booth loss) + 80%[(12% CC loss)+88%(5% abatement

12% to oven x [(5% oven loss) + (95%)(0.05 abatement loss)]}

Solvent Coating w/Abatement = 110,377 lbs/yr = **55.2 TPY**

Emissions for NUMMI's Proposed Limits w/o BACT

Water-Based Coating = 61,606(1.7 lb/gal) = 104,730 lbs/yr = **52.4 TPY**

Emissions for NUMMI's Proposed Limits w/BACT

Water-Based Coating w/Abatement = 52.4 TPYx{88% to booth

loss]] + x[(20% booth loss) + 80%[(12% CC loss)+88%(5% abatement

12% to oven x [(5% oven loss) + (95%)(0.05 abatement loss)]} =

Water-Based Coating w/Abatement = **15.9 TPY**

## EVALUATION REPORT

**Company** New United Motor Manufacturing Inc.  
**Application #** 8370  
**Plant #** 1438

### 1. Background:

New United Motor Manufacturing Inc. has applied for an Authority to Construct and/or Permit to Operate the following:

**A-809 Passenger Antichip Incinerator, Custom Built, 10 MMBTU/hr**  
**A-10022 Truck ELPO Thermal Oxidizer, Custom Built, 10 MMBTU/hr**

to replace A-808 and A1002, respectively.

### 2. Emission Calculations:

The maximum firing rate for A-808 and A1002 are each 10 MMBTU/hr. The replacement thermal oxidizers (A-809 and A-10022) will each have a maximum firing rate of 10 MMBTU/hr. The new thermal oxidizers (A-809 and A-809) will be subject to RACT emission levels for thermal oxidizers, per Permit Handbook Appendix E:

$\text{NO}_x = 0.2 \text{ lb/MMBTU}$   
 $\text{CO} = 0.8 \text{ lb/MMBTU}$

Because the maximum firing rates are identical for the replacement thermal oxidizers (A-809 and A10022), the contemporaneous emissions increase resulting from A-809 and A-10022 thermal oxidizers is offset from the contemporaneous emissions reduction from the shutdown of A-808 and A-1002. Hence, there is no change of emissions as a result of this application.

#### TOXICS

There is no increase of toxics resulting from the replacement of thermal oxidizers.

### 3. Statement of Compliance:

#### Best Available Control Technology

Because there is no increase of emissions resulting from the replacement of thermal oxidizers, a Best Available Control Technology (BACT) review is not required.

#### Offsets

Because there is no increase of emissions resulting from the replacement of thermal oxidizers, offsets are not required.

Regulation 10 - New Source Performance Standard and Regulation 11 - Hazardous Pollutants requirements are also not triggered. This application is exempt from the requirements of the California Environmental Quality Act (CEQA), per Regulation 2-1-312.11; an Appendix H form has been completed. The facility is not located within 1000 feet of any school. As a result, no public notification requirements are triggered.

**4. Conditions**

**I recommend the following startup conditions for A-808 and A-10022:**

1. The owner/operator shall not exceed nitrogen oxides (NOx) emissions from thermal oxidizers A809 and A10022 of 50 ppmvd @ 15% O<sub>2</sub> (0.20 lb/MMBtu). [basis: RACT, Source Test Method 13A]
2. The owner/operator shall not exceed carbon monoxide (CO) emissions from thermal oxidizers A809 and A10022 of 350 ppmvd @ 15% O<sub>2</sub> (0.80 lb/MMBtu). [basis: RACT, Source Test Method 6]
3. In order to demonstrate compliance with Parts 1 and 2 above and Part 3.b.2.b of Condition # 207, Part 8 of Condition # 10578, and Part 2 of Condition # 9158, the permit holder shall perform a District approved source test within 90 days of startup of thermal oxidizers A809 and A10022, in accordance with the District's Manual of Procedures for NOx and CO emissions and VOC abatement efficiency. The owner/operator shall notify the Manager of the District's Source Test Section at least seven (7) days prior to the test, to provide the District staff the option of observing the testing. Within 45 days of test completion, the owner/operator shall submit a comprehensive report of the test results to the Manager of the District's Source Test Section for review and disposition. (basis: Regulation 2-1-403)

**I recommend that the following parts in Condition # 207 be amended to reflect the replacement of A-808 with A-809. Also, typos and errors were corrected. [strikethroughs indicate deletions while underlines indicate additions]**

COND# 207 -----

b. PASSENGER/~~TRUCK~~ SEALER OVEN THERMAL OXIDIZER

1. All volatile organic compound (VOC) emissions from S808, Passenger Sealer-Antichip Oven, shall be abated by thermal incineration (~~A808~~A809). The thermal oxidizer (~~A808~~A809) shall be source tested as required in Part 3 of Condition # 207 to determine net mass emissions of POC as described in the following procedure:

a. The net mass emissions of POC shall be determined for the sources listed above with their respective coating sources combined. To determine the net mass emissions, the following shall be calculated and/or measured:

b. POC emissions on a pounds per unit basis [A] shall be determined by multiplying the annual coating usage with the POC content and dividing by the annual production rate.

c. POC emissions to each booth and oven Thermal Oxidizer (averaged, using the data obtained from at least 3 current source tests) shall be determined using District approved source testing methods [B]

d. POC emissions from each booth and oven Thermal Oxidizer ~~and carbon concentrator~~ (averaged, using the data obtained from at least 3 current source tests) shall be determined using District approved source testing methods [C]. *{note: there is no carbon concentrator}*

e. [B] and [C] shall each be divided by the production rate measured during the source test yielding a pounds per unit basis. [B] and [C] shall be each multiplied by the annualized units per hour and divided by the source test measured units per hour rate.

f. The net mass emissions shall be calculated by subtracting the measured POC emissions from the inlet from the calculated POC emissions and adding the measured POC emissions from the outlet [A-B+C].

g. The determined value [A-B+C] shall be multiplied by the actual annual production rate.

h. Within 60 days of the source test, a report shall be provided to the District. This 60-day period may be extended to 90 days, if NUMMI can demonstrate to the satisfaction of the APCO that the additional time is required. If the source testing indicates any violation of the permit conditions (total mass emission greater than emission limits for coating line (booth(s) and oven(s) combined)), NUMMI shall report such violation to the Director of Enforcement within 10 days of discovery pursuant to Standard Condition 1.F.

(basis: Cumulative Increase, Regulation 2-6-501, MOP Volume II, Part 3, Section 4.7)

2. S808 Passenger Sealer-Antichip Oven, cooling tunnel and setting zone emissions shall be controlled by thermal incineration (A809) with the following parameters.

a. 1400oF minimum destruction temperature unless NUMMI can demonstrate to the satisfaction of the APCO that the permit conditions can be met with the Thermal Oxidizer (~~A808~~A809) operating at a lower temperature.

b. VOC destruction efficiency of 98.5% by weight whenever the inlet concentration of VOC to the Thermal Oxidizer (~~A-808~~A809) is equal to or greater than

500 ppmv, measured as methane. Below a concentration of 500 ppmv, either the precursor organic destruction efficiency shall be a minimum of 95% by weight or total non-methane organic carbon emissions from the outlet of the Thermal Oxidizer (A808A809) shall be 10 ppm by volume or less.

c. The destruction temperature shall be recorded using chart or digital recorders. (basis: Cumulative Increase; BACT)

3. The thermal oxidizer shall be source tested once per calendar year, unless a different schedule is approved by the APCO, and maintained on a regular basis. Records of the source test results ~~and a maintenance schedule~~ shall be kept for a minimum of 5 years from the date of the ~~document~~ source test report. (basis: BACT)  
{note: maintenance schedule is not necessary}

4. ALLOWABLE TEMPERATURE EXCURSION(S)

a. The Thermal Oxidizer (A808A809) may operate below 1400 degrees F only in compliance with the temperature excursion parameters set forth in ~~this~~ section 4 of Condition 207. (basis: BACT)

b. The minimum temperature and abatement efficiency requirements for Thermal Oxidizers located at NUMMI shall not apply during an "Allowable Temperature Excursion", provided that the controller set temperature is at or above the minimum temperature requirement. An Allowable Temperature Excursion is one of the following:

1. A temperature excursion not exceeding 20 degrees F below the minimum; or

2. A temperature excursion period or period(s) aggregating 15 minutes or less in any hour or less; or

3. A temperature excursion greater than 15 minutes but less than 3 hours in duration, provided that all of the following are satisfied:

a. There are no more than 2 excursions per facility (Plant No. A1438) per calendar day;

b. There are no more than 2 excursions per abatement device per month; and

c. There are no more than 5 excursions per facility (Plant No. A1438) per month.  
(basis: Cumulative Increase)

c. NUMMI shall keep records to demonstrate that it meets all qualifying criteria for Allowable Temperature Excursions are met, including but not limited to the following:

1. Starting date and time, and the duration of each Allowable Temperature Excursion;
2. Minimum temperature during each Allowable Temperature Excursion;
3. Number of Allowable Temperature Excursions (>15 minutes) per abatement device per month;

**I recommend that the following parts in Condition # 10578 be amended to reflect the replacement of A-808 with A-809. Also, typos and errors were corrected. [strikethroughs indicate deletions while underlines indicate additions]**

COND# 10578 -----

5. Any particulate matter exhausted from the booth (S1050) shall be vented to the Thermal Oxidizer (~~A808~~A809). (basis: Cumulative Increase)
6. The POC emissions from the Truck Fuel Tank Oven (S1051) shall be abated by ~~a~~the Thermal Oxidizer (~~A808~~A809). The Thermal Oxidizer (~~A808~~A809) shall be source tested as required in Part 10 of Condition # 10578 to determine net mass emissions, using the following procedure:
  - a. The net mass emissions of POC shall be determined for the booth (S1050) and oven (S1051) combined. To determine the net mass emissions, the following shall be calculated and/or measured:
  - b. POC emissions shall be determined by coating usage and POC content [A].
  - c. Measured POC emissions to ~~A808~~A809 Thermal Oxidizer (averaged, using the data obtained from at least 3 current source tests) shall be determined using District approved source testing methods [B].
  - d. Measured POC emissions from ~~A808~~A809 Thermal Oxidizer (averaged, using the data obtained from at least 3 current source tests) shall be determined using District approved source testing methods [C].
  - e. The net mass emissions shall be calculated by subtracting the measured POC emissions from the inlet from the calculated POC emissions and adding the measured POC emissions from the outlet [A-B+C].
  - f. The determined value [A-B+C] shall be prorated for production and annualized for the hours of operation. (basis: Cumulative Increase)
  - g. Within 60 days of the source test, a report shall be provided to the District. This 60-day period may be extended to 90 days, if NUMMI can demonstrate to the satisfaction of the APCO that the additional time

is required. If the source test indicates any violation of the permit conditions (total mass emission greater than emission limits for coating line (booth(s) and oven(s) combined), NUMMI shall report such violation to the Director of Enforcement within 10 days of determining that a violation has occurred. (basis: BACT; Manual of Procedures, Volume II, Part 3, Section 4.7)

7. The minimum operating temperature for the Thermal Oxidizer (A808A809) shall be 1400 degrees F. The Thermal Oxidizer (A808A809) may operate below 1400 degrees F if the source complies with the temperature excursion parameters set forth in Parts 13 and 14 of this condition. (basis: BACT)

8. The minimum destruction efficiency of the Thermal Oxidizer (A808A809) shall be 98.5% by weight, whenever the VOC inlet concentration is greater than or equal to 500 ppmv, measured as methane. Below a concentration of 500 ppmv, the minimum destruction efficiency shall be 95% by weight or total non-methane organic carbon emissions from the outlet of the Thermal Oxidizer (A808A809) shall be 10 ppmv or less. (basis: BACT, Cumulative Increase)

9. The combustion chamber of the Thermal Oxidizer (A808A809) shall be equipped with District approved continuous temperature measuring and recording instrument. The temperature measuring and recording instrument shall be installed, calibrated and maintained according to the manufacture's specifications. (basis: Cumulative Increase)

10. The Thermal Oxidizer (A808A809) shall be source tested once per calendar year, unless a different schedule is approved. After prior notification to and approval from the District's Source Test Manager, source testing shall be performed to determine the VOC control efficiency of the abatement devices, in accordance with the District's Manual of Procedures. Stack sampling ports and platform(s) shall be provided at the booth exhaust stacks, the oven exhaust stacks, the inlet and outlet of the Thermal Oxidizer (A808A809). Records of the source test results shall be kept. All records shall be kept and made available for District inspection for a period of five years following the date the report was completed. (basis: BACT)

11. Within 60 days of the source testing, a report shall be provided to the District. If the source testing indicates any violation of the permit conditions, NUMMI shall report such violation to the Director of Enforcement within ~~within~~ 10 days of determining that a violation has occurred and also within the report. (basis: BACT; MOP Volume II, Part 3, Section 4.7)

**I recommend that the following parts in Condition # 9158 be amended to reflect the replacement of A-1002 with A-10022. Also, typos and errors were corrected. [strikethroughs indicate deletions while underlines indicate additions]**

COND# 9158 -----

1. VOC emissions from the oven and cooling tunnel shall be abated by thermal oxidation (~~A1002~~, ~~A1007~~ ~~A1009~~, ~~A1015~~).
- a. The net mass emissions of POC shall be determined for the sources listed above with their respective coating sources combined. To determine the net mass emissions, the following shall be calculated and/or measured:
  - b. POC emissions on a pounds per unit basis [A] shall be determined by multiplying the annual coating usage with the POC content and dividing by the annual production rate.
  - c. Measured POC emissions to each Thermal Oxidizer (averaged, using the data obtained from the 3 most recent source tests) shall be determined using District approved source testing methods [B].
  - d. Measured POC emissions from each oven Thermal Oxidizer (averaged, using the data obtained from the 3 most recent source tests) shall be determined using District approved source testing methods[C].
  - e. [B] and [C] shall each be divided by the production rate measured during the source test to yield a pounds per unit basis. [B] and [C] shall be each multiplied by the annualized units per hour and divided by the source test measured units per hour rate.
  - f. The net mass emissions shall be calculated by subtracting the measured POC emissions from the inlet from the calculated POC emissions and adding the measured POC emissions from the outlet [A-B+C].
  - g. The determined value [A-B+C] shall be multiplied by the actual annual reduction rate.



h. Within 60 days of the source test, a report shall be provided to the District. This 60-day period may be extended to 90 days, if NUMMI can demonstrate to the satisfaction of the APCO that the additional time is required. If the source test indicates any violation of the permit conditions (total mass emission greater than emission limits for coating line (booth(s) and oven(s) combined), NUMMI shall report such violation to the Director of Enforcement within 10 days of determining that a violation has occurred. (basis: BACT; Manual of Procedures, Volume II, Part 3, Section 4.7)

2. The thermal oxidizers (A10022, A1007 A1009, A1015) shall achieve the following:

- a. The minimum oxidizer operating temperature shall be 1400 degree F, regardless of inlet concentration.
  - b. At oxidizer inlet, VOC concentrations greater 1200 ppm as C1, the minimum oxidizer destruction efficiency shall be 98% by weight.
  - c. At oxidizer inlet VOC concentrations from 500 ppm to 1200 ppm as C1, the minimum oxidizer destruction efficiency shall vary linearly with VOC concentration from 95 to 98% by weight.
- (basis: BACT)

4. The thermal oxidizers (A10022, A1007 A1009, A1015) shall be source tested once per calendar year to verify compliance with Parts 1 and 2 of Condition 9158 and maintained according to manufacturer's specifications. Records of the source test results shall be kept for a period of five years following the date of entry. (basis: Cumulative Increase)

- a. Each of the Truck Line Oven thermal oxidizers (A10022, A1007 A1009, A1015) shall be source tested for NOx and CO emissions once per calendar year, after notification to the APCO. If the total carbon monoxide (CO) emissions from all the thermal oxidizers of the Truck Line exceed the PSD Modeling threshold dictated in Regulation 2-2-305 (dated June 7, 1994), NUMMI shall submit a PSD Modeling Protocol to the APCO for review before implementation of the PSD Air Quality Analysis, as specified in Regulation 2-2-414 (dated June 7, 1995). The PSD Modeling Protocol shall be submitted to the District within 90 days of the source test report date. To calculate CO emissions, NUMMI shall use the most recent source test derived emission factors for thermal oxidizer burner warm-up and normal operations. NUMMI shall use an 1,200 hours per year for the thermal oxidizer burner warm-up and 5,400

hours per year for normal burner operations to estimate combustion emissions, unless NUMMI can demonstrate a more accurate method. (basis: Cumulative Increase)

**5. Authority to Construct:**

I recommend that the Authority to Construct be issued for the following:

- A-809 Passenger Antichip Incinerator, Custom Built, 10 MMBTU/hr; to abate S-63, S-808 Passenger Sealer Oven, S-1050 Truck Fuel Coating Tank Booth**
- A-10022 Truck ELPO Thermal Oxidizer, Custom Built, 10 MMBTU/hr; to abate S1002 Truck Elpo Oven**

**6. Exemptions:**

None.

12/80-ER1

\_\_\_\_\_  
By M.K. Carol Lee  
Senior Air Quality Engineer

\_\_\_\_\_  
Date

**EVALUATION REPORT**

**Company** New United Motor Manufacturing Inc.  
**Application #** 8419  
**Plant #** 1438

**1. Background:**

New United Motor Manufacturing Inc. (NUMMI) has applied for a modification to the following:

**S-58 Plastic Topcoat Bumper Oven, 8,726,000 BTU/hr**

NUMMI will replace two existing oven burners for the source with one burner. The total hourly heating capacity of the two existing burners that will be replaced is 840,000 BTU/hr. The heating capacity of the new burner will be 2,000,000 BTU/hr. With the replacement of the lower capacity burners with this higher capacity one, the new combined firing rate of the oven will be **9,886,000 BTU/hr.**

**2. Emission Calculations:**

The potential net hourly increase in heating capacity is 1,160,000 BTU/hr (9,886,000 – 8,726,000) or 1.16 MMBTU/hr. Using EPA’s AP-42 Compilation of Emission Factors, Table 1.4-1, the following emission factors were derived from Small Boilers (< 100 MMBTU/hr):

$$\begin{aligned} \text{NOx} &= 100 \text{ lb}/10^6 \text{ scf}(1.05\text{E-}3 \text{ scf}/\text{BTU})(10^6 \text{ BTU}/\text{MMBTU}) = 0.1 \text{ lb}/\text{MMBTU} \\ \text{CO} &= 84 \text{ lb}/10^6 \text{ scf}(1.05\text{E-}3 \text{ scf}/\text{BTU})(10^6 \text{ BTU}/\text{MMBTU}) = 0.084 \text{ lb}/\text{MMBTU} \\ \text{SO}_2 &= 0.6 \text{ lb}/10^6 \text{ scf}(1.05\text{E-}3 \text{ scf}/\text{BTU})(10^6 \text{ BTU}/\text{MMBTU}) = 0.0006 \text{ lb}/\text{MMBTU} \\ \text{POC} &= 5.5 \text{ lb}/10^6 \text{ scf}(1.05\text{E-}3 \text{ scf}/\text{BTU})(10^6 \text{ BTU}/\text{MMBTU}) = 0.0055 \text{ lb}/\text{MMBTU} \\ \text{PM}_{10} &= 5.7 \text{ lb}/10^6 \text{ scf}(1.05\text{E-}3 \text{ scf}/\text{BTU})(10^6 \text{ BTU}/\text{MMBTU}) = 0.0057 \text{ lb}/\text{MMBTU} \end{aligned}$$

Using these emission factors, the increase of emissions resulting from the increase of burner capacity is estimated:

Pollutant	Lb/MMBTU	Lb/yr	TPY
NOx	0.1	1016	0.51
CO	0.084	853	0.43
SO2	0.0006	6	0.003
POC	0.0055	56	0.03
PM10	0.0057	2	0.001

The usage of natural gas at the S-58 and at the other bumper and instrument panel combustion sources is limited by Condition 10320, Part 2 to 3.16 MM therms per year. NUMMI has not requested an increase of natural gas usage. In addition, the emissions of NOx and CO are also limited to 26.16 and 46.48 TPY, respectively, per Condition 10320, Parts 4 and 5, respectively. NUMMI has not requested any increase or change of their natural gas usage and NOx and CO emission limits. The bumper and instrument panel lines were fully offset as part of Application No. 6518 and 10740, respectively. As a result, there is no net increase of emissions estimated.

**TOXICS**

There is no increase of toxics resulting from the replacement of the natural gas burners because there is no increase of natural gas usage proposed. As a result, no risk screening is required.

**3. Statement of Compliance:**

**Best Available Control Technology**

If S-58 Oven operated as just a drying oven which does not emit pollutants other than combustion products, it would be exempt from permitting requirements per Regulation 2-1-116.4. However, because S-58 dries painted automobiles, it emits also organic emissions, which is abated by A-571 Thermal Oxidizer to meet BACT requirements. The change of burners within the oven does not trigger any change of BACT requirements for A-571. The manufacturer of the burner guarantees that the burners will meet the AP-42 factors for NOx and CO (see attached vendor specification sheet).

**Offsets**

Because there is no increase of emissions resulting from the replacement of burners, offsets are not required.

Regulation 10 - New Source Performance Standard and Regulation 11 - Hazardous Pollutants requirements are also not triggered. This application is exempt from the requirements of the California Environmental Quality Act (CEQA), per Regulation 2-1-312.11; an Appendix H form has been completed. The facility is not located within 1000 feet of any school. As a result, no public notification requirements are triggered.

**4. Conditions**

I recommend no change to Condition No. 10320, which is applicable to S-58.

**5. Authority to Construct:**

I recommend that the Authority to Construct be issued for the following:

**S-58 Plastic Topcoat Bumper Oven; abated by A-571 Thermal Oxidizer Replacement of two burners (with a combined capacity of 840,000 BTU/hr) with one 2,000,000 BTU/hr burner (new capacity of Oven = 9,886,000 BTU/hr)**

**6. Exemptions:**

None.

12/80-ER1

\_\_\_\_\_  
By M.K. Carol Lee  
Senior Air Quality Engineer

\_\_\_\_\_  
Date

## EVALUATION REPORT

**Company** New United Motor Manufacturing Inc.  
**Application #** 8493  
**Plant #** 1438

### 1. Background:

New United Motor Manufacturing Inc. has applied for a Change of Conditions for S1012 Touch Up Booth to allow the usage of coating. Currently, Part 1 of Condition Number # 9166 prohibits the usage of coating. The current condition was a NUMMI self-imposed and requested condition, which they no longer want.

### 2. Emission Calculations:

Based on NUMMI's requested POC emissions limit for S1012 Touch Up Booth, the following cumulative increase is estimated for this source:

$$\text{POC} = 417 \text{ gallons/yr}(4.8 \text{ lbs/gal}) = 2002 \text{ lbs/yr} = 1.0 \text{ TPY}$$

### TOXICS

The estimated toxics from the touch-up coating used at S1012 Touch Up Booth are not estimated to exceed any toxics screen trigger level. Hence, a risk screening is not required.

### 3. Statement of Compliance:

The coatings used at S1012 Touch Up Booth are subject to and in compliance with Regulation 8-13-308, because coatings used are less than 4.8 pounds of VOC per gallon.

### Best Available Control Technology

Because the estimated worst-case daily emissions from this source is not estimated to exceed 10 pounds per day, Best Available Control Technology (BACT) review is not triggered.

### Offsets

The increase of emissions from S1012 will be contemporaneous offset by S1061, which was fully offset as part of Application Number 10741. One TPY of allowable emissions from S1061 will be subtracted from its emission limit (specified in Condition # 10484) to provide the needed offsets for S1012:

$$910 \text{ gals/yr}(2.2 \text{ lbs/gal}) = 2002 \text{ lbs/yr}$$

$$\text{New Limit for S1061} = \text{Existing Limit} - 910 \text{ gal/yr} = 12,018 - 910 = 11,108 \text{ gals/yr}$$

Per Regulation 2-2-605, the basis used to estimate the emission credits was reviewed to "ract-adjust" per Regulation 8-13-308. Review of the VOC limit (2.2 lb/gal) imposed by Part 4 of Condition # 10484, indicates that the limit imposed is already more stringent than that required in Regulation 8-13-308 (2.8 lbs/gal). As a result, no "ract-adjustment" was required. See Conditions Section for details of actual condition changes.

Regulation 10 - New Source Performance Standard and Regulation 11 - Hazardous Pollutants requirements are also not triggered. This application is exempt from the requirements of the California Environmental Quality Act (CEQA), per Regulation 2-1-312.11; an Appendix H form has been completed. The facility is not located within 1000 feet of any school. As a result, no public notification requirements are triggered.

**4. Conditions**

I recommend that Condition # 9166 be deleted and replaced with the following:

- 1. **The owner/operator of S1012 Touch Up Booth shall not exceed 417 gallons per year of touch up coating during any consecutive twelve-month period:  
(basis: Cumulative Increase)**
- 2. **The owner/operator may use coatings specified in Condition 9166 in excess of that limit specified in Part 1 of Permit Condition 9166, provided that the owner/operator can demonstrate that all of the following are satisfied:**
  - a. **Total POC emissions from S-1012 do not exceed 2002 pounds in any consecutive twelve month period;**
  - b. **The use of these materials does not increase toxic emissions above any risk screening trigger level.  
(basis: Cumulative Increase)**
- 3. **To determine compliance with the above conditions, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above conditions, including the following information:**
  - a. **Quantities of each type of coating used at this source on a monthly basis.**
  - b. **If a material other than those specified in Part 1 of Permit Condition 9166 is used, POC and toxic component contents of each material used; and mass emission calculations to demonstrate compliance with Condition 2, on a monthly basis;**
  - c. **Monthly usage and/or emission calculations shall be totaled for each consecutive twelve-month period.**

**All records shall be retained on-site for five years, from the date of entry, and made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations.  
(basis: Cumulative Increase)**

I recommend that Condition # 10484 be amended as follows:[underlines indicate additions, while strikethroughs indicate deletions]

COND# 10484 -----

For S1061, TRUCK AXLE COATING BOOTH W/POS, AND  
S1062, TRUCK AXLE OVEN: (Application # 10741; amended by  
Appication # 8493)

1. In no event shall the total annual coating emissions from Axle Booth (S1061) and Axle Oven (S1062) combined exceed ~~13.22~~12.22 tons per year of POC.  
(basis: Cumulative Increase)

2. The total coating usage for the sources listed in Condition 10484 shall not exceed the following specified limit unless NUMMI can demonstrate to the satisfaction of the APCO that a change in coating usage and/or composition will not result in emissions exceeding those in Part 1 of Condition 10484:

Off-Line Coating ~~12,018~~11,108 gallons per year  
(basis: Cumulative Increase)

3. Only High-Volume-Low-Pressure (HVLP), electrostatic, and/or APCO approved application equipment with equivalent or higher transfer efficiency shall be used to apply coatings. (basis: BACT)
  4. NUMMI shall not apply off-line coating in S-1061 and S-1062 having a VOC content in excess of 2.2 lbs/gal. [basis: ~~Regulation 8-13-308~~BACT]
  5. NUMMI shall use no solvent for purge cleaning of the paint lines. (basis: BACT)
  6. The VOC emissions per axle shall not exceed 0.087 lb per axle coated. (basis: BACT)
  7. NUMMI shall maintain the following data:
    - a) Operating time of this source.
    - b) Amount and type of coating applied, using the method specified in the EPA protocol.
    - c) Amount of clean-up solvent used.
    - d) Amount of coating and solvents purchased.
    - e) To verify compliance, monthly compliance reports showing coating and clean-up usage and total calculated emissions and averaged-monthly emissions per axle shall be submitted to the District Director of Enforcement. The format and content of the compliance reports must be submitted to the APCO for prior approval.
- All records required for Condition 10484 shall be available for District inspection for a period of at least 5 years following the date of entry. (basis: Cumulative Increase)
8. The particulate matter emissions from the booth (S1061) shall be abated by a venturi scrubber (A10612) and dry filter (A10613) with an overall control efficiency of 90%. (basis: BACT)
  9. The pressure drop across the venturi scrubber (A10612) and dry filter (A10613) shall not be less than 1 inch of water or greater than 5 inches of water. (basis: Regulation 2-6-409.2)
  10. A record of weekly pressure drop readings for the scrubber shall be maintained. In addition to pressure drop notations the record shall contain the time, date, and the name or initials of the individual taking the readings. Records shall be retained for a period of 5 years from the date of entry and made available to District staff upon request. (basis: Regulation 2-6-409.2)

**5. Authority to Construct:**

See Section 4.

**6. Exemptions:**

None.

12/80-ER1

\_\_\_\_\_  
By M.K. Carol Lee  
Senior Air Quality Engineer

\_\_\_\_\_  
Date



**APPENDIX B**  
**GLOSSARY**

**ACT**

Federal Clean Air Act

**APCO**

Air Pollution Control Officer: Head of Bay Area Air Quality Management District

**ARB**

Air Resources Board

**BAAQMD**

Bay Area Air Quality Management District

**BACT**

Best Available Control Technology

**Basis**

The underlying authority which allows the District to impose requirements.

**CAA**

The federal Clean Air Act

**CAAQS**

California Ambient Air Quality Standards

**CAPCOA**

California Air Pollution Control Officers Association

**CEQA**

California Environmental Quality Act

**CFR**

The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

**CO**

Carbon Monoxide

**Cumulative Increase**

The sum of permitted emissions from each new or modified source since a specified date pursuant to BAAQMD Rule 2-1-403, Permit Conditions (as amended by the District Board on 7/17/91) and SIP Rule 2-1-403, Permit Conditions (as approved by EPA on 6/23/95). Used to determine whether threshold-based requirements are triggered.

**District**

The Bay Area Air Quality Management District

**dscf**

Dry Standard Cubic Feet

**EPA**

The federal Environmental Protection Agency.

**Excluded**

Not subject to any District regulations.

**Federally Enforceable, FE**

All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAPs), Part 63 (MACT), and Part 72 (Permits Regulation, Acid Rain), including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

**FP**

Filterable Particulate as measured by BAAQMD Method ST-15, Particulate.

**HAP**

Hazardous Air Pollutant. Any pollutant listed pursuant to Section 112(b) of the Act. Also refers to the program mandated by Title I, Section 112, of the Act and implemented by 40 CFR Part 63.

**Major Facility**

A facility with potential emissions of: (1) at least 100 tons per year of regulated air pollutants, (2) at least 10 tons per year of any single hazardous air pollutant, and/or (3) at least 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity of hazardous air pollutants as determined by the EPA administrator.

**MFR**

Major Facility Review. The District's term for the federal operating permit program mandated by Title V of the Federal Clean Air Act and implemented by District Regulation 2, Rule 6.

**MOP**

The District's Manual of Procedures.

**NAAQS**

National Ambient Air Quality Standards

**NESHAPS**

National Emission Standards for Hazardous Air Pollutants. See in 40 CFR Parts 61 and 63.

**NMHC**

Non-methane Hydrocarbons (Same as NMOC)

**NMOC**

Non-methane Organic Compounds (Same as NMHC)

**NO<sub>x</sub>**

Oxides of nitrogen.

**NSPS**

Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

**NSR**

New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

**Offset Requirement**

A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of POC, NOx, PM10, and SO2.

**Phase II Acid Rain Facility**

A facility that generates electricity for sale through fossil-fuel combustion and is not exempted by 40 CFR 72 from Titles IV and V of the Clean Air Act.

**POC**

Precursor Organic Compounds

**PM**

Particulate Matter

**PM10**

Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

**PSD**

Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

**SIP**

State Implementation Plan. State and District programs and regulations approved by EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the Act.

**SO2**

Sulfur dioxide

**THC**

Total Hydrocarbons (NMHC + Methane)

**Title V**

Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

**TOC**

Total Organic Compounds (NMOC + Methane, Same as THC)

**TPH**

Total Petroleum Hydrocarbons

**TRMP**

Toxic Risk Management Plan

**TSP**

Total Suspended Particulate

**VOC**

Volatile Organic Compounds

**Units of Measure:**

bhp	=	brake-horsepower
btu	=	British Thermal Unit
cfm	=	cubic feet per minute
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inches
max	=	maximum
m <sup>2</sup>	=	square meter
min	=	minute
mm	=	million
MMbtu	=	million btu
MMcf	=	million cubic feet
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scfm	=	standard cubic feet per minute
yr	=	year