Bay Area Air Quality Management District

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Permit Evaluation and Statement of Basis for Renewal of the

MAJOR FACILITY REVIEW PERMIT

for

Tesla Motors, Inc.
Facility #A1438/E0459

Facility Address:
45500 Fremont Boulevard
Fremont, CA 94538

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November 2016

Application Engineer: Madhav Patil
Site Engineer: Madhav Patil

Title V Applications: 26604, 26709, 26780

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Title V Statement of Basis

A. Background

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Volume 40 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, of more than 100 tons per year of a regulated air pollutant, precursor organic compounds.

Major Facility Operating permits (Title V permits) must meet specifications contained in 40 CFR Part 70 as contained in BAAQMD Regulation 2, Rule 6. The permits must contain all applicable requirements (as defined in BAAQMD Regulation 2-6-202), 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 identifier that consists of a letter and a 4-digit number. This identifier is also considered to be the identifier for the permit. The identifier for this facility is E0459.

This facility, once belonging to New United Motor Manufacturing, Inc. (NUMMI), received its initial Title V permit under Application 16480 on December 18, 2002. A Significant Revision was made on December 13, 2004 to incorporate New Source Review (NSR) Applications 6914, 7048, 7119, 7151, 8370, 8419, and 8493. A Minor Revision to the original permit was made on October 24, 2007 under Application 12215 to modify permit condition numbers 9158, 9163, and 9164. The permit was renewed on June 3, 2010 under Application 16248. The initial permit was administratively amended on October 28, 2010 under Application 22696 to transfer ownership from NUMMI to Tesla Motors, Inc. (Tesla). Finally, the permit was administratively amended under Application 23195 on November 30, 2011 to delete 20 sources from Tables II, IV, and VII of the permit and to modify permit conditions applicable to the deleted sources. Applications 25144, 24584, 24333, 25443, and 26912 were for minor revisions involving casting operations to the existing Title V permit. The revisions included new equipment and permit condition changes that were evaluated by the District pursuant to New Source Review (NSR) Applications 24332, 24583, 25143, 25442, and 25969. Section X of the permit, Revision History, has a list of these revisions in chronological order.

Applications 26604 and 20709 are for Minor Revision involving Stator Line Multi-Station Machines 1 & 2 (S3729 & S3730), Crucible Aluminum Melting Furnaces (3731 & 3732), Thermal Oxidizer (A1002), Bumper Top Coat Booth (S57), High Pressure Die Cast Machine (S3733), Furnace (S3724), Truck Top Coat Booth (S1014), Powertrain Manufacturing and Assembly Operations (S3701), Powertrain Motor Line Coating and Assembly Operations (S3716), and General Cleaning and Painting Cleaning Operations (S30960). The current Title V permit renewal application 26780 was submitted on December 12, 2014. Table 1 below identifies these applications and their final actions.

Table 1. Summary of NSR Applications

NSR Application	Description	Title V Revision	New Sources	Outcome
24122	Modify permit conditions 9164 and 10320 to allow application of water-borne basecoats at Truck Topcoat Booth (S1014) and Bumper Topcoat Booth (S57) without abatement.	Minor	0	**Change of condition issued on 06/01/12 for** • **S57** • **S1014** **Conditions modified** • **9164 & 10320**
24131	A/C for Powertrain Manufacturing and Assembly Operations (S3701) and update Condition No. 14210 for S30960	Minor	1	**Waived A/C, Issued PO on 06/19/12 for** • **S3701 and;** **Condition Modified** • **14210 for S30960**
24332	New casting and pre-treatment equipment	Minor	12	**Waived A/C, Issued P/O 9/10/12** • S3702 and S3712 **Exempt Sources 9/10/12** • S3703, S3704, S3705, S3706, S3707, S3708, S3709, S3710, S 3711, S3714
24583	Limit S1056 to 10% of heat capacity in each consecutive 12-month period; replace existing burner on S1057 with low NO_x burner to derate S1057 from 25MMBtu/hr to 19.95 MMBtu/hr	Minor	0	**Waived A/C, Issued P/O and Permit Condition Updated 11/05/12** • S1056 and S1057 • Condition #9174
25143	High pressure die cast operation and update existing permit condition to include S3715	Minor	1	**Exempt Source 6/4/13** • S3715 **Permit Condition Updated 6/4/13** • Condition #25346
25204	Powertrain Motor Line Coating and Assembly Operation	Minor	1	**P/O Issued on July 03, 2013** • 3716 **Permit Condition Change July 03, 2013** • Condition #14210
25442	Change to existing permit condition to increase daily and annual production limit for S3702, change PM10 emission factor applicable to S3702, conduct yearly source test on S3702, and exempt S3712 from District permits	Minor	1	**Permit Condition Updated 7/3/13** • Condition #25346 **Exempt Source 7/3/13** • S3712
25969	A/C for Reverberatory Melter Furnace (S3724), Exemption letter for Holding Furnace (S3725), and Holding Furnace (S3726). Remove Fill Dosing Furnace (S3703) &	Minor	3	**Waived A/C, Issued P/O on 03/26/14** • **S3724** **Issued Exemption letter on 03/26/14** • **S3725** • **S3726** **Removed following sources from service**

Table 1. Summary of NSR Applications				
NSR Application	**Description**	**Title V Revision**	**New Sources**	**Outcome**
	Reverbatory Melt Furnace (3702)			• **S3703 & 3702**
26259	A/C for Stator Line 1 Multi-Station Machine (S3729), Stator Line 2 Multi-Station Machine (S3730) and update Condition No. 10320 for Instrument Panel Booth (S1070), and Instrument Panel Oven (S1071)	Minor	2	**Waived A/C, Issued P/O on 03/01/14** • **S3729** • **S3730** **Issued change of condition for** • **S1070 & S1071**
26511	A/C for Crucible Aluminum Melting Furnace (S3731), Crucible Aluminum Melting Furnace (S3732), Exemption Letter for High Pressure Die Cast Machine (S3733)	Minor	3	**Waived A/C, Issued PO on 03/01/14** • **S3731** • **S3732** **Issued Exemption letter for** • **3733**
26812	A/C for New North Paint Shop	Minor	26 Sources & 8 Abatement Devices	**A/C issued on July 09, 2015** • **S1003, S1008, S1009, S1013, S1014 S1015, S1803, S3008, S3009, S3014 S3015, S3016, S3017, S3018, S3025 S4004, S4005, S4006, S4007, S4008, S4009, S4010, S4011, S4012, S4013, S4014, A3008, A1008, A30083, A30145, A30165, A10083, A10146, A30166**
26899	A/C for Burner Replacement	Minor	0	**A/C Issued on Jan 28, 2015** • **A1002**
27587	A1002 Burner replacement	Minor	0	**Issued A/C for Thermal Oxidizer** • **A1002 Jan 06, 2016**
27388	Replace abatement devices A571 and A593	Minor	2 Abatement Devices	**Application in Process** • **A571** • **A593 Aug 10, 2015**
27731	Emergency Standby Diesel Engine Fire Pumps	Minor	2	**Application in Process** • **S4015** • **S4016**

B. NSR Permit Evaluation

Application No. 24122

Tesla applied to modify the following permit conditions 9164 and 10320 to allow application of water-borne basecoat at Truck Topcoat Booth (S1014) and Bumper Topcoat Booth (S57) without the requirement to abate the booths.

Application No. 24131

Tesla applied for an Authority to Construct Powertrain Manufacturing and Assembly Operations (S3701) and to modify the Permit Condition No. 14210 to lower POC emissions limit applicable to General

Cleaning and Paint Cleaning Operation (S30960) from 321.03 TPY to 316.06 TPY. The reduction in emissions from S30960 was used to offset the proposed increase in POC emissions from S3701.

Description of S3701 operation:

a) Batteries are received from supplier and inspected for defects. Defective batteries returned to supplier.
b) Batteries are placed into powertrain assemblage train (plastic shell) and an epoxy coating is used to secure the batteries in the shell.
c) Epoxy is inspected before sending to curing station.
d) Epoxy cured in curing station.
e) Shell removed from curing station and taken to acrylic application station.
f) Acrylic applied to powertrain assemblage at application station.
g) Acrylic inspected to ensure unit will meet quality standards.
h) Powertrain assemblage sent to acrylic curing station.
i) Acrylic cured at station.
j) Electrical connections attached to assemblage.
k) Assemblage stored for installation into designated vehicle.

Application No. 24332

Tesla applied for an Authority to Construct/Permit to Operate number of new casting and pre-treatment equipment. The PM_{10} emissions from casting operation are 4.128 tons/yr. Arsenic, cadmium, and nickel exceeded chronic trigger levels. Therefore, a risk assessment was completed in which District concluded that the risk levels were acceptable. S3702 is exempt from 40 CFR Part 63, Subpart RRR because Tesla's casting operations do not meet the definition of a secondary aluminum production facility. The casting process is as follows:

- Clean aluminum ingots are liquefied in *S3702, Melt Furnace*.
- Molten material is transferred from furnace to bull ladle.
- Metallurgy is checked and alloys of strontium and magnesium may be added to mixture to achieve desired material quality.
- Ladle transfers molten aluminum to *S3703, Fill Dosing Furnace*.
- S3703 is used to complete fusing of appropriate materials into final melt that is used for die cast operations.
- Once melted and taken to proper temperature, material is transferred to *S3704, High Pressure Die Cast*, to form the desired part. Molten metal is poured into die cast chamber and a hydraulically operated plunger seals the chamber and forces the metal into the locked die at high pressures.
- Casted parts are cooled using *S3705, Quench Tank*.
- Casted parts are transferred from quench tank to *S3706 and S3707, Solution Ovens*, for further processing. Parts are cooled with air blast and transferred to *S3708-S3710, Age Ovens*.
- Age ovens are used to temper casted parts.
- Parts are reviewed by quality control to ensure they meet production specifications.
- Parts are then sent to the *Computer Numerical Control (CNC) machining unit, S3711*. CNC uses computerized programming with laser technology to remove defects from finished casting. Using a mixture of Calcium Acetate, Foam Ban 1123 and Ultak 206, potential metallic chips are removed from finished cast.
- The casting is transferred from S3711 to *S3712, Pre-treatment Casting Operations*. The pre-treatment process is a multi-stage batch process and consists of a series of dip operations to clean and prepare the surface before actually applying any chemical film such as E-Coat, primer, topcoat, etc.

- S3714, Boiler, is fired exclusively with natural gas and is used to supply hot water to S3712.

Application No. 24583
Permit condition # 9174 was updated to ensure that S1056 uses less than 10% of its annual maximum heat capacity in order to comply with the low fuel usage limit exemption of Section 9-7-112.2. S1057 was altered to ensure compliance with the new limits in BAAQMD Regulation 9, Rule 7, Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters. The boiler was derated from 25 MMBtu/hr to 19.95 MMBtu/hr allowing it to be subject to a more current NOx limit. There was no increase in emissions associated with this application.

Application No. 25143
S3715 was exempt from permitting per District Regulation 2-1-122.5. Permit condition No. 25346 was modified to include S3715 per Tesla request.

Application No. 25204
Tesla applied for an Authority to Construct Powertrain Motor Line Coating and Assembly Operation (S3716) and to modify the permit condition No. 14210 to lower POC emissions limit applicable to General Cleaning and Paint Cleaning Operation (S30960) from 316.06 TPY to 310.76 TPY. The reduction in emissions from S30960 was used to offset the proposed increase in POC emissions from S3716.

Application No. 25442
Permit condition No. 25346 was modified to increase daily production for S3702 from 8 tons per day to 20 tons per day, to increase annual production limit from 1,920 tons to 5,000 tons, change PM_{10} emission factor applicable to S3702 from 4.3 lbs/ton to 0.10 lbs/ton of aluminum processed, add yearly source test condition for S3702, and exempt S3712 from permitting. There is no increase in emissions as a result of these changes. Arsenic, cadmium, and nickel exceeded chronic trigger levels. Therefore, a risk assessment was completed in which District concluded that the risk levels were acceptable. S3702 is exempt from 40 CFR Part 63, Subpart RRR because Tesla's casting operations do not meet the definition of a secondary aluminum production facility.

Application No. 25969
Tesla replaced S3703 (exempt source) with S3725 (exempt source), a new electric furnace, and added S3726, a second electric furnace, to accommodate an increase in production. S3725 and S3726 are exempt per Regulation 2-1-103 because both furnaces are powered electrically. Tesla also applied for an Authority to Construct to replace S3702 (Reverberatory Striko Melter Furnace) with S3724. Arsenic, chromium, cadmium, and nickel exceeded chronic trigger levels. Therefore, a risk assessment was completed in which District concluded that the risk levels were acceptable. PM_{10} emissions were 3.6 lbs/day. Therefore, BACT was not triggered. S3724 is exempt from 40 CFR 63, Subpart RRR because Tesla's casting operations do not meet the definition of a secondary aluminum production facility.
The above are minor revisions because they do not meet the definition of significant permit revision in BAAQMD Regulation 2-6-226, shown below:

2-6-226 Significant Permit Revision: Any revision to a federally enforceable condition contained in a major facility review permit that can be defined as follows:
226.1 The incorporation of a change considered a major modification under 40 CFR Parts 51 (NSR) or 52 (PSD);
226.2 The incorporation of a change considered a modification under 40 CFR Parts 60 (NSPS), 61 (NESHAPS), or Section 112 of the Clean Air Act (HAP);

226.3 Any significant change or relaxation of any applicable monitoring, reporting or recordkeeping condition;
226.4 The establishment of or change to a permit term or condition allowing a facility to avoid an applicable requirement, including:
4.1 a federally enforceable emission limit assumed in order to avoid classification as a modification under any provision of Title I of the federal Clean Air Act, or
4.2 an alternative hazardous air pollutant emission limit pursuant to Section 112(i) (5) of the Clean Air Act;
226.5 The establishment of or change to a case-by-case determination of any emission limit or other standard;
226.6 The establishment of or change to a facility-specific determination for ambient impacts, visibility analysis, or increment analysis on portable sources; or
226.7 The incorporation of any requirement promulgated by the U. S. EPA under the authority of the Clean Air Act provided that three or more years remain on the permit term.

The changes to the boilers and the installation of the new metal melting furnace are not major modifications pursuant to Sections 2-6-226.1 and 2-6-226.2. There is no significant change or relaxation to monitoring, recordkeeping, or reporting. No condition to avoid a federally-enforceable applicable requirement was established. S1057 was de-rated to avoid a lower NOx limit, but that limit is not in the SIP and is not federally-enforceable. No case-by-case determination of an emission limit was made. The revisions do not involve a facility-specific determination for ambient impacts, visibility analysis, or increment analysis. The revisions were not made to incorporate any new EPA requirement.

Application No. 26259

Tesla applied for two new stator resin impregnation lines (S3729 and S3730) and for change of condition to reduce emissions at S1070 and S1071. These two stator line machines carry both resin application and curing operations. Resin is applied to stator using a "trickle" method. Curing is achieved using short-wave infrared radiation, which does not generate emissions. The emissions from resins will exhaust to the atmosphere. The POC emissions from stator resin impregnation lines are above 10 lbs/day. Therefore, BACT is triggered. According to BACT analysis the total cost to install, maintain, and run carbon adsorber is $108,414 which is above BAAQMD Cost Effectiveness Threshold of $17,500. Therefore, it is not cost effective to install carbon adsorber.

The existing POC emissions at Tesla are 43.23 TPY. Offsets for the previous 43.23 tons per year of POC were provided by the applicant, but the offsets for the new increase are required. The total POC emissions from S-3729 and S-3730 are 2.84 (1.42 TPY +1.42 TPY) tons per year. These offsets were fully offset at S-1070 and S-1071. Therefore, POC emissions must be offset at a ratio of 1.0 to 1.0 pursuant to District Regulation 2-2-302. Tesla is required to provide 2.84 tons per year of offsets for S3729 and S3730. Therefore, Tesla reduced the emissions at S-1070 and S1071, and used those ERCs for the offset. S3729 and S3730 are exempt from 40 CFR Part 63, Subpart RRR because Tesla's casting operations do not meet the definition of a secondary aluminum production facility.

Application No. 26511

Tesla applied to install two Crucible Aluminum Melting Furnaces (S3731 and S3732) and one High Pressure Die Casting Machine (S3733). The furnaces melt the aluminum and fed into a high pressure die cast machine to create different automotive parts.

Process description is as follows:

A. Casting Process Description

a. Clean aluminum ingots as defined by Section (c) (2) of District Regulation 11, Rule 15 (Hazardous Pollutants – Airborne Toxic Control Measure for Emissions of Toxic Metals from Non-Ferrous Metal Melting) are liquefied in S3731 and 3732, Melt Furnaces.
    i. Metal Pour 355 is blended into melt to enhance metallurgical properties critical to final casted part.
b. Molten material is transferred from furnace to bull ladle.
c. Metallurgy is checked and alloys of strontium and magnesium may be added to mixture to achieve desired material quality.
    i. Argon is used to remove undesired impurities, typically hydrogen, from the melt.
d. Ladle transfers molten aluminum to fill dosing furnace.
e. Fill dosing furnace is used to complete fusing of appropriate materials into final melt that is used for die cast operations.
f. Once melted and taken to proper temperature, material is transferred to S3733, High Pressure Die Cast, to form the desired part. Molten metal is poured into die cast chamber and a hydraulically operated plunger seals the chamber and forces the metal into the locked die at high pressures.

Notes on S3733, High Pressure Die Cast:
Chamber molds are coated with mold release coatings and pre-heated before the molten metal is injected into it.

Once the part is removed from the die cast, the equipment is automatically lubricated. The lubricants are die case specific. The lubricant serves to both cool the surface to the proper temperature for the next cycle and to create a film on the die surface which allows for part release.

g. Casted parts are cooled using Quench tank, S-3705.
h. Casted parts are transferred from quench tank to Solution Furnaces, S-3706 and 3707, for further processing. Parts are cooled with air blast and transferred to Age Oven, S-3708 through S-3710.
i. Age ovens are used to temper casted parts.
j. Parts are reviewed by quality control to ensure they meet production specifications.
k. Parts are then sent to S-3711, Computer Numerical Control (CNC) machining unit. CNC uses computerized programming with laser technology to remove defects from finished casting. Using a mixture of Calcium Acetate, Foam Ban 1123 and Ultak 206, potential metallic chips are removed from finished cast.

Pre-treatment Basics: Casting is transferred from CNC machining unit to pre-treatment operations. The pre-treatment process is a multi-stage batch process and consists of a series of dip operations to clean and prepare the surface before actually applying any chemical film such as E-Coat, primer, topcoat, etc.

The parts are water rinsed between chemical stages to minimize solution carry over from tank to tank and to avoid cross contamination of the entire line. The aluminum parts are secured onto a frame (rack) that will be immersed into the different baths described below.

B. Pre-Treatment Process Description

a. Stage 1 –Parts are cleaned via immersion in 5% caustic solution. Mild cleaning agents are used to remove debris, loose particles, release agents, oils, cutting fluids from the surface.
b. Stage 2 – Parts are rinsed using Reverse Osmosis (RO) water.
c. Stage 3- Parts are immersed in 5% acidic solution. Solution will deoxidize the parts. The solution will remove the natural and unstable aluminum oxide layer from the surface part and provide a clean, consistent and reactive aluminum surface for conversion coating.
d. Stage 4 – Parts are rinsed using RO water.
e. Stage 5 – Parts are immersed in 5% titanium-zirconium solution. The titanium and zirconium chemicals react with the aluminum surface to create a coating capable of reacting with organic compounds such as paints, primers or adhesives.
f. Stage 6 – Parts are rinsed using RO water.
g. Stage 7 – Finished parts are dried and transferred to body weld.

S3733 is exempt from permitting per District's Regulation 2-1-122.5. The health risk screen analysis was completed for S3731 and S3732 in which District concluded that the risk levels are acceptable. PM_{10} emissions are below 10 lb/day. Therefore, BACT is not triggered. The PM_{10} emissions at Plant E0459 are below 100 TPY. Therefore, offsets are not triggered. S3731 and S3732 are exempt from 40 CFR Part 63, Subpart RRR because Tesla's casting operations do not meet the definition of a secondary aluminum production facility

Application No. 26812

Tesla applied to modify three existing paint shops that are referred to as North Paint Shop, Truck Line Paint Shop, and the Plastic Paint Shop. Sources that are part of the Truck Line Paint Shop will be merged with the North Paint Shop and sources that are part of the Plastics Paint Shop will be merged with the South Paint Shop. New equipment will also be added to the North Paint Shop. Total twenty-six sources and eight abatement devices will be installed at North Paint Shop. There will be two paint lines (Phase-I and phase-II) at North Paint Shop. The Phase-I construction is completed, but phase-II is still under construction. Tesla requested to include all the sources from Phase-I and phase-II into active Title V permit no. 26780. As per Tesla's request all the following sources are included into above Title V permit.

Project Scope

Tesla will relocate the following existing sources/abatement device from the South Paint Shop to the North Paint Shop:
Sources: S-1003, S-1008, S-1013, S-1014, S-1009, S-1015, S-1803,
Abatement Devices: A-1008

Tesla will continue to operate the following existing sources at the North Paint Shop:
Sources: S-3008, S-3014, S-3016, S-3009, S-3015, S-3017, S-3018, and S-3025.
Abatement Devices: A-3008

Tesla will construct the following new sources/abatement device at the North Paint Shop:
Sources: S-4004, S-4005, S-4006, S-4007, S-4008, S-4009, S-4010, S-4011, S-4012, S-4013, and S4014
Abatement Devices: A-10083, A-10146, A-30083, A-30145, A-30165, and A-30166

Tesla will relocate the following existing sources from the Plastics Shop to the South Paint Shop:
S-57, S-58, S-59, and S-65.

Tesla will continue to operate the following existing sources at the South Paint Shop:
S-1001 and S-1002.

Application No. 26899
Tesla applied to replace burner on existing Thermal Oxidizer A-1002 under application No. 26899. Authority to Construct and Permit to Operate was granted on Jan 28, 2015, and March 3, 2016, respectively. There will be no increase in emissions due to burner installation.

Application No. 27587
Tesla applied to replace burner on existing Thermal Oxidizer A-1002 under application No. 27587. Authority to Construct was granted on Jan 06, 2016. Applicant did not go through construction.

Application No. 27388
Tesla applied to replace A571 and A593 abatement devices. There will be no increase in emissions from replacement. Application is in process.

Application No. 27731
Tesla applied to install two emergency standby diesel engine fire pumps on Jan 12, 2016 at new facility. The new facility (Plant No. 23411) is located at 901 Page Avenue in Fremont, California.

Per District Regulations 2-6-206 any property, building, structure, or installation located on one or more contiguous or adjacent properties and under common ownership or control of the same person that emits or may emit any air pollutant and belongs to a single major industrial grouping identified by the first two-digits of the applicable code in The Standard Industrial Classification (SIC Code)) Manual shall be included as part of the source emissions.

The first two digits of SIC codes for both the Tesla facilities are not same. Therefore, the stationary sources at Plant No. 23411 and Plant No. 20459 are not considered as a group of stationary sources.

The Federal Register (45 FR 52695) dated August 7, 1980 explains that each source is to be classified according to its primary activity, which is determined by its principle product or group of products produced or distributed, or services rendered. Thus, one source classification encompasses both primary and support facilities, even when the latter includes units with a different two-digit SIC code. Support facilities are typically those which convey, store or otherwise assist in the production of the principal product.

Tesla support facility (Plant No. 23411) located at 901 Page Avenue in Fremont, CA is supplying car seats to primary Tesla facility (Plant No. 20459) located at 45500 Fremont Blvd, in Fremont, CA. Therefore, considering Federal Register (45 FR 52695) dated August 7, 1980 it proves that Tesla located at 901 Page Avenue in Fremont, California is a supporting facility for primary Tesla. Therefore, District is including above fire pumps into Title V permit application no. 26780.

C. Permit Content:
The legal and factual basis for the permit follows. The permit sections are described in the order presented in the permit. All proposed changes to the permit are shown in strikeout/underline format.

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities. If the Title IV (Acid Rain) requirements for certain fossil-fuel fired electrical generating facilities or the accidental release (40 CFR 68) programs apply, this section of the permit will contain a standard condition pertaining to these programs. Many of these conditions derive from 40 CFR 70.6, Permit Content, which dictates certain standard conditions that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit.

The standard conditions also contain references to BAAQMD Regulation 1 and Regulation 2. These are the District's General Provisions and Permitting rules.

Changes to Standard Conditions I

- The dates of adoption and approval of rules in Section I.A. will be updated
- The dates in Section I.B. will be updated
- Deleted number 14 under condition I. J.

II. Equipment

Section II of the Title V permit lists all permitted or significant sources and all abatement (control) devices that control emissions from permitted or significant sources. This section is considered to be part of the facility description. It contains information that is necessary for applicability determinations, such as fuel types and contents or sizes of tanks. This information forms part of the factual basis of the Title V permit.

Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Rule 2-1-302, whereas significant sources are sources that are exempt from District permit requirements but have the potential to emit (significant source is a source that has a potential to emit of more than 2 tons per year of a "regulated air pollutant," or 400 pounds per year of a "hazardous air pollutant," as defined in BAAQMD Rule 2-6-239). Each source is identified by an S and a number (e.g., S1014).

Tesla consists of seventy-two (72) permitted sources, One hundred and sixty-three (164) exempt sources, and Zero significant sources.

Permitted Sources:

The permitted sources are listed in Table II A. By definition, each of the permitted sources at this facility has previously been issued a District permit to operate pursuant to the requirements of BAAQMD Regulation 2 (Permits). These District permits to operate are issued in accordance with state law and the District's regulations. The capacities listed in Table II A are the maximum allowable capacities for each source, pursuant to Standard Condition I.J. and BAAQMD Regulation 2-1-403.

Abatement Devices:
Abatement devices are devices that control emissions from a source. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A1008). If a source is also an abatement device, such as when an engine controls VOC emissions, it will be listed in the abatement device table but will have an "S" number. An abatement device may also be a source (such as a thermal oxidizer that burns fuel) of secondary emissions. If the primary function of a device is to control emissions, it is considered an abatement (or "A") device. If the primary function of a device is a non-control function, the device is considered to be a source (or "S").

The Tesla has total nineteen abatement devices. Fourteen abatement devices (592, 1002, 1007, 1008, 3008, 3716, 10083, 10146, 30083, 30145, 30165, 30166, 30167, and 30168,) are in service and five abatement devices (1009, 1015, 3016, 10141, and 10142) are sitting idle. The abatement devices are listed in Table II-B.

Significant Sources:
Emissions at one hundred and sixty-three (164) exempt sources are below 2 TPY. Therefore, the exempt sources at Tesla are not considered as significant sources.

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.

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They may, however, be specifically described in a Title V permit if they are considered a significant source pursuant to the definition in BAAQMD Rule 2-6-239.

<u>Changes to Generally Applicable Requirements</u>

- The dates of adoption and approval of rules in Table III will be updated

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 rules 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 permits conditions. The text of the 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 the monitoring requirements. A discussion of monitoring is included in Section C.VII of this permit evaluation/statement of basis.

Applicability of 40 CFR Part 60, Subpart MM

Some of the sources at the facility are subject to 40 CFR 60, Subpart MM, Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations, because they are a prime coat operation, guide coat operation or topcoat operation in an automobile or light-duty truck assembly plant, and because they were built or modified after December 24, 1980. Section IV of the permit, Source-Specific Applicable Requirements, shows which particular sources are subject to the above Regulations.

Exempted from the provisions of this subpart are operations used to coat plastic body components or all-plastic automobile or light-duty truck bodies on separate coating lines. The attachment of plastic body parts to a metal body before the body is coated does not cause the metal body coating operation to be exempted.

Applicability of 40 CFR Part 60, Subpart A

40 CFR Part 60, Subpart A are the general provisions for 40 CFR Part 60, and specifies the regulations apply to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of issuance of any part of any standard.

Applicability of 40 CFR Part 63, Subpart B

Clean Air Act Section 112(j): The 1990 Amendments to section 112 of the Clean Air Act included a new section 112(j), which is entitled "Equivalent Emission Limitation by Permit." Section 112(j)(2) provides that the provisions of section 112(j) apply eighteen months after the EPA misses a deadline for promulgation of a standard under section 112(d) established in the source category schedule for standards. The EPA missed the deadline for several MACTs, as noted below.

On May 20, 1994, EPA issued a final rule (40 CFR 63, Subpart B) for implementing section 112(j). That rule requires major source owners or operators to submit a permit application 18 months after a missed date on a regulatory schedule. 40 CFR 63, Subpart B also establishes requirements for the content of the permit applications and contains provisions governing the establishment of the maximum achievable control technology (MACT) equivalent emission limitations by the permitting authority.

At this time no MACT standards that would apply to this facility are subject to the Clean Air Act Section 112(j) process.

Applicability of 40 CFR Part 63, Subpart IIII

40 CFR Part 63, Subpart IIII, National Emissions Standards for Hazardous Air Pollutants: Surface Coating of Automobile and Light Duty Trucks promulgates national emission standards for automotive and light-duty truck surface coating operations located at major sources of hazardous air pollutants (HAPS). The rule implements section 112(d) of the Clean Air Act requiring automotive and light duty truck coating operations to meet HAP emissions standards reflecting the application of the maximum achievable control technology (MACT).

The following Title V sources are subject to 40 CFR Part 63, Subpart IIII, National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light Duty Trucks, per 40 CFR Part 63 § 63.3082 which specifies:

(a) This subpart applies to each new, reconstructed, and existing affected source.

(b) The affected source is the collection of *all* items listed in paragraphs (b)(1) through (4) of this section that are used for surface coating of new automobile or new light-duty truck bodies, or body parts for new automobiles or new light-duty truck
(1) All coating operations as defined in § 63.3176
(2) All storage containers and mixing vessels in which coatings, thinners, and cleaning materials are stored and mixed (3) All manual and automated equipment and containers used for conveying coatings, thinners, and cleaning materials.
(4) All storage containers and all manual and automated equipment and containers used for conveying waste materials generated by a coating operation.

(c) In addition, you may choose to include in your affected source, and thereby make subject to the requirements of this subpart, any coating operations, as defined in §63.3176, which would

otherwise be subject to the National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products (subpart MMMM of this part) or the National Emission Standards for Hazardous Air Pollutants for Surface Coating of Plastic Parts and Products (subpart PPPP of this part).

§63.3176 define coating operations as following "*Coating operation* means equipment used to apply coating to a substrate (coating application) and to dry or cure the coating after application. A single coating operation always includes at least the point at which a coating is applied and all subsequent points in the affected source where organic HAP emissions from that coating occur. There may be multiple coating operations in an affected source.
The following sources listed in Tesla's Permit to Operate are not subject to the 40 CFR 63 standards:

Source No.	Source Description
826	Passenger BAYCO Parts Cleaning Oven
1004	Truck Metal Repair Booth
1060	Emergency Standby Generator
1600	Emergency Standby Generator
1601	Emergency Standby Generator
1602	Emergency Standby Generator
1603	Emergency Standby Generator
1604	Emergency Standby Generator
4015	Emergency Standby Diesel Engine Fire Pump
4016	Emergency Standby Diesel Engine Fire Pump
3018	Dry Sanding Booth #1
1003	Dry Sanding Booth #2
3020	Wet Sanding Booth #1
1011	Wet Sanding Booth #2
3701	Powertrain Manufacturing & Assembly Operations
3716	Powertrain Motor Line Coating & Assembly Operations
3724	Reverberatory Aluminum Melt Furnace
3731	Crucible Aluminum Melting Furnace 1
3732	Crucible Aluminum Melting Furnace 2
4009	Oven #3 (Wet Sanding Booth #1)
1013	Oven #8 (Wet Sanding Booth #2)
2826	Plastic Plant Bayco Cleaning Oven
32001	Miscellaneous Air Supply Houses
32002	Miscellaneous Door Air Heaters
32003	Miscellaneous Boilers

All Title V sources not listed in the above referenced table are subject to the 40 CFR Part 63 standards.

The facility is required to determine the overall control efficiency for their capture and control systems based upon emission capture and reduction (destruction) efficiency using established EPA protocols.

The facility is required to determine the capture efficiency, transfer efficiency, and control efficiency for primer-surfacer and topcoat materials and for all coatings except for deadener, adhesive and sealer that are not components of glass bonding systems.

Facility HAPS emissions cannot exceed 0.60 lbs HAP per gallon of applied coated solids. Actual emissions must be calculated utilizing coating volume, organic HAP content, and volume of solids content for each coating applied, as well as transfer efficiency for the coatings and spray equipment used, and the overall control efficiency for controlled booths, ovens and other controlled emission sources.

The facility is required to develop and implement work practice standards and plans to minimize organic HAP emissions from the storage, mixing and conveying of coatings, thinners, and cleaning materials used in and waste materials generated by all coating operations for which emission limits are established.

The facility is required to develop and implement a startup-shutdown-malfunction plan for all emission capture and control systems. All start-ups, shutdowns and malfunctions applicable to the control equipment must be documented and those records maintained and readily available for review, for a minimum of 5 years.

Applicability of 40 CFR 64, Compliance Assurance Monitoring
Per 40 CFR 64.2(a), emission units (as defined in 40 CFR parts 64.1 and 70) will be subject to 40 CFR 64, Compliance Assurance Monitoring, if the units are subject to a federally enforceable requirement for a pollutant, the pollutant is controlled by an abatement device, and the emissions of the pollutant before abatement are more than 100% of the major source thresholds.

The definition of emission unit is as follows:
Emissions unit means any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant or any pollutant listed under section 112(b) of the Act. This term is not meant to alter or affect the definition of the term "unit" for purposes of title IV of the Act.

It is not exactly equivalent to the BAAQMD's definition of source in BAAQMD Regulation 2-1-221, which states:
Source: Any article, machine, equipment, operation, contrivance or related groupings of such which may produce and/or emit air pollutants.

In this case, the emission unit is similar to the "related groupings." Various sources are controlled by one abatement device. Some of the emission limits apply to a group of sources that are abated by one abatement device. This "grouping" will be considered to be an emission unit for the purposes of 40 CFR 64.

Coating sources at Tesla are subject to CAM because they have federally enforceable VOC limits, and are abated by thermal oxidizers, and because the VOC emissions before abatement are greater than 100 tons/yr.

Following is a discussion of the federally enforceable emission limitations.

BAAQMD Regulation 8, Rule 13, Light and Medium Duty Motor Vehicle Assembly Plants, imposes federally enforceable limits on these sources. The limits are in terms of g VOC/l of coating as applied or control by an abatement device to an equivalent level. Tesla uses abatement devices to meet more stringent BAAQMD BACT limits, but does not use them to meet the g/l limits. Instead, Tesla adheres to the g/l limits by limiting the concentration of VOC in the coating. 40 CFR 64.2(a) (2) only requires CAM if "[T]he unit uses a control device to achieve compliance with any such emission limitation or standard" Since Tesla does not use the control device to achieve compliance with the standard, CAM does not apply to the limits in BAAQMD Regulation 8, Rule 13.

40 CFR 60, Subpart MM, Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations, also imposes federally enforceable limits on these sources. The limits are in terms of kg VOC/l of coating as applied or control by an abatement device to an equivalent level. Tesla uses abatement devices to meet more stringent BAAQMD BACT limits, but does not use them to meet the kg/l limits. Instead, Tesla adheres to the VOC limits by limiting the concentration of VOC in the coating. 40 CFR 64.2(a) (2) only requires CAM if "[T]he unit uses a control device to achieve compliance with any such emission limitation or standard." Since Tesla does not use the control device to achieve compliance with the standard, CAM does not apply to the limits in 40 CFR 60, Subpart MM.

Pursuant to 40 CFR 64.2(b) (1), CAM does not apply to limits in the NSPS or NESHAPS that were promulgated after November 15, 1990. Therefore, CAM does not apply to the federally enforceable limits in 40 CFR 63, Subpart IIII—National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks. These standards are presumed to contain adequate monitoring.

The remaining federally enforceable limits are contained in BAAQMD permit conditions, which impose limits on the total amount of VOC that is emitted, on destruction efficiency, and on temperature.

In 40 CFR 64.3, Monitoring Design Criteria, the requirements for sources that emit more than 100 tons/yr after abatement are more stringent than the requirements for sources that emit less than 100 tons/yr after abatement. It is possible that the abated sources at the facility could be split into two groups based on the emissions after abatement, and that CAM plans could be designed for each group. However, Tesla has decided to implement the same, more stringent, CAM plan for all abated sources for the sake of simplicity.

In accordance with 40 CFR 64.3(a), continuous temperature monitoring will be used as CAM monitoring. Temperature is a well-accepted parameter for destruction efficiency for VOC in thermal oxidizers. Tesla has tested these thermal oxidizers for many years and has determined that the temperature limits in the permit conditions correspond to more than the destruction efficiency required by the permit conditions. The temperature limits and corresponding destruction efficiencies are as follows:

Abatement device	Sources Controlled	Temperature limit	Destruction efficiency and Limits	Applicable Permit Condition	Temperature Excursion Permit Condition
A30167	S57, S58, S59, S65	1400	95% or more	10321 Parts 12 and 13 & 10320 Parts 18 and 19	10321 Part 19 & 10320 Parts 24 and 25
A1002	S1002	1400 ^{o}F	95% or more	9158 Parts 2(a), 2(b), and 2(c)	9158 Part 9
A1007	S1007	1400 ^{o}F	95% or more	9158 Parts 2(a), 2 (b), and 2(c)	9158 Part 9
A1008	S1008	1400 ^{o}F	NOx ≤ 11.94 TPY and ≤ 1.49 tons/month, CO ≤ 47.79 TPY and ≤ 5.97 tons/month, POC ≤ 0.32 TPY and ≤ 80 lbs/month, PM10 ≤ 0.44 TPY and ≤ 110 lbs/month, SO2 ≤ 0.04 TPY and ≤ 10 lbs/month	26027 Parts J.1. & J.5.	26027 Part J.9.
A3008	S3008, S3009	1400 ^{o}F	NOx ≤ 11.94 TPY and ≤	26027 Parts J.1.	26027 Part J.9.

Abatement device	Sources Controlled	Temperature limit	Destruction efficiency and Limits	Applicable Permit Condition	Temperature Excursion Permit Condition
			1.49 tons/month, CO ≤ 47.79 TPY and ≤ 5.97 tons/month, POC ≤ 0.32 TPY and ≤ 80 lbs/month, PM10 ≤ 0.44 TPY and ≤ 110 lbs/month, SO2 ≤ 0.04 TPY and ≤ 10 lbs/month	& J.5.	

Permit conditions require that the temperature measuring and recording instruments be installed, calibrated and maintained according to the manufacturer's specifications, so the requirements for representative data in 40 CFR 64.3(b)(1), verification procedures in 40 CFR 64.3(b)(2), and quality assurance and control practices in 40 CFR 60.3(b)(3) are met.

Temperature data is recorded continuously, so the criteria of data collection at least 4 times per hour in 40 CFR 64.3(b) (4) (ii) is met.

If the temperatures are above the limits in the permit conditions and annual source testing shows that the temperatures correspond to the destruction efficiency in the permit conditions, Tesla will be able to use their record keeping to determine the mass VOC emissions going to the thermal oxidizer and calculate the emissions from the thermal oxidizer with confidence. Tesla will then add these emissions to the emissions from their unabated coating booths on a monthly basis and determine if they are in compliance with their annual limits, which are calculated on a rolling consecutive 12-month basis.

Section 64.6(c) (2) requires that the permit contain the method by which the owner/operator will define an exceedances or excursion. The permit conditions state that an exceedance occurs when the temperature drops below the limit set in applicable parts of the various permit conditions. Standard District permit conditions regarding temperature exceedances are allowed without penalty.

Section 64.6(c) (1) (ii) states that the permit must contain the devices used to measure the indicators. The permit conditions do contain the devices.

Section 64.6(c) (1) (iii) states that the permit must contain the performance requirements. Parts of different applicable permit conditions contain the requirement to develop performance requirements for the temperature monitor.

Section 64.6(c) (3) states that the owner/operator must conduct the monitoring. This obligation is contained in the permit conditions.

Section 64.6(c) (4) states that data availability may be specified, if appropriate. The temperature monitoring at Tesla is well established and there have not been problems with data availability, so additional requirements are not appropriate at this time. However, the temperature monitor is subject to the provisions of BAAQMD and SIP Regulation 1-523, which address periods of non-operation for parametric monitors. These provisions will assure data availability. If long periods of non-operation are reported by the facility, the District may impose additional data availability requirements.

Section 64.6(d) requires a schedule for monitoring that requires installation, testing, or final verification. The temperature monitoring at Tesla is well established. These requirements have already been fulfilled.

Section 64.7 contains requirements for operation of monitoring and does not need any additional permit terms beyond inclusion of the citation in the permit.

Section 64.8 contains optional requirements for a Quality Improvement Plan. This plan would be required if there were problems with the existing monitoring strategy. Problems are not anticipated at the time of writing.

Sections 64.9, Reporting and record keeping requirements, and 64.10, Savings Provisions, do not need any additional permit terms beyond inclusion of the citation in the permit.

40 CFR Part 63 Subpart ZZZZ-National Emission Standards for Hazardous Air Pollutants from Stationary Reciprocating Internal Combustion Engines

This standard applies to Reciprocating Internal Combustion Engines located at Area and Major Sources of Hazardous Air Pollutants. The facility operates several diesel engines shown below that are subject to this standard.

S-1600, Emergency Standby Diesel Engine, Caterpillar, 603 hp.
S-1601, South Paint Shop, Emergency Standby Diesel Engine, Caterpillar, 1199 hp.
S-1602, Security, Emergency Standby Diesel Engine, Caterpillar, 75 hp.
S-1603, Hazardous Material Building, Emergency Standby Diesel Engine, Kohler, 102 hp.
S-1604, Waste Water Treatment Plant, Emergency Standby Diesel Engine, Kohler, 102 hp.

S-4015, Emergency Standby Diesel Engine Fire Pump, Clarke, 399 hp.
S-4016, Emergency Standby Diesel Engine Fire Pump, Clarke, 175 hp.

Changes to permit:

- Dates of adoption of rules have been updated in all required tables in Section IV
- All the conditions are updated
- Condition missing parts are added and renumbered
- Deleted following sources: S61 (Passenger Blackout Chassis Booth), S71 (Passenger Cavity Wax Booth), S437 (CPI Separator Storage Tank), S592 (NSP Passenger Elpo Resin Storage Tank), S593 (NPS Passenger Elpo Pigment Storage Tank), S794 (Cold Cleaner), S801 (Sampling Plant Fugitive Solvent Emissions), S804 (Passenger Fugitive Repair Priming), S806 (GDF #6340), S1017 (Truck Touch Up Booth), S1053 (Truck Wax Dry Off Booth (Electric)), S1056 (Truck ASH Boiler #1), S1057 (Truck ASH Boiler #2), S1070 (Instrument panel Booth), S1071(Instrument Panel Oven), and S1901 (Offline Expert Final repair Area/Booth) as these sources are no longer in service.
- Added following sources: S3701 (Powertrain Manufacturing & Assembly Operations) A, S3716 (Powertrain Motor Line Coating & Assembly Operations), S3729 (Stator Line Multi-Station Machine), S3730 (Stator Line Multi-Station Machine), S3731 (Crucible Aluminum Melt Furnace-1), S3732 (Crucible Aluminum Melt Furnace-2), S4004 (Pre Treatment Tank System), S4005 (E-Coat System), S4006 (Oven #1 E-Coat) , S4007(Sealing Station #1), S4008 (Sealing Station #3), S4009 (Oven #3 Wet Sanding Booth #1), S4010 (Oven #5 clear Coat), S4011 (Oven #6 E-coat), S4012 (Sealing Station #4), S4013 9Sealing Station #6), and S4014 (Spray Booth #6 (Clear Coat)).
- Deleted abatement devices: A571 (Plastic Plant Thermal Oxidizer), A593 (Bumper Prime Booth Dry Filter), A1009 (Truck Primer Oven Thermal Oxidizer), A1015 (Truck Topcoat Oven Thermal Oxidizer), A3010 (NPS ELPO Oven Thermal Oxidizer), A3014 (NPS Topcoat #1 Thermal Oxidizer), A3016 (NPS Topcoat #2 Thermal Oxidizer), 10081 (Prime Booth Dry Filter), A10082 (Truck Prime Booth Carbon Concentrator removed from service), A10141 (Truck Topcoat (Basecoat) Thermal Oxidizer), A10142 (Truck Topcoat (Clear coat) Booth Thermal Oxidizer), A10143 (Topcoat Booth (Clear Coat) Carbon Concentrator removed from service), 10144 (Top coat Booth (Basecoat) Carbon Concentrator), 10145 (Topcoat Booth Dry Filter), 10703 (Dry Filter), 10704 IP Booth Water Contact Scrubber), 30141 (NPS Topcoat Booth #1 Dry Filter), 30143 (NPS Topcoat Booth #1 Dry Filter), 30161 (NPS Topcoat Booth #2 Dry Filter), and 30163 ((NPS Topcoat Booth #2 Dry Filter).
- Added New Abatement Devices: 10083 (Prime Spray Booth #4 E-Scrub), 10146 (Basecoat Spray Booth #5 E-Scrub), 30083 (Prime Spray Booth #1 E-Scrub), 30145 (Basecoat Spray Booth #2 E-Scrub), 30165 (Primer Spray Booth #3 E-Scrub), 30166 (Basecoat Spray Booth #6 E-Scrub), A30167 (Plastic Plant Thermal Oxidizer), and A30168 (Bumper Prime Booth Dry Filter),
- Renumbered tables.
- Introduced, applicable requirements per EPA Regulation 40 CFR Part 63, Subpart IIII, National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light Duty Trucks, 40 CFR 60 Subpart A for General Provision, and 40

CFR 60 Subpart MM, Standard of Performance for Automobile and Light Duty Truck Surface Coating Operations as required.
- Added BAAQMD Regulation.

Table IV-A
- Changed BAAQMD Regulation 1 "General Provisions and Definitions" date of adoption from 7/09/08 to 5/4/11.
- Following Parts of Permit Condition No. 10320 have been renumbered from 19, 20, 21, 22, 23, 24, 26, 27, 28, 47, 48, 49, and 50 to 18, 19, 20, 21, 22, 23, 24, 25, 26, 35, 36, 37, and 38, respectively.
- Changed Part 3 of BAAQMD Permit Condition No. 10320 from "Requirements" to "Limitations".
- Changed Part 10 of Permit Condition No. 10320 from "Usage" to "VOC Contents" and changed Statement of Basis from "Cumulative Increase, MOP Volume II, Part 3, Section 4.7" to "BACT, Cumulative Increase".
- Changed abatement device No. from A571 to A30167 in BAAQMD Permit Condition No. 10320, Part 32.
- Added Part 27, 35, and 36 to BAAQMD Permit Condition No. 10320.

Table IV-B (Deleted) (Table from Previous Title V permit)
- Deleted above table because S61 and S804 have been removed from service on Aug 01, 2011 and Jun 02, 2015 respectively.

Table IV-D (Deleted) (Table from Previous Title V permit)
- Deleted above table because S71 has been removed from service on Aug 01, 2011.

Table IV-F (Deleted) (Table from Previous Title V permit)
- Deleted above table because S794 has been removed from service on June 07, 2013.

Table IV-I (Deleted) (Table from Previous Title V permit)
- Deleted above table because S437 has been removed from service on May 16, 2013.

Table IV-J (Deleted) (Table from Previous Title V permit)
- Deleted above table because S592 has been removed from service on Jan 25, 2016.

Table IV-K (Deleted) (Table from Previous Title V permit)
- Deleted above table because S593 has been removed from service on Jan 25, 2016.

Table IV-L (Deleted) (Table from Previous Title V permit)
- Deleted above table because S801 has been removed from service on Jun 02, 2015.

Table IV-B

- BAAQMD Permit Condition No. 207 Parts 10 e and 10f have been repeated. Therefore, deleted from above condition.

Table IV-O (Deleted) (Table from Previous Title V permit)

- Deleted above table because S806 has been removed from service on May 1, 2012.

Table IV-F

- Changed BAAQMD Regulation 1 "General Provision and Definitions" date of adoption for S1002 from 7/09/08 to 5/4/11.

Table IV-G

- The Dry Sanding Booth #2 (S1003) has been moved from previous Title V Table IV-G to Table IV-AE with Dry Sanding Booth #1 (S3018) because S1003 and S3018 have similar functions and process same material. Therefore, similar Regulations will be applicable to both the sources.
- Wet Sanding Booth #2 (S1011) does not have any emissions. Therefore, S1011 is exempt from permitting requirements and not included in Title V permit because it is not a significant source.

Table IV-J

- BAAQMD Regulation 1 "General Provision and Definitions" date of adoption for S1007 has been changed from 7/09/08 to 5/4/11.

Table IV-K

- Renamed S1008 from "Truck Prime Booth" to "Spray Booth #4 (Primer)".
- Renamed S3008 from "NPS Prime Booth" to "Spray Booth #1 (Primer)" and moved from previous Title V Table IV-AW to Table IV-K with S1008 because S1008 and S3008 have similar functions and process same material. Therefore, similar Regulations will be applicable to both the sources.
- Changed BAAQMD Regulation 1 "General Provision and Definitions" date of adoption from 7/09/08 to 5/4/11.
- Added EPA Regulation 40 CFR Part 63.3090(b).
- Replaced BAAQMD Permit Condition No. 9156 and 9163 with BAAQMD Permit Condition No. 26027.

Table IV-L

- Renamed S1009 from "Truck Primer Oven" to "Oven #7 (Primer)".
- Renamed S3009 from "NPS Prime Oven" to "Oven #2 (Primer)" and moved from previous Title V Table IV-AX to Table IV-L with S1009 because S1009 and S3009 have similar functions and process same material. Therefore, similar Regulations will be applicable to both the sources.

- Changed BAAQMD Regulation 1 "General Provision and Definitions" date of adoption from 7/09/08 to 5/4/11.
- Replaced BAAQMD Permit Condition No. 9156 and 9158 with BAAQMD Permit Condition No. 26027.

Table IV-M

- Deleted S1017 from above table because S1017 has been removed from service on Oct 21, 2003.
- Changed BAAQMD Regulation 1 "General Provision and Definitions" date of adoption from 7/09/08 to 5/4/11.
- Deleted BAAQMD Permit Condition No. 9156 Part 8 because per Application No. 3611 Table II, S1010 is not using natural gas. The engineering evaluation for Applications 3611 is in Appendix B.

Table IV-O

- Renamed S1014 from "Truck Topcoat Booth" to "Spray Booth #5 (Basecoat)".
- Renamed S3014 from "NPS Top Coat Booth #1" to "Spray Booth #2 (Basecoat)" and moved from previous Title V Table-AY to Table-O with S1014 because S3014 and S1014 have similar functions and process same material. Therefore, similar Regulations will be applicable to both the sources.
- Changed BAAQMD Regulation 1 "General Provision and Definitions" date of adoption from 7/09/08 to 5/4/11.
- Replaced BAAQMD Permit Condition No. 9156 and 9164 with BAAQMD Permit Condition No. 26027.

Table IV-P

- Renamed S1015 from "Truck Topcoat Oven" to "Oven #10 (Clear Coat)".
- Added Oven #5 (S4010) to the above table because Oven #10 (S1015) and Oven #5 (S4010) have similar functions and process same material. Therefore, similar Regulations will be applicable to both the sources.
- Changed BAAQMD Regulation 1 "General Provision and Definitions" date of adoption from 7/09/08 to 5/4/11.
- Replaced BAAQMD Permit Condition No. 9156 and 9158 with BAAQMD Permit Condition No. 26027.

Table IV-U

- Renamed S1601 from "Truck Paint Emergency Standby Diesel Engine" to "South Paint Shop Emergency Standby Diesel Engine".
- Added S4015 and S4016 Emergency Standby Diesel Engine Fire Pumps.
- Added ATCM Regulation 93115.10(d)(1) and 93115.12.
- Added condition no. 22850 for S4015 and S4016 Emergency Standby Diesel Engine Fire Pumps.

The requirement for permits for Standby Emergency Engines is not federally enforceable because SIP Regulation 2, Rule 1 still has an exemption for standby engines.

BAAQMD Regulation 9, Rule 8, as adopted on January 20, 1993, did not apply to engines under 250-hp, liquid-fueled engines, or emergency standby engines. On August 1, 2001, the rule was amended to include hours of operation limits for emergency standby engines. On July 25, 2007, the rule was amended to include limits for non-emergency liquid fueled engines and engines under 250-hp. These new limits were effective on January 1, 2012. Since the engines at this plant are emergency standby engines, they will only be subject to the following sections of the rule: 9-8-330, 9-8-502.1, and 9-8-530, which essentially restrict the hours of operation for standby engines. These provisions are not federally enforceable because the SIP rule is the 1993 rule.

On November 8, 2004, the California Air Resources Board (CARB or ARB) adopted an Air Toxics Control Measure (ATCM) for stationary diesel engines, which was effective on January 1, 2005. The measure restricted the hours of operation for older standby engines and required controls and/or lower emission rates for prime and new standby engines. Since the ATCM is a state standard, it is not federally enforceable.

Following is a discussion of the requirements of the ATCM.
Section 93115.5 requires the use of CARB diesel or several alternatives. The owner/operator will comply by burning CARB diesel.

The operating requirements and emissions standards are contained in Section 93115.6.

The S1060, S1600, S1601, S1602, S1603, and S1604 are not subject to Section 93115.6(a) because they are not new as defined by the ATCM.

Section 93115.6(a)(4)(A)(c) allows the owner/operator of S4015 and S4016 fire pumps to operate no more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25 “Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems”.

The engines are not subject to Section 93115.6(b)(1) of the ATCM because the BAAQMD permit does not allow operation in anticipation of a rotating outage.

The engines are not subject to Section 93115.6(b)(2) of the ATCM because the engines are not located within 1000 feet of a school.

Section 93115.6(b)(3)(A) allows the owner/operator to choose 20 hours of operation for maintenance and testing, to show that the engine has particulate emissions below 0.15 g/bhp, or to control the particulate emissions of the engine by 85%. The owner/operator has chosen to operate **S1060, S1600, S1601, S1602, S1603, and S1604,** engines for less than 20 hours/year for maintenance and testing. Because **S4015, and S4016** are fire pumps the owner/operator has 50

hours/year for maintenance and testing. An unlimited number of hours are allowed during emergencies.

Section 93115.6(b)(3)(A)(2), which allows more hours for maintenance and testing in certain cases is not cited because the owner/operator will comply by not operating S1060, S1600, S1601, S1602, S1603, and S1604 for more than 20 hr/yr for maintenance and testing.

The engines are not subject to Section 93115.6(b)(3)(B) because the owner/operator is not using an emission control strategy that is not verified through CARB's Verification Procedure.

The engines are not subject to Section 93115.6(b)(3)(C) because the District has not established more stringent standards for these engines.

The engines are not subject to Section 93115.6(c) because the engines are not being used in a demand response program.

The requirements of 93115.7 are not cited because these requirements are for prime engines.

The requirements of 93115.8 are not cited because these requirements are for agricultural engines.

The requirements of 93115.9 are not cited because these requirements are for new engines under 50-hp.

The notification requirements of Section 93115.10(a) are not cited because the requirements have already been met.

The requirements of Section 93115.10(b) have not been cited because they apply only to sellers of engines.

The notification requirements of Section 93115.10(c)(1) are not cited because the engines are not exempt from requirements pursuant to Sections 93115.3 or 93115.8(a)(2).

The requirements of Section 93115.10(c)(2) have not been cited because the reporting requirements have already been met.

The engines are subject to the requirement in Section 93115.10(d)(1) to have a non-resettable hour meter.

Section 93115.10(d)(2) is not cited because the engines do not have diesel particulate filters.

Section 93115.10(d)(3) is not cited because the District has not required additional monitoring.

Section 93115.10(e) is not cited because there are not exempted engines.

The requirement for monthly recordkeeping in Section 93115.10(f) applies to the engines.

The requirement in Section 93115.10(g) applies only to the San Diego Gas and Electric Company.

The requirement in Section 93115.10(h) applies only to engines that are used to fulfill the requirements of an Interruptible Service Contract as defined by the ATCM.

Section 93115.11 is not cited because the owner/operator has 4 or more engines.

Section 93115.12 is cited because the owner/operator has 4 or more engines. The compliance schedule in 93115.12(a) applies to **S1060, S1600, S1601, S1602, S1603, and S1604** engines because the owner/operator has chosen to comply by reducing the hours of operation to 20 hr/yr.

Section 93115.12(b) is not cited because the owner/operator has chosen to comply with Section 93115.12(a).

Section 93115.13 is not cited because the owner/operator will comply by reducing the hours of operation, not by testing or installing diesel particulate filters.

Section 93115.14 is not cited because the owner/operator is not required to test the engines.

Section 93115.15, Severability, is cited because invalidation of one part of the ATCM does not invalidate the remaining parts.

Table IV-AL (Deleted) (Table from Previous Title V permit)

- Deleted above table because S1070 and S1071 have been removed from service on Jul 15, 2014.

Table IV-AJ (Deleted) (Table from Previous Title V permit)

- Deleted above table because S1056 and S1057 have been removed from service on Sep 27, 2013 and March 11, 2016 respectively.

Table IV-V

- Changed BAAQMD Regulation 1 “General Provision and Definitions” date of adoption from 7/09/08 to 5/4/11 for S1072.
- Following parts of Permit Condition No. 10320 have been renumbered from 31, 32, 33, and 34 to 27, 28, 29, and 30 respectively.

Table IV-W

- Changed SIP Regulation 8, Rule 5 “Storage of Organic Liquids” date of adoption from 11/17/02 to 11/27/02.

Table IV-X

- Changed SIP Regulation 8, Rule 5 "Storage of Organic Liquids" date of adoption from 11/17/02 to 11/27/02.

Table IV-Y

- Renamed source S1803 from "Truck Sealer Deck (Fugitive)" to "Sealer Station #5".
- Deleted previous Title V Table IV-BB because S3025 (Sealing Station #2) has been moved to Table IV-Y with the following sealing stations S1803, S4007, S4008, S4012, and S4013.
- Added following sources to the above table: 4007, 4008, 4012, and S4013.
- Added BAAQMD Regulation 6, Rule 1, and SIP Regulation 6.
- Replaced BAAQMD Permit Condition No. 9175 with BAAQMD Permit Condition No. 26027.

Table IV-AC

- Deleted following sources S3009, S3015, and S3017 from Permit Condition No. 14205 part 7 because S3009, S3015, and S3017 have been moved to North Paint Shop under Permit Condition No. 26027. S3007 has been added to Permit Condition No. 14205 Part 7.
- The coatings used in Permit Condition No. 14205 Part 8 are for S3009, S3015, and S3017. S3009, S3015, and S3017 have been moved to North Paint Shop under Permit Condition No. 26027. Therefore, deleted Part 8 from Permit Condition No. 14205. Coatings are not used at S3007 per Application No. 25397 (Background Section).
- Permit Condition No. 14205 Parts 2, 3, 4, 8, 13, 14, 15, 16, 17, 18, and 19 have been deleted because A3010 has been removed from service.
- Following Parts of Permit Condition No. 14205 have been renumbered from 5, 6, 7, 9, 10, 11, and 12 to 2, 3, 4, 5, 6, 7, and 8 respectively.

Table IV-AW (Deleted) (Table from Previous Title V permit)

- Renamed S3008 from "NPS Primer Booth" to "Spray Booth #1 (Primer)".
- Deleted Previous Title V Table –AW and moved Spray Booth #1 (S3008) to Table IV-K with Spray Booth #4 (S1008) because S1008 and S3008 have similar functions and will process same material. Therefore, similar Regulations will be applicable to both the sources.

Table IV-AX (Deleted) (Table from Previous Title V permit)

- Renamed S3009 from "NPS Primer Oven" to "Oven #2 (Primer)".
- Deleted previous Title V Table-AX and moved Oven #2 (S3009) to Table IV-L with Oven #7 (S1009) because S1009 and S3009 have similar functions and will process same material. Therefore, similar Regulations will be applicable to both the sources.

Table IV-AD

- Moved Spray Booth #2 (Basecoat) (S3014) to Table IV-O with Spray Booth #5(Basecoat) (S1014) because S1014 and S3014 have similar functions and process same material. Therefore, similar Regulations will be applicable to both the sources.
- Renamed S3015 from "NPS Top Coat Oven #1" to "Oven #4 (Basecoat)".
- Renamed S3016 from "NPS Topcoat Booth #2" to "Spray Booth #3 (Clear Coat)".
- Renamed S3017 from "NPS Top Coat Oven #2" to "Oven #9 (Basecoat)".
- Added new source S4014 (Spray Booth #6 (Clear Coat)).
- Replaced BAAQMD Permit Conditions No. 14205 and 14207 with BAAQMD Permit Condition No. 26027 for S3015, 3016, S3017, and S4014.

Table IV-AE

- Added Table IV-AE for S3018 and S1003. Moved S1003 from previous Title V Table IV-V to Table IV-AE because S3018 and S1003 have similar functions and process same material. Therefore, similar Regulations will be applicable to both the sources.
- Added BAAQMD and SIP Regulation 6.
- Added Part H.1 under Permit Condition No. 26027.

Table IV-AG

- Updated BAAQMD Permit Condition No. 22541 Part 1.c Federally Enforceable requirement from "Y" to "N" for toxics.

Table IV-BB (Deleted) (Table from Previous Title V permit)

- Deleted above table because S3025 has been moved with the other sealing stations in Table IV-Y.

Table IV-AH

- Following Parts of BAQMD Permit Condition No. 14205 have been renumbered from 11 and 12 to 10 and 11 respectively.
- Updated BAAQMD Permit Condition No. 14211 Part 1.

Table IV-AI (Deleted) (Table from Previous Title V permit)

- Following Parts of BAQMD Permit Condition No. 14205 have been renumbered from 11, 12, and 13 to 10, 11, and 12 respectively.

Table IV-AJ

- Added Table IV-AJ for source S3701.
- Added BAAQMD and SIP Regulations.
- Added Condition No. 25277.

Table IV-AK

- Added Table IV-AK for source S3716.
- Added BAAQMD and SIP Regulations.

- Added Permit Condition No. 25573.

Table IV-AL

- Renamed Source S3724 from "Reverberatory Melt Furnace" to "Reverberatory Aluminum Melt Furnace".
- Added S3731 (Crucible Aluminum Melt Furnace-1) and S3732 (Crucible Aluminum Melt Furnace-2) to the above table.
- Added 7(a) and 9iii to Permit Condition No. 25346.
- Following Parts of Permit Condition No. 25346 have been changed from 8a.i, 8a.ii, 8b, and 8c to 8.i, 8.ii, 9.i, and 9.ii respectively.
- Added Permit Condition No. 25892 for S3731 and S3732.

Table IV-AM

- Added Table IV-AM for S3729 and S3730.
- Added BAAQMD and SIP Regulations.
- Added 40 CFR 63 Subpart IIII.
- Added District Permit Condition No. 25820.

Table IV-AN

- Added Table IV-AM for S4009 and S1013.
- Added BAAQMD and SIP Regulations.
- Added District Permit Condition No. 26027.

Table IV-AO

- Added Table IV-AO for following sources S4004 and S4005.
- Added BAAQMD and SIP Regulations.
- Added District Permit Condition No. 26027.

Table IV-AP

- Added Table IV-AP for following sources S4006 and S4011.
- Added BAAQMD and SIP Regulations.
- Added 40 CFR 60 Subpart A, Subpart MM, and Subpart IIII Federal Regulations.
- Added District Permit Condition No. 26027.

Table IV-AQ

- Replaced Abatement Device A571 with new abatement device A30167.
- Renamed Abatement Device A1008 from "Truck Primer Booth Thermal Oxidizer" to "Regenerative Thermal Oxidizer #2".
- Abatement Devices A1009, A1015, A3008, A3014, and A3016 are abating S1009, S1015, 3008, S3014, and S3016 respectively. All of the above sources have been moved to North Paint Shop and are abated by A3008. Therefore, A1009, A1015 A3014, and A3016 have been removed from service.

- Renamed A3008 from "NPS Prime Booth Thermal Oxidizer" to "Regenerative Thermal Oxidizer #1".
- Abatement Device A10141 "Truck Topcoat (Basecoat) Thermal Oxidizer" does not exist. Therefore, deleting abatement device A10141 from Title V permit.
- Abatement Device A10142 "Truck Topcoat (Clear Coat) Booth Thermal Oxidizer" is abating S1014. The above source (S1014) has been moved to North Paint Shop and is abated by A1008. Therefore, A10142 has been removed from service.
- Added BAAQMD Permit Condition No. 10320 for Thermal Oxidizer A30167.
- Added BAAQMD Permit Condition No. 9158 for Thermal Oxidizers A1002 and A1007.
- Added BAAQMD Permit Condition No. 26027 for Thermal Oxidizers A1008 and A3008.

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 facility is out of compliance with an applicable requirement, the schedule of compliance for this permit contains sections 2-6-409.10.3.

Changes in this action

1, Schedule of Compliance for Plant E0459 Source S3716, Powertrain Motor Line Coating and Assembly Operations abated by A3716, Airflow Systems F240 Carbon Adsorption Unit.

During preventive maintenance Tesla discovered that Carbon Adsorption Unit (CAU) was not in compliance with POC emission limit in Permit Condition No. 25573 Part 4. Tesla decided to replace CAU unit with new Regenerative Thermal Oxidizer (RTO) to comply with above permit condition. The following table details timelines to install RTO.

Compliance Milestones:

Proposed Date	Task
8/17/2016	Initiate project kickoff for S3716 RTO installation
9/06/2016	Review final bid proposal from RTO supplier
9/30/2016	Determine onsite RTO location
10/14/2016	A. Submit permit modification application to replace A3716 with A-TBD RTO B. Order RTO from vendor
10/31/2016	Progress Report to BAAQMD
11/18/2016	Project drawings and building application submitted to City of Fremont for review and approval
11/30/2016	Progress Report to BAAQMD
12/05/2016	Prepare designated site for installation
1/09/2017	Progress Report to BAAQMD
1/13/2017	Begin installation
3/3/2017	Installation complete
3/6/2017	Start onsite operators training
3/8/2017 – 3/31/2017	A. Trouble shoot and start-up unit. B. Source test unit to establish compliance with applicable permit conditions C. Once testing verifies unit is compliant schedule official source test with notification to BAAQMD
4/3/2017	RTO unit officially begins abating S3716 emissions per new permit condition

As detailed in the A3716 Compliance Schedule, Tesla will submit periodic progress reports that will contain dates by which each item in the compliance plan was achieved and if necessary, will contain explanations of why any plan dates were not met. The progress report will also detail any preventative or corrective measures that will be adopted to address any mitigating issues involving the project.

2. Schedule of Compliance for South Paint Shop Regenerative Thermal Oxidizer (A-1008).

Tesla source tested South Paint Shop ("SPS") Regenerative Thermal Oxidizer (A-1008) and discovered A1008 was not in compliance with its permitted NOx emission limit in Permit Condition 26027 Part J.3. Permit Condition 26027 Part J.3. states that "The owner/operator shall not emit more than 50 ppmvd of NOx @ 15% O2 (0.2 lbs/MMBtu) from A-1008 (Basis: RACT, Source Test Method 13A)."

Tesla's internal investigation determined the NOx limit was exceeded due to a defective burner at Truck Ed Oven (S-1002), which is abated by A-1008.

For reasons discussed above, Tesla has proposed the following schedule to bring NOx and CO emissions from A-1008 into compliance:

1. Replace defective burner at S-1002 over Thanksgiving weekend: November 25th through November 27th, 2016.
2. Using third party source testing company, adjust S-1002 burner and sample emissions for A-1008 using standard source testing methods: November 28th through 30th, 2016.

3. Report results to BAAQMD Enforcement and Engineering Divisions within 3 business days of receiving documented emission results from 3rd party source testing contractor.

VI. Permit Conditions

The regulatory basis is listed following each condition. The regulatory basis may be a rule or regulation. The District is also using the following terms for regulatory basis:

- BACT: This term is used for a condition imposed by the Air Pollution Control Officer (APCO) to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.
- Cumulative Increase: This term is used for a condition imposed by the APCO which limits a source's operation to the operation described in the permit application pursuant to BAAQMD Regulation 2-1-403.
- Offsets: This term is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to Regulation 2, Rules 2 and 4.
- PSD: This term is used for a condition imposed by the APCO to ensure compliance with a Prevention of Significant Deterioration permit issued pursuant to Regulation 2, Rule 2.
- TRMP: This term is used for a condition imposed by the APCO to ensure compliance with limits that arise from the District's Toxic Risk Management Policy.

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 and all "underline" language will be retained, subject to consideration of comments received.

Any condition that is preceded by an asterisk is not federally-enforceable.

Additional monitoring has been added, where appropriate, to assure compliance with the applicable requirements.

Changes in this action

Condition No. 207:

- Deleted S61, S801, and S804 from BAAQMD Condition No. 207 because above sources have been removed from service on August 1, 2011, Jun 02, 2015, and Jun 02, 2015 respectively.
- Part 1a: Total emissions have been reduced from 99.20 TPY to 45.02 tons per year. Per Application No. 21870 emissions from S801 and S804 are 23.93 TPY and 12.15 TPY respectively. The VOC emissions from S61 are 18.1 TPY per Permit Condition No. 207 Part 1. Table 1. Therefore, total reduction in VOC emissions are 54.18 TPY (23.93 TPY + 12.15 TPY + 18.1 TPY = 54.18 TPY).
- Part 1b: Deleted S801 and S804. Changed fugitive emissions for 805 from 63.60 TPY to 29.29 TPY. Therefore, the total reduction in fugitive emission is 34.31 TPY.
- Table 1: Deleted S61, S801, and S804 and VOC content for S61.
- Part 5b: Updated S805 record keeping and reporting requirements and its VOC emissions.

Condition No. 7370 (Deleted)

- Deleted above permit condition because S1059 has been removed from service on Feb 2, 2016.

Condition No. 7799 (Deleted)

- Deleted above permit condition because S806 (Gasoline Dispensing Facility) has been removed from service on May 01, 2012.

Condition No. 9156

- Part 5 of permit condition 9156 limits POC emissions from sources reviewed under Application 3611 to 779.17 TPY. As part of the Title V renewal process, the District's review determined POC emissions are 763.85 TPY (and not 779.17 TPY).
- The combined POC emissions from S1003, S1008, S1009, S1013, S1014, S1015 and S1803 that were governed by permit condition 9156 was 234.59 TPY. The above sources were relocated to the North Paint Shop and are now governed by Permit Condition No. 26027. Therefore, POC emissions in part 5 of permit condition 9156 was reduced from 763.85 TPY to 529.26 TPY (763.85 - 234.59), and references to the above sources were deleted from permit condition 9156.
- S2014, S2015, S1016, S1017, S1808, S1021 and S1053 were removed from service and no longer operate at Tesla. The combined POC emissions from the above sources is 79.34 TPY. Therefore, POC emissions in part 5 of permit condition 9156 was reduced from 529.26 TPY to 449.92 TPY (529.26 – 79.34).
- The combined POC emissions from S1809 and S1810 that were governed by permit condition 9156 was 317.09 TPY. The above sources were removed from permit condition 9156 and are now governed by Permit Condition No's. 7343 and 9877, respectively. Therefore, POC emissions in part 5 of permit condition 9156 was reduced from 449.92 TPY to 132.83 TPY (449.92 – 317.09).
- Removed S1011 (Wet Sand Booth) from the above permit condition because it has been renamed as "Wet Sand Booth #2" and moved to North Paint Shop. This is an exempt source therefore it is not regulated by any condition.
- S1053 has been removed from service on Sep 27, 2013. Therefore, deleted S1053 from Title V permit.
- The toxic emissions for Formaldehyde have been changed from 3342.3 lbs/yr to 36.8 lbs/yr. The toxic emissions are estimated using Application No. 3611 Table V. The Application No. 3611 is included in appendix B.
- Changed total natural gas usage from 8.6 million therms per year to 3.40 million therms per year per Application 3611 Table II.

Condition No. 9158

- The following sources S1009 and 1015 have been moved to North Paint Shop under Permit Condition No. 26027. Therefore, S1009 and 1015 have been deleted from the above permit condition.
- Updated Parts 1, 2, 4, & 4a: Renamed the Abatement Device from A10022 to A1002 because there is no Abatement Device named A10022 at Tesla.
- Updated Parts 1, 2, 4, & 4a: Abatement Device A1009 and A1015 were abating S1009 and S1015 respectively. The above sources (S1009 and S1015) have been moved to North Paint Shop and are abated by Abatement Device A1008. Therefore, A1009 and A1015 are existing abatement devices but not in service.
- Changed Part 47 to 2 (b).
- Renamed Part 48 to 2 (c).
- Part 3: Added basis to this part
- Part 5: Changed the basis from "Cumulative Increase" to "Record Keeping".
- Part 8: S1009 and S1015 have been moved to North Paint Shop under Permit Condition No. 26027. Therefore, S1009 and S1015 have been removed from Part 8 of Permit Condition No.

9158. Total VOC emissions from S1009 and S1015 are 5.09 TPY and 6.59 TPY respectively. Therefore, total VOC emission reductions are 11.68 TPY (5.09 TPY + 6.59 TPY = 11.68 TPY). The final VOC emissions after reduction are 15.77 TPY (27.45 TPY – 11.68 TPY = 15.77 TPY).

Condition No. 9163 (Deleted)

- Deleted above condition because S1008 (Oven #7 (Primer)) has been moved to North Paint Shop under Permit Condition No. 26027.

Condition No. 9164 (Deleted)

- Deleted above condition because S1014 has been moved to North Paint Shop under Permit Condition No. 26027.

Condition No. 9166

- Renamed Part 2 subpart "6" to "a".

Condition No. 9167 (Deleted)

- Deleted above condition because S1053 has been removed from service on June 07, 2013.

Condition No. 9168 (Deleted)

- Deleted above condition because S1014 has been moved to North Paint Shop under Permit Condition No. 26027. S2014 does not exist.

Condition No. 9175 (Deleted)

- Deleted above condition because S1803 has been moved to North Paint Shop under Permit Condition No. 26027.

Condition No. 10011

- S1017 has been removed from service on Oct 21, 2003.
- The coating usage for booth has been updated
- The combined POC emissions from S1010 and S1017 are 2.38 tons/month and 22.91 TPY. POC emissions at S1017 are 0.6 tons/month and 5.73 TPY. After removing S1017 from above condition total POC emissions will be 1.78 tons/month (2.38 TPY – 0.6 TPY = 1.78 TPY) and 17.18 TPY (22.91 TPY – 5.73 TPY = 17.18 TPY).

Condition No. 10320

- S964 has been removed from service on Dec 31, 2011. Therefore, S964 has been removed from above permit condition.
- S1070 and S1071 have been removed from service on July 15, 2014. S1070 and S1071 have been removed from Permit Condition No. 10320 Parts 3, 7, 8, 12, and 17. Permit Condition No. 10320 Parts 31, 32, 33, and 34 containing only S1070 and S1071 have been deleted.
- S1509 has been removed from service on Dec 31, 2011. S1059 has been removed from Permit Condition No. 10320 Parts 27, 28, 29, and 30.
- Abatement Device A571 has been replaced with A30167.

- NOx emissions from S1071 are 1.19 TPY per Application 10740, Table 2. S1071 is not in service since July 15, 2014. Therefore, 1.19 TPY of NOx emissions have been reduced from 26.16 TPY of total NOx emissions in Part 4. The final NOx emissions are 24.97 TPY (26.16 TPY – 1.19 TPY = 24.97 TPY).
- CO emissions from S1071 are 1.55 TPY per application 10740, Table 2. S1071 is not in service since July 15, 2014. Therefore, 1.55 TPY of CO emissions have been reduced from 46.48 TPY of total CO emissions in part 5. Final CO emissions are 44.93 TPY (46.48 TPY – 1.55 TPY = 44.93 TPY).
- Update Part 24 c1 and c3: Changed the plant number from A1438 to E0459.
- Updated Part 27: Total POC emissions from 964 (Cold Cleaner), 1072 (General cleaning and Paint Cleaning) and S1509 (Protectoseal Cleaning Tank) as per Permit Condition No. 10320 are 134.51 TPY. S964 and S1059 have been archived on Dec 31, 2011. Total POC emissions from 1072 are 36.73 TPY per Application No.10740, Permit Condition No. 10323 Part E.1. Therefore, total POC emissions after reduction are 36.73 TPY (134.51 TPY – 97.79 TPY = 36.73 TPY)
- Changed Parts 35, 36, 37, 38, 39, and 40 to 31, 32, 33, 34, 35, and 36 respectively.

Condition No. 10321

- Added Condition No. 10321 to Title V permit for S57 and S59 Booths and S58 and S65 Bumper Ovens.

Condition No. 10323

- Updated Part E: S960 & S961Archived on Sep 27, 2006, S962 & S963 Archived on Oct 21, 2003, S964 & S1509 Archived on Dec 31, 2011. Therefore, S960, S961, S962, S963, and S964 have been deleted from the above permit condition.
- POC emissions from S960, S961, S962, and S963 were removed from above permit condition when sources were removed from service.
- Updated Part 1: Total POC emissions from 964 (Cold Cleaner), 1072 (General cleaning and Paint Cleaning) and S1509 (Protectoseal Cleaning Tank) as per Permit Condition No. 10320 are 134.51 TPY. The S964 and S1059 have been archived on Dec 31, 2011. Total POC emissions from 1072 are 36.73 TPY per Application No.10740, Permit Condition No. 10323 Part E.1. Therefore, total POC emissions after reduction are 36.73 TPY (134.51 TPY – 97.79 TPY = 36.73 TPY).

Condition No. 10426 (Deleted)

- Deleted above condition because S1070 and S1071 have been removed from service on July 14, 2015.

Condition No. 14205

- Updated Part 2 ci & ciii: Plant No. has been changed from A1438 to E0459.
- Part 5 of permit condition 14205 limits POC emissions from sources reviewed under Application 25397 to 828.53 TPY. As part of the Title V renewal process, the District's review determined POC emissions are 711.04 TPY (and not 828.53 TPY).
- The combined POC emissions from S3008, S3009, S3014, S3015, S3016, S3017, and 3018 that were governed by permit condition 14205 was 371.57 TPY. The above sources were relocated to the North Paint Shop and are now governed by Permit Condition No. 26027. Therefore, POC emissions in part 5 of permit condition 14205 was reduced from 711.04 TPY to 339.47 TPY (711.04 – 371.57), and references to the above sources were deleted from permit condition 14205.

- S30960 was removed from permit condition 14205 and is currently governed by Permit Condition No. 14210. S30960's POC emissions contribution of 321.05 TPY to part 5 of permit condition 14205 was corrected to account for this. Therefore, POC emissions in part 5 of permit condition 14205 was reduced from 339.47 TPY to 18.42 TPY (339.47 – 321.05).
- S3056 and A3009 were removed from service and no longer operate at Tesla. The combined POC emissions from above sources is 1.07 (0.70 + 0.37). Therefore, POC emissions are reduced from 18.42 TPY to 17.35 TPY (18.42 – 1.07).
- S3019 & S3020 are exempt sources. The combined POC emissions from above sources is 16.78 TPY. Because NUMMI fully offset emissions from the above sources it is necessary to keep the emissions within the facility for future use.
- S3007 is the only remaining source governed by Permit Condition No. 14205. The POC emissions contribution from the above source per Application No 25397 is 0.07 TPY.
- In sum, POC emissions in part 5 of Permit Condition No. 14205 of 17.35 TPY (16.78 + 0.07 + 0.50). NUMMI fully offset the 0.50 TPY increase. Therefore, it is necessary to keep the emissions within the facility for future use.
  Appendix B contains the engineering evaluation for Application No. 25397.
- Updated Part 6: Changed natural gas usage from 9.63 million therms per year to 50 therms per year for S3007 per Application 25397 Section 5 (Authority to Construct).
- Updated Part 7: S3009, S3015, and S3017 have been moved to North Paint Shop. Part 7 contains only above three sources, but S3007 also use natural gas. Therefore, deleted S3009, S3015, and S3017 from Part 7 and added S3007.
- Updated Part 8: Part 8 of this condition is for manual touchup or repair and S3007 is a NPS ELPO Oven and has no roll in any repair or manual touchup. Therefore, delete Part 8 from this condition.
- Updated Part 9: Changed NOx emissions for S3007 from 40.54 TPY to 1.32 TPY per Application 25397. (40.54 TPY – 1.32 TPY = 39.22 TPY reduction)
- Updated Part 10 and Part 9: Changed CO emissions for S3007 from 50.46 TPY to 1.32 TPY per Application 25397 (50.46 TPY – 1.32 TPY = 49.14 TPY reduction).
- Following Parts of Permit Condition No. 14205 have been renumbered from 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, and 19 to 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, and 18 respectively.
- Updated Part 10: S3008, S3009, S3014, S3015, S3016, and S3017 have been moved to North Paint Shop under Permit Condition No. 26027. Therefore, removed above sources from Permit Condition No. 14205. Abatement Device A3008 has been moved to North Paint Shop and is abating all of the above sources. Therefore, A3008, A3014 and A3016 have been removed from Permit Condition No. 14205.

<u>Condition No. 14206 (Deleted)</u>

- Deleted above permit condition because S3008 and S3009 have been moved to North Paint Shop under Permit Condition No. 26027.

<u>Condition No. 14207 (Deleted)</u>

- Deleted above condition because S3014, S3015, S3016, and S3017 have been moved to North Paint Shop under Permit Condition No. 26027.

<u>Condition No. 14208 (Deleted)</u>

- Deleted above Permit condition because S3018 has been moved to North Paint Shop under Permit Condition No. 26027.

Condition No. 14210

- As previously discussed, S30960 was removed from permit condition 14205 and is now governed by permit condition 14210. POC emissions from S30960 are 321.05 TPY and 40.13 tons/month.
- POC emissions from S30960 was used to offset 10.27 TPY (4.97 + 5.3) of POC emissions from S3701 and S3716. Therefore, S30960's POC emissions after subtracting the above emissions is 310.78 TPY (321.05 – 4.97 – 5.3).
  Appendix B contains the engineering evaluation for Application No. 24131 (for S-3701) and 25204 (for S-3716).

Condition No. 22543 (Deleted)

- S3025 has been moved to North Paint Shop under Permit Condition No. 26027. Above condition contains only one source (S3025). Therefore, Permit Condition No. 22543 has been deleted.

Condition No. 22544 (Deleted)

- S592 has been archived on Jan 25, 2016. The Permit Condition No. 22544 contains only one source. Therefore, Permit Condition No. 22544 has been deleted.

Condition No. 22545 (Deleted)

- S593 has been archived on Jan 25, 2016. Permit Condition No. 22545 contains only one source. Therefore, Permit Condition No. 22545 has been deleted.

Condition No. 22820

- Added source numbers and source description to the above Permit Condition No.22820.
- Updated basis to meet ATCM requirements.

Condition No. 22850

- Added above permit condition for Emergency Standby Diesel Engine Fire Pumps S4015 and S4016.

Condition No. 24486

- Changed plant number from A1438 to E0459.

Condition No. 25277

- Added above permit condition for source S3701.

Condition No. 25573

- Added above condition for S3716 (Powertrain Motor Line Coating and Assembly Operations) and A3716 (Airflow system F240 Carbon Adsorption Unit abating S3716).

Condition No. 25346

- Description for S3724 has been added to this condition.

Condition No. 25820

- Added above permit condition for S3729 and S3730, two stator resin impregnation lines.

Condition No. 25892

- Added above permit condition for the following sources: S3731 and S3732, Aluminum Melting Operation.

Condition No. 26027

- Added above permit condition for the following sources and abatement devices:

- S-1003 Dry Sanding Booth #2
  Emissions directly exhaust to the atmosphere unabated.

- S-1008 Spray Booth #4 (Primer)
  Emissions abated by E-Scrub (A-10083) and thermal oxidizer (A-1008).

- S-1009 Oven #7 (Primer);
  Maximum Hourly Firing Rate: 15.09 MMBTU/hour
  Emissions abated by thermal oxidizer (A-1008).

- S-1013 Oven #8 (Wet Sanding Booth);
  Maximum Hourly Firing Rate: 12.8 MMBTU/hour
  Emissions directly exhaust to the atmosphere unabated.

- S-1014 Spray Booth #5 (Basecoat)
  Emissions abated by E-Scrub (A-10146) and thermal oxidizer (A-1008).

- S-1015 Oven #10 (Clear coat);
  Maximum Hourly Firing Rate: 16.9 MMBTU/hour
  Emissions abated by thermal oxidizer (A-1008).

- S-1803 Sealing Station #5
  Emissions directly exhaust to the atmosphere unabated.

- S-3008 Spray Booth #1 (Primer)
  Emissions abated by E-Scrub (A-30083) and thermal oxidizer (A-3008).

- S-3009 Oven #2 (Primer);
  Maximum Hourly Firing Rate: 15.09 MMBTU/hour
  Emissions abated by thermal oxidizer (A-3008).

- S-3014 Spray Booth #2 (Basecoat)
  Emissions abated by E-Scrub (A-30145) and thermal oxidizer (A-3008).

- S-3015 Oven #4 (Basecoat);
  Maximum Hourly Firing Rate: 2.95 MMBTU/hour
  Emissions abated by thermal oxidizer (A-3008).

- S-3016 Spray Booth #3 (Clear coat)
  Emissions abated by E-Scrub (A-30165) and thermal oxidizer (A-3008).

- S-3017 Oven #9 (Basecoat);
  Maximum Hourly Firing Rate: 2.95 MMBTU/hour
  Emissions abated by thermal oxidizer (A-1008).

- S-3018 Dry Sanding Booth #1
  Emissions directly exhaust to the atmosphere unabated.

- S-3025 Sealing Station #2
  Emissions directly exhaust to the atmosphere unabated.

- S-4004 Pretreatment Tank System
  Emissions directly exhaust to the atmosphere unabated.

- S-4005 E-Coat System
  Emissions directly exhaust to the atmosphere unabated.

- S-4006 Oven #1 (E-Coat);
  Maximum Hourly Firing Rate: 15.19 MMBTU/hour
  Emissions abated by thermal oxidizer (A-3008).

- S-4007 Sealing Station #1
  Emissions directly exhaust to the atmosphere unabated.

- S-4008 Sealing Station #3
  Emissions directly exhaust to the atmosphere unabated.

- S-4009 Oven #3 (Wet Sanding Booth);
  Maximum Hourly Firing Rate: 12.8 MMBTU/hour
  Emissions directly exhaust to the atmosphere unabated.

- S-4010 Oven #5 (Clear Coat);
  Maximum Hourly Firing Rate: 16.9 MMBTU/hour
  Emissions abated by thermal oxidizer (A-3008).

- S-4011 Oven #6 (E-Coat);
  Maximum Hourly Firing Rate: 15.19 MMBTU/hour
  Emissions abated by thermal oxidizer (A-1008).

- S-4012 Sealing Station #4
  Emissions directly exhaust to the atmosphere unabated.

- S-4013 Sealing Station #6
  Emissions directly exhaust to the atmosphere unabated.

- S-4014 Spray Booth #6 (Clear Coat)
  Emissions abated by E-Scrub (A-30166) and thermal oxidizer (A-1008).

- A-3008 Regenerative Thermal Oxidizer #1;
  Maximum Hourly Firing Rate: 6.82 MMBTU/hour

- A-1008 Regenerative Thermal Oxidizer #2;
  Maximum Hourly Firing Rate: 6.82 MMBTU/hour

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.

The District has reviewed all monitoring and has determined the existing monitoring is adequate to provide a reasonable assurance of compliance.

Changes to permit:

- A note has been added at the beginning of the section to clarify that this section is a summary of the limits and monitoring, and that in case of a conflict between Sections I-VI and Section VII, the preceding sections take precedence.
- Deleted following sources: S61, S71, S592, S593, S801, S804, S806, S1017, S1053, S1056, S1057, S1070, and S1071, are no longer in service. Renumbered the tables after deleting above sources.
- Added following new sources: S1003, S3018, S3701, S3716, S3729, S3730, S3731, S3732, S4004, S4005, S4006, S4007, S4008, S4009, S4010, S4011, S4012, S4013, and S4014.
- Introduced, where applicable, monitoring requirements per EPA Regulation 40 CFR Part 63, Subpart IIII, National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light Duty Trucks. Also as commented by EPA, included monitoring requirements per Section 63.3163 of the auto MACT regarding demonstration of continuous compliance with the HAP limit of less than or equal to 0.60 lbs/gallon applied coating solids.
- Updated the permit condition numbers in the citation of limit section and in monitoring requirement citation.

Table VII-A

- Added basecoat (water-borne) VOC content limits of 1.4 lbs/gal per Permit Condition No. 10320 Part 10.
- Updated abatement device number from “A571” to “A30167” because A571 has been replaced with A30167.
- Changed BAAQMD Condition No. 10320 Part 19 to Part 18.
- Changed BAAQMD Condition No. 10320 Part 20 to Part 19.
- Changed BAAQMD Condition No. 10320 Part 47 to Part 31.
- Deleted S1070 and S1071 from Table-VII-A. Above sources have been removed from service in July 2014.
- The NOx and CO emissions from S1070 and S1071 are 1.19 TPY and 1.55 TPY respectively. Since S1070 and S1071 are not in service NOx and CO emissions have been changed to 24.97 TPY and 44.93 TPY respectively.

- Updated abatement device number from "A593" to "A30168" because A593 has been replaced with A30168.
- Opacity and filterable particulates are not included in BAAQMD Permit Condition No. 10320 Part 30. Therefore, removing Permit Condition No. 10320 from opacity and FP monitoring requirement citation.
- Per application 10740 combine natural gas usage at S1070 and S1071 are 92 therms/yr. Compared to the total natural gas usage for bumper line and instrument panel line (3.16 million therms/yr per Permit Condition No. 10320 Part 2) 92 therms/yr is very small number therefore not changing natural gas throughput limits.

Table VII-B (Deleted) (Table from previous Title V permit)

- S61 has been removed from service. Therefore, deleting above table.

Table VII-D (Deleted) (Table from previous Title V permit)

- S71 has been removed from service. Therefore, deleting above table.

Table VII-J (Deleted) (Table from previous Title V permit)

- S592 has been removed from service. Therefore, deleting above table.

Table VII-K (Deleted) (Table from previous Title V permit)

- S593 has been removed from service. Therefore, deleting above table.

Table VII-L(Deleted) (Table from previous Title V permit)

- S801 has been removed from service. Therefore, deleting above table.

Table VII-M (Deleted) (Table from previous Title V permit)

- S804 has been removed from service. Therefore, deleting above table.

Table VII-B

- Combined POC emission from S61, S801, S804, and S805 is 110.10 TPY. Since S61, S801, and S804 are not in service POC emissions from above sources have been removed. The POC emission from S805 is 45.02 TPY.
- The combined fugitive POC emission from S61, S801, S804, and S805 is 63.6 TPY. Since S61, S801, and S804 not in service fugitive POC emissions from above sources has been removed. Fugitive POC emission from S805 is 29.29 TPY. Therefore, changed fugitive POC emissions from 63.6 TPY to 29.29 TPY (63.6 TPY– 34.31 TPY = 29.29 TPY).
- The Underbody Back Paint VOC emission limits have been updated from 5.5 TPY to 3.75 TPY per Permit Condition No. 207, Table 1.
- Updated Filterable Particulate formula from 4.10P0.67 lb/hr to $4.10P^{0.67}$ lb/hr.

Table VII-O (Deleted) (Table from previous Title V permit)

- S806 has been removed from service. Therefore, deleting above table.

Table VII-C

- Updated Filterable Particulate formula from 4.10P0.67 lb/hr to $4.10P^{0.67}$ lb/hr.

Table VII-E

- As shown in Table E combined POC emission from non-combustion operation for the truck vehicle line is 779.17 TPY. As discussed above in Permit Condition No. 9156 the POC emissions was changed from 779.17 TPY to 132.83 TPY.
- Updated combined natural gas usage limits from 8.6 million therms per year to 3.40 million therms per year per Application #3611.
- Combined Formaldehyde emissions from truck vehicle line are 3342.3 lbs/yr. As discussed above in Permit Condition No. 9156 Formaldehyde emission limits in Part 6, was changed from 3342 lbs/yr to 36.8 lbs/yr.

Table VII-F and Z

- As shown in Tables F through Z combined POC emission from non-combustion operation for the truck vehicle line is 779.17 TPY. As discussed above in Permit Condition No. 9156 the POC emissions was changed from 779.17 TPY to 132.83 TPY.
- Updated Filterable Particulate formula from 4.10P0.67 lb/hr to $4.10P^{0.67}$ lb/hr.
- Combined Formaldehyde emissions from truck vehicle line are 3342.3 lbs/yr. As discussed above in Permit Condition No. 9156 Formaldehyde emission limits in Part 6, was changed from 3342 lbs/yr to 36.8 lbs/yr.

Table VII-G, H, I, J, M, N, Q, R, S

- As shown in above Tables combined POC emission from non-combustion operation for the truck vehicle line is 779.17 TPY. As discussed above in Permit Condition No. 9156 the POC emissions was changed from 779.17 TPY to 132.83 TPY.
- Updated combined natural gas usage limits from 8.6 million therms per year to 3.40 million therms per year per Application #3611.
- Updated Filterable Particulate formula from 4.10P0.67 lb/hr to $4.10P^{0.67}$ lb/hr.
- Combined Formaldehyde emissions from truck vehicle line are 3342.3 lbs/yr. As discussed above in Permit Condition No. 9156 Formaldehyde emission limits in Part 6, was changed from 3342 lbs/yr to 36.8 lbs/yr.

Table VII-K

- Renamed S1008 from “Truck Prime Booth” to “Spray Booth #4 (Primer)”
- Moved S3008 from previous Title V Table VII-AW to Table VII-K.
- S1008 and S3008 have been moved to North Paint Shop under Permit Condition No 26027. Therefore, Permit Condition No. 9156 and 9163 are not applicable. All required sections and emissions in the above table have been added, changed, or deleted as shown below. All monitoring requirements have been updated as per Permit Condition No. 26027.
- Since S1008 and S3008 have been moved to North Paint Shop under Permit Condition No. 26027 combined VOC emissions limits of 779.17 TPY is not applicable. Therefore, changed combined VOC emission limits from 779.17 TPY to 214.35 TPY and added 26.79 tons/month of VOC emissions per Permit Condition No. 26027 Part E. 1.
- Changed primer, basecoat, and clear coat VOC content from 4.08 lb/gal to 4.8 lb/gal per Permit Condition No. 26027 Part E.1.
- Deleted existing coating usage and added new coating usage limits (270,895 gals/yr) per Permit Condition No. 26027 Part E.2.
- Added Permit Condition No. 26027 Part J. 5, for new thermal oxidizers (A1008 and A3008).
- S1008 and S3008 have been moved to North Paint Shop and are abated by A1008 and A3008 new thermal oxidizer respectively. Therefore, replaced existing destruction efficiencies with new

overall control efficiency of 66.5%, capture efficiency of 70%, and thermal oxidizer destruction efficiency of 95% by wt. per Permit Condition No. 26027 Part E.5.

- Deleted activated carbon efficiency because S1008 and S3008 are not abated by carbon unit.
- Deleted fuel usage because S1008 and S3008 are not using any fuel.
- S1008 and S3008 have been moved to North Paint Shop and are abated by new E-Scrub system to control PM_{10} emissions. Therefore, replace old capture and control efficiencies for PM_{10} with new booth transfer efficiency of 70%, booth capture efficiency of 100%, and E-Scrub control efficiency of 98% per Permit Condition No. 26027 Part E. 11.
- Deleted existing toxic emission limits and added new Formaldehyde, Ethyl benzene, and Naphthalene emissions of 748 lb/yr, 311 lb/yr and 8,009 lb/yr respectively.

Table VII-L

- Renamed S1009 from "Truck Prime Oven" to "Oven #7 (Primer)"
- Moved S3009 from Table VII-AX to Table VII-L.
- S1009 and S3009 have been moved to new North Paint Shop. Therefore, Permit Condition No. 9156 and 9158 are not applicable. All required sections and emissions in the above table have been added, changed, or deleted as shown below. All monitoring requirements have been updated as per new Permit Condition No. 26027 Part E. 1.
- Since S1009 and S3009 have been moved to North Paint Shop under Permit Condition No. 26027 combined VOC emissions limits of 779.17 TPY is not applicable. Therefore, changed combined VOC emission limits from 779.17 TPY to 214.35 TPY and added 26.79 tons/month of VOC emissions per Permit Condition No. 26027 Part E. 1.
- Added Permit Condition No. 26027 Part J. 5, for new thermal oxidizers (A1008 and A3008).
- S1009 and S3009 have been moved to North Paint Shop and are abated by new thermal oxidizers A1008 and A3008 respectively to control VOC emissions. Therefore, replaced existing destruction efficiencies with new overall control efficiency of 66.5%, capture efficiency of 70%, and thermal oxidizer destruction efficiency of 95% by wt. per Permit Condition No. 26027 Part E.5.
- Added PM_{10} emission limits of 5.62 TPY and 1,405 lbs/month per Permit Condition No. 26027 Part E. 9.
- S1009 and S3009 have been moved to North Paint Shop and are abated by new E-Scrub system to control PM_{10} emissions. Therefore, replace old capture and control efficiencies for PM_{10} with new booth transfer efficiency of 70%, booth capture efficiency of 100%, and E-Scrub control efficiency of 98% per Permit Condition No. 26027 Part E. 11.
- Changed Filterable Particulate formula from 4.10P0.67 lb/hr to $4.10P^{0.67}$ lb/hr.
- Updated combined natural gas usage limits from 8.6 million therms per year to 700,930 therms per year per Permit Condition No. 26027 Part E. 15.
- Changed NOx emission limits to 0.05 lb/MMBtu per Permit Condition No. 26027 Part E. 12.
- Added combined CO emission limits of 5.78 TPY and 1,445 lbs/month for S1009 and S3009 per Permit Condition No. 26027 Part E. 13.
- Deleted existing toxic emission limits and added new Formaldehyde, Ethyl benzene, and Naphthalene emission limits of 748 lb/yr, 311 lb/yr and 8,009 lb/yr respectively.

Table VII-M

- S1017 has been removed from service therefore deleting S1017.
- Combined POC emission from non-combustion operation for the truck vehicle line is 779.17 TPY. S1008, S1009, S1014, and S1015 are part of truck vehicle line and have 248.34 TPY of POC

emissions. S1008, S1009, S1014, and S1015, have been moved to North Paint Shop. Therefore, POC emissions for truck vehicle line have been changed from 779.17 TPY to 132.83 TPY.
- Updated combined natural gas usage limits from 8.6 million therms per year to 3.4 million therms per year per Permit Condition No. 9156 Part 8.
- Updated Filterable Particulate formula from 4.10P0.67 lb/hr to $4.10P^{0.67}$ lb/hr.
- Combined Formaldehyde emissions from truck vehicle line are 3342.3 lbs/yr. As discussed above in Permit Condition No. 9156 Formaldehyde emission limits in Part 6, was changed from 3342 lbs/yr to 36.8 lbs/yr.

Table VII-O
- Renamed S1014 from "Truck Topcoat Booth" to "Spray Booth #5 (Basecoat)"
- Moved S3014 from Table VII-AD to Table VII-O.
- S1014 and S3014 have been moved to new North Paint Shop under Permit Condition No. 26027. Therefore, Permit Condition No. 9156 and 9164 are not applicable. All required sections and emissions in the above table have been added, changed, or deleted as shown below. All the monitoring requirements and types have been updated as per new Permit Condition No. 26027.
- Since S1014 and S3014 have been moved to North Paint Shop under Condition No. 26027 combined VOC emissions limits of 779.17 TPY is not applicable. Therefore, changed combined VOC emission limits from 779.17 TPY to 105.06 TPY and added 13.13 tons/month of VOC emissions per Permit Condition No. 26027 Part F. 1.
- Added Condition No. 26027 Part J. 5, for new thermal oxidizers (A1008 and A3008).
- S1009 and S3009 have been moved to North Paint Shop and are abated by new thermal oxidizers (A1008 and A3008) to control VOC emissions. Therefore, replaced existing destruction efficiencies with booth overall control efficiency of 66.5%, booth capture efficiency of 70%, and thermal oxidizer destruction efficiency of 95% by wt. per Permit Condition No. 26027 Part F.5.
- Deleted activated carbon efficiency because S1014 and S3014 are not abated by carbon unit.
- Changed Solids, Basecoat, Clear coat, and Other repair VOC content from 3.54 lb/gal, 4.79 lb/gal, 4.12 lb/gal, and 4.63 lb/gal respectively to 4.8 lb/gal of applied coating solids per Permit Condition No. 26027 Part F.1.
- Since S1014 and S3014 have been moved to North Paint Shop under Permit Condition No. 26027 the existing coating usage limits from condition 9164 are not applicable. Therefore, changed coating usage limits to 591,612 gals/yr per Permit Condition No. 26027 Part F.2
- Updated combined annual VOC emission limits for S1014 and S3014 per Permit Condition No. 26027 Part F. 1. & 3
- Added 3.6 TPY and 900 lbs/month of PM10 emission limits per Permit Condition No. 26027 Part F.9.
- S1014 and S3014 have been moved to North Paint Shop and are abated by new E-Scrub system to control PM_{10} emissions. Therefore, replace old capture and control efficiencies for PM_{10} with new booth transfer efficiency of 70%, booth capture efficiency of 100%, and E-Scrub control efficiency of 98% per Permit Condition No. 26027 Part F. 11.
- Updated Filterable Particulate formula from 4.10P0.67 lb/hr to $4.10P^{0.67}$ lb/hr.
- Deleted fuel usage because S1014 and S3014 are not using any fuel.
- Deleted existing toxic emission limits and added new Formaldehyde, Ethyl benzene, and Naphthalene emission limits of 748 lb/yr, 311 lb/yr and 8,009 lb/yr respectively.

Table VII-P
- Renamed S1015 from "Truck Topcoat Oven" to "Oven #10 (Clear Coat)"

- Added S4010 to the above table.
- S1015 has been moved to new North Paint Shop under Permit Condition No. 26027. Therefore, Permit Condition No. 9156 and 9158 are not applicable. All the required sections and emissions in the above table have been added, changed, or deleted as shown below. All the monitoring requirements and types have been updated as per new Permit Condition No. 26027.
- Since S4010 has been added and S1015 have been moved to North Paint Shop under Permit Condition No. 26027 the combined POC emissions limits of 779.17 TPY is not applicable. Therefore, changed combined POC emission limits from 779.17 TPY to 80.71 TPY and added 10.09 tons/month of VOC emissions per Permit Condition No. 26027 Part G. 3.
- Added Permit Condition No. 26027 Part J. 5, for new thermal oxidizers (A1008 and A3008).
- S4010 has been added and S1015 have been moved to North Paint Shop and are abated by new thermal oxidizers (A3008 and A1008) to control VOC emissions. Therefore, replaced existing destruction efficiencies with new overall control efficiency of 66.5%, capture efficiency of 70%, and thermal oxidizer destruction efficiency of 95% by wt. per Permit Condition No. 26027 Part G.5.
- Updated combined annual VOC emission limits from 0.69 tons/month and 6.59 TPY to 10.09 tons/month and 80.71 TPY for S1015 and S4010 per Permit Condition No. 26027 Part G. 3.
- Added PM_{10} emission limits of 6.4 TPY and 1,600 lbs/month per Permit Condition No. G. 9.
- S4010 has been added and S1015 have been moved to North Paint Shop and are abated by new E-Scrub system to control PM_{10} emissions. Therefore, added booth transfer efficiency of 70%, booth capture efficiency of 100%, and E-Scrub control efficiency of 98% per Permit Condition No. 26027 Part G. 11.
- Changed NOx emission limits to 0.05 lb/MMBtu per Permit Condition No. 26027 Part G. 12.
- Added CO emission limits of 6.27 TPY and 1,568 lbs/month per Permit Condition No. 26027 G. 13.
- Updated combined natural gas usage limits from 8.6 million therms per year to 3.4 million therms per year per Permit Condition No. 26027 Part G. 15.
- Updated Filterable Particle formula from 4.10P0.67 lb/hr to $4.10P^{0.67}$ lb/hr.
- Deleted existing toxic emissions and added new Formaldehyde, Ethyl benzene, and Naphthalene emissions of 748 lb/yr, 311 lb/yr and 8,009 lb/yr respectively.

Table VII-AI (Table from previous Title V permit)

- S1053 has been removed from service therefore deleting above table.

Table VII-AJ (Table from previous Title V permit)

- S1053 and S1057 have been removed from service therefore deleting above table.

Table VII-AL (Table from previous Title V permit)

- S1070 and S1071 have been removed from service therefore deleting above table.

Table VII-V

- Changed BAAQMD Permit Condition No. 10320 Part 31, 32, and 34 to 27, 28, and 30 respectively
- Part 27: The total POC emissions from 964 (Cold Cleaner), 1072 (General cleaning and Paint Cleaning) and S1509 (Protectoseal Cleaning Tank) as per Permit Condition No. 10320 are 134.51 TPY. S964 and S1059 were removed from service on Dec 31, 2011. Total POC emissions from

1072 are 36.73 TPY per Application No.10740 and Permit Condition No. 10323 Part E.1. Therefore, changed total POC emissions from 134.51 TPY to 36.73 TPY for S1072.

Table VII-Y

- Renamed S1803 from "TRUCK SEALER DECK (FUGITIVE)) to "SEALING STATION #5"
- Added all sealing stations (S3025, S4007, S4008, S4012, and S4013) to the above table.
- Deleted Permit Condition No. 9156 from above table because all sealing stations have been moved to North Paint Shop under Permit Condition No. 26027. Therefore, Permit Condition No. 9156 is not applicable.
- Above sources are not using any fuel. Therefore, deleted fuel usage for the above table.
- Added 0.203 TPY and 50.75 lbs/month of VOC emissions limits for sealing stations per Permit Condition No. 26027 Part D. 1.
- Added sealer usage limits (1,029,600 gals/yr) per Permit Condition No. 26027 Part D.2.
- Deleted existing toxic emission limits and added new Formaldehyde, Ethyl benzene, and Naphthalene emissions of 748 lb/yr, 311 lb/yr and 8,009 lb/yr respectively.

Table VII-Z

- Combined POC emission from non-combustion operation for the truck vehicle line is 779.17 TPY. As discussed above in Permit Condition No. 9156 the POC emissions was changed from 779.17 TPY to 132.83 TPY.
- Updated Filterable Particle formula from 4.10P0.67 lb/hr to $4.10P^{0.67}$ lb/hr.
- Combined Formaldehyde emissions from truck vehicle line are 3342.3 lbs/yr. As discussed above in Permit Condition No. 9156 Formaldehyde emission limits in Part 6, was changed from 3342 lbs/yr to 36.8 lbs/yr.

Table VII-AA

- Combined Formaldehyde emissions from truck vehicle line are 3342.3 lbs/yr. As discussed above in Permit Condition No. 9156 Formaldehyde emission limits in Part 6, was changed from 3342 lbs/yr to 36.8 lbs/yr.

Table VII-AB

- Updated Filterable Particle formula from 4.10P0.67 lb/hr to $4.10P^{0.67}$ lb/hr.

Table VII-AC

- Total POC emissions from S3007, S3008, S3009, S3014, S3015, S3016, and S3017 are 828.46 TPY per Permit Condition No. 14205. S3007, S3008, S3009, S3014, S3015, S3016, and S3017 have been moved to North Paint Shop. Per Application No.25397 "Emission Summary Table" the emissions from S3007 are 0.07 TPY. Therefore, as discussed above in Permit Condition No. 14205 the POC emissions was changed from 828.46 TPY to 0.07 TPY.
- The S3008, S3014, S3015, S3016, and S3017 have been moved to North Paint Shop. Therefore, removed above sources from Table VII-AC.
- Changed NOx emissions limits from 40.54 TPY to 1.32 TPY per Permit Condition No. 14205 Part 9.

- Changed CO emissions limits from 50.46 TPY to 1.32 TPY per Permit Condition No. 14205 Part 10.
- Updated Filterable Particulate formula from 4.10P0.67 lb/hr to $4.10P^{0.67}$ lb/hr.
- Changed fuel usage limits from 9,630,000 therms/yr to 50 therms/yr per Permit Condition No. 14205 Part 6.

Table VII-AW (Table from previous Title V permit)

- S3008 has been moved to Table VII-K therefore deleting above table.

Table VII-AX (Table from previous Title V permit)

- S3009 has been moved to Table VII-L therefore deleting above table.

Table VII-AD

- S3014 has been moved to Table VII-O.
- S3016 has been moved to North Paint Shop from South Paint Shop under Permit Condition No. 26027. Therefore, Permit Condition No. 14205 has been deleted.
- Renamed S3016 from "NPS Topcoat Booth" to "Spray Booth #3 (Clear Coat).
- Added S4014 to this table because S3016 and S4014 have same functions and process same material. Therefore, similar regulation will be applicable to both the sources.
- Added 268.09 TPY and 33.51 tons/month of POC emissions limits from clear coat per Permit Condition No. 26027 Part G. 1.
- Added temperature limits for thermal oxidizer per Permit Condition No. 26027 Part J. 5.
- Added overall control efficiency of ≥ 66.5%, booth capture efficiency of 70% and thermal oxidizer destruction efficiency of 95% by wt. per Permit Condition No. 26027 Part G. 5 for POC emissions.
- Added combined Primer, Basecoat, and Clear coat VOC content (VOC ≤ 4.8 lb/gal) per Permit Condition No. 26027 Part G. 1.
- Added 428,722 gals/yr of coating usage limits per Permit Condition No. 26027 Part G. 2.
- Added 187.38 tons/month and 23.42 TPY of VOC emissions limits per Permit Condition No. 26027 Part G. 1. & 3.
- Changed NOx emissions limits from 40.54 TPY to 5.33 TPY and 1,333 lbs/month per Permit Condition No. 26027 Part G. 12.
- Changed CO emissions limits from 50.46 TPY to 6.27 TPY and 1,568 lbs/month per Permit Condition No. 26027 Part G. 13.
- Added 0.04 TPY and 10 lbs/month of SO2 emissions limits per Permit Condition No. 26027 Part G. 14.
- Added 6.4 TPY and 1,600 lbs/month of PM10 emissions limits per Permit Condition No. 26027 Part G. 9.
- Removed old control efficiency and added new transfer, capture, and control efficiencies for PM10 per Permit Condition No. 26027 Part G. 11.
- Updated Filterable Particulate formula from 4.10P0.67 lb/hr to 4.10P0.67 lb/hr.
- Deleted fuel usage limits for S3016 and S4014 because both the above sources are not using any fuel.

Table VII-AE

- S3015 and S3017 have been moved to North Paint Shop from South Paint Shop under Permit Condition No. 26027. Therefore, Permit Condition No. 14205 has been deleted.
- Renamed S3015 from "NPS Topcoat Oven #1" to "Oven #4 (Basecoat)".
- Renamed S3017 from "NPS Topcoat Oven #2" to "Oven #9 (Basecoat)".
- POC emissions limits have been changed from 828.53 TPY to 105.06 TPY and 13.13 tons/month per Permit Condition No. 26027 Part F. 1.
- Added temperature limits for thermal oxidizer per Permit Condition No. 26027 Part J. 5.
- S3015 and S3017 have been moved to North Paint Shop and are abated by new thermal oxidizers A1008 and A3008 to control POC emissions. Therefore, replaced existing destruction efficiencies with new overall control efficiency of 66.5%, capture efficiency of 70%, and thermal oxidizer destruction efficiency of 95% by wt. per Permit Condition No. 26027 Part F.5.
- Added 31.64 TPY and 3.96 tons/month of POC emissions limits per Permit Condition No. 26027 Part F. 3.
- Added SO2 emission limits for S3015 and S3017 per BAAQMD Regulation 9-1-301.
- Changed NOx emission limits from 40.54 TPY to 1.32 TPY and 300 lbs/month per Permit Condition No. 26027 Part F. 12.
- Changed CO emission limits from 50.46 TPY to 1.56 TPY and 390 lbs/month per Permit Condition No. 26027 Part F. 13.
- Added 3.6 TPY and 900 lbs/month of PM10 emission limits per Permit Condition No. 26027 Part F. 9.
- S3015 and S3017 have been moved to North Paint Shop and are abated by new E-Scrub system to control PM10 emissions. Therefore, replace old capture and control efficiencies for PM10 with new booth transfer efficiency of 70%, booth capture efficiency of 100%, and E-Scrub control efficiency of 98% per Permit Condition No. 26027 Part F. 11.
- Updated Filterable Particulate formula from 4.10P0.67 lb/hr to $4.10P^{0.67}$ lb/hr.
- Changed natural gas usage limits from 9,630,000 therms/yr to 188,309 therms/yr/oven per Permit Condition No. 26027 Part F. 15.

Table VII-AF

- S1003 (Dry Sanding Booth #2) has been moved to North Paint Shop from South Paint Shop under Permit Condition No. 26027. Dry Sanding Booth #1 (S3018) is an existing source at North Paint Shop.
- Added BAAQMD Regulations and limits for Opacity (BAAQMD 6-1-301 and SIP 6-301) and Filterable Particulates (FP) (BAAQMD 6-1-310, SIP 6-310, BAAQMD 6-1-311, and SIP 3-111).
- Added 36.41 lbs/yr and 4.55 lbs/month of PM10 emission limits for S1003 and S3018 per Permit Condition No. 26027 Part H.1.

Table VII-AG

- Updated Filterable Particulate formula from 4.10P0.67 lb/hr to $4.10P^{0.67}$ lb/hr.

Table VII-AH

- Updated Filterable Particulate formula from 4.10P0.67 lb/hr to $4.10P^{0.67}$ lb/hr.

Table VII-BB (Table from previous Title V permit)

- S3025 has been moved to Table VII-Y therefore deleting above table.

Table VII-AK

- Added S3701 (Powertrain Manufacturing & Assembly Operations) to Table VII-AK.
- Added BAAQMD Regulations and limits for Opacity (BAAQMD 6-1-301 and SIP 6-301) and Filterable Particulates (FP) (BAAQMD 6-1-310, SIP 6-310, BAAQMD 6-1-311, and SIP 3-111).
- Added 4.97 TPY of POC emission limits per Permit Condition No. 25277 Part 2 (a).
- Added 1.22 TPY of NPOC emission limits per Permit Condition No. 25277 Part 2 (b).

Table VII-AL

- Added S3716 (Powertrain Motor Line Coating & Assembly Operations) to Table VII-AL.
- Added BAAQMD Regulations and limits for opacity (BAAQMD 6-1-301 and SIP 6-301) and Filterable Particulates (FP) (BAAQMD 6-1-310, SIP 6-310, BAAQMD 6-1-311, and SIP 3-111).
- Added 5.30 TPY of POC emission limits per Permit Condition No. 25573 Part 2 (a).
- Added 90% Capture/Destruction Efficiency limit per Permit Condition No. 25573 Part 4.
- Added 10ppmv Carbon Media Concentration limit per Permit Condition No. 25573 Part 5.

Table VII-AM

- Added S3731 (Crucible Aluminum Melt Furnace) and S3732 (Crucible Aluminum Melt Furnace) to the above table because S3724, S3731, and S3732 have similar functions and process same material. Therefore, similar Regulations will be applicable.
- Updated Filterable Particulate SIP Regulation from SIP 3-111 to 6-311.
- Added 0.1 lbs/ton, 0.14 lbs/ton, 0.01 lbs/ton, 0.02 lbs/ton, and 0.152 lbs/ton of PM10, POC, NOx, SOx, and CO emission limits respectively per Permit Condition No. 25346 Part 5.
- Added 0.002% and 0.004% Arsenic and Cadmium emission limits respectively per Permit Condition No. 25892 Part 3.
- Added 170 ^{o}F Bath Temperature limit per Permit Condition No. 25346 Part 6.1. (a).
- Added 14,154 gals/yr of throughput limit per Permit Condition No. 25820 Part1.
- Added 1.42 TPY of POC emission limit per Permit Condition No. 25820 Part 2.

Table VII-AN

- Added Stator Line-1 Multi-Station Machine (S3729) and Stator Line-2 Multi-Station Machine (S3730) to the above table.
- Added 14,154 gals/yr of throughput limit per Permit Condition No. 25820 Part 1.
- Added 1.42 TPY of POC emission limit per Permit Condition No. 25820 Part 2.

Table VII-AO

- Added Oven #3 (Wet Sanding Booth #1) (S4009) and Oven #8 (Wet Sanding Booth #2) (S1013) to the above table.
- BAAQMD Regulation 6-1-301 and SIP Regulation 6-301with opacity limits have been added to the above table.
- BAAQMD Regulation 6-1-310 and SIP Regulation 6-310 with Filterable Particulates limits have been added to the above table.
- BAAQMD Regulation 6-1-311 and SIP regulation 6-311 have been added

- Added Filterable Particulate formula $4.10P^{0.67}$ lb/hr.
- The emission limits for POC (0.38TPY and 95 lbs/month), PM10 (0.52 TPY and 130 lbs/month), NOx (4.9 TPY and 1,225 lbs/month), CO (5.76 TPY and 1,440 lbs/month), and SO2 (0.04 TPY and 10 lbs/month) have been added per Permit Condition No. 26027 Part I.
- Added 699,435 therms/oven/yr of fuel usage limit per Permit Condition No. 26027 Part I.

Table VII-AP

- Added Pretreatment Tank System (S4004) and E-Coat System (S4005) to the above table.
- BAAQMD Regulation 8-13-306 for VOC emission limits has been added.
- Added following HAPS Federal Regulations and its limits: 40 CFR 63.3091(a), 40 CFR 63.3092(a)(1), 40 CFR 63.3092(a)(2), 40 CFR 63.3163.
- Added 1.42 lb/gacs, 0.0601 TPY, 15 lbs/month, 0.0409 TPY and 10.23 lbs/month of POC emission limits for S4004 and S4005 per Permit Condition No. 26027 Part B.1 & C. 1.
- Added 663,424 gals/yr of resin and 67,891 gals/yr of paste through limits respectively per Permit Condition No. 26027 Part C. 2.

Table VII-AQ

- Added Oven #1 (E-Coat) (S4006) and Oven #6(E-Coat) (S4011) to the above table.
- BAAQMD Regulation 8-13-302.2 with emission limit of 15.0 lb/gal has been added to control POC emissions.
- Added following Federal Regulations and its limits: 40 CFR 60.392 (a)(1), 40 CFR 60.392 (a)(2), 40 CFR 60.392 (a)(3), 40 CFR 60.392 (b), 40 CFR 60.392 (c), 40 CFR 63.3090(a), and 40 CFR 63.3163.
- Added 14.63 TPY and 3,633 lbs/month of POC emission limits per Permit Condition No. 26027 Part C.3.
- Added temperature limits for thermal oxidizer per Permit Condition No. 26027 Part J. 5.
- S4006 and S4011 have been added to North Paint Shop and are abated by new thermal oxidizers A3008 and A1008 respectively to control POC emissions. Therefore, added overall control efficiency of 80.75%, capture efficiency of 85%, and thermal oxidizer destruction efficiency of 95% by wt. per Permit Condition No. 26027 Part C.5.
- Added BAAQMD Regulation 9-1-301 and 9-1-302 with its SO2 emission limits.
- Added 0.04 TPY and 10 lbs/month of SO2 emission limits per Permit Condition No. 26027 Part C. 12.
- Added 0.59 TPY and 148 lbs/month of PM10 emission limits per Permit Condition No. 26027 Part C. 9.
- Added BAAQMD Regulation 6-1-301 and SIP Regulation 6-301 with its opacity emission limits.
- BAAQMD Regulation 6-1-310 and SIP Regulation 6-310 with Filterable Particulates limits have been added to the above table.
- BAAQMD Regulation 6-1-310 and SIP Regulation 6-310 with Filterable Particulates limits have been added.
- Added Filterable Particulate formula $4.10P^{0.67}$ lb/hr.
- Added NOx (5.49 TPY and 1,373 lbs/month) and CO (6.46 TPY and 1,615 lbs/month) emission limits per Permit Condition No. 26027 Part C. 10 and C. 11 respectively.
- Added 798,233 therms/yr of fuel usage for S4006 and S4011 per Permit Condition No. 26027 Part C. 13.

The tables below contain only the limits for which there is no monitoring or inadequate monitoring in the applicable requirements. The District has examined the monitoring for other limits and has determined that monitoring is adequate to provide a reasonable assurance of compliance. Calculations for potential to emit will be provided in the discussion when no monitoring is proposed due to the size of a source.

NOx Sources			
S# & Description	**Emission Limit Citation**	**Federally Enforceable Emission Limit**	**Monitoring**
S3724, Reverberatory Melt Furnace, S3731, Crucible Aluminum Melt Furnace, S3732 Crucible Aluminum Melt Furnace	BAAQMD Regulation 9-7-307.1	30 ppmv @ 3% O2, dry for gaseous fuels	Annual use of portable analyzer

NOx Discussion:
BAAQMD Regulation 9, Rule 7, Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters
S3724, S3731, and S3732 are subject to a 30 ppmv limit when burning natural gas exclusively.

S3724, S3731, and S3732 will be tested annually by the use of a portable analyzer. S3724, S3731, and S3732 are expected to comply.

CO Sources			
S# & Description	**Emission Limit Citation**	**Federally Enforceable Emission Limit**	**Monitoring**
S3724, Reverberatory Melt Furnace, S3731, Crucible Aluminum Melt Furnace, S3732 Crucible Aluminum Melt Furnace	BAAQMD Regulation 9-7-307.1	400 ppmv @ 3% O2, dry for gaseous fuels	Annual use of portable analyzer

CO Discussion:
BAAQMD Regulation 9, Rule 7, Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters
S3724, S3731, and S3732 are subject to a 400 ppmv limit when burning natural gas exclusively.

S3724, S3731, and S3732 will be tested annually by the use of a portable analyzer. S3724, S3731, and S3732 are expected to comply.

SO_2 Sources			
S# & Description	**Emission Limit Citation**	**Federally Enforceable Emission Limit**	**Monitoring**
Reverberatory Melt Furnace, S3731, Crucible Aluminum Melt Furnace, S3732 Crucible Aluminum Melt Furnace	BAAQMD 9-1-301	Ground level concentrations of SO2 shall not exceed: 0.5 ppm for 3 consecutive minutes AND 0.25 ppm averaged over 60 consecutive minutes AND 0.05 ppm averaged over 24 hours	None
S3724, Reverberatory Melt Furnace, S3731, Crucible Aluminum Melt Furnace, S3732 Crucible Aluminum Melt Furnace	BAAQMD 9-1-302	Maximum exhaust stream concentration: 300 ppm	None

SO2 Discussion:

BAAQMD Regulation 9-1-301 (Ground-Level SO2 Concentration Limitations)

Area monitoring to demonstrate compliance with ground level SO2 concentration requirements of Regulation 9-1-301 is at the discretion of the APCO (per 9-1-501). This facility does not have equipment that emits large amounts of SO2 and therefore is not required by the APCO to have ground level monitoring for SO2.

All facility combustion sources are subject to the SO_2 emission limitations in District Regulation 9, Rule 1 (ground-level concentration and emission point concentration). In EPA's June 24, 1999 agreement with CAPCOA and ARB, "Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP", EPA has agreed that natural-gas-fired combustion sources do not need additional monitoring to verify compliance with Regulation 9, Rule 1, since violations of the regulation are unlikely.

BAAQMD Regulation 9-1-302 (300 ppm maximum, from any vapor stream)

S3724, S3731, and S3732 burn natural gas exclusively and are not expected to exceed the 9-1-302 standard. S3724, S3731, and S3732 melts clean aluminum ingots which do not contain sulfur; therefore, the melting process will not be an additional source of SO2.

PM Sources			
S# & Description	**Emission Limit Citation**	**Federally Enforceable Emission Limit**	**Monitoring**
S3724, Reverberatory Melt Furnace, S3731, Crucible Aluminum Melt Furnace, S3732 Crucible Aluminum Melt Furnace	BAAQMD Regulation 6-1-301; SIP 6-301	Ringelmann No. 1	None for S1057; Annual Source Testing for S3724
S3724, Reverberatory Melt Furnace, S3731, Crucible Aluminum Melt Furnace, S3732 Crucible Aluminum Melt Furnace	BAAQMD Regulation 6-1-310; SIP 6-310	0.15 gr/dscf	None for S1057; Annual Source Testing for S3724
S3724, Reverberatory Furnace, S3731, Crucible Aluminum Melt Furnace, S3732 Crucible Aluminum Melt Furnace	BAAQMD Regulation 6-1-311; SIP 6-311	$4.10P^{0.67}$ lb/hr, where P is process weight, ton/hr	None

PM Discussion:

BAAQMD Regulation 6-1-301 (Ringelmann No. 1 Limitation)

Regulation 6-1-301 limits visible emissions to no darker than 1.0 on the Ringelmann Chart (except for periods or aggregate periods less than 3 minutes in any hour). Visible emissions are normally not associated with combustion of gaseous fuels such as natural gas. S3724, S3731, and S3732 burn natural gas exclusively; therefore, per the EPA's June 24, 1999 agreement with CAPCOA and ARB titled "Summary of Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP". no monitoring is required to assure compliance with Regulation 6-1-301 for these sources.

BAAQMD Regulation 6-1-310 (Particulate Weight Limitation)

Regulation 6-1-310 limits Filterable Particulate (FP) emissions from any source to 0.15 grains per dry standard cubic foot (gr/dscf) of exhaust volume. Section 310.3 limits Filterable Particulate emissions from "heat transfer operations" to a grain-loading standard of 0.15 gr/dscf @ 6% O_2. Exceedance of this standard is not normally associated with the combustion of gaseous fuels such as natural gas. S3724, S3731, and S3732 burn natural gas exclusively; therefore, per the EPA's July 2001 agreement with CAPCOA and ARB entitled "CAPCOA/CARB/EPA Region IX Recommended Periodic Monitoring for Generally Applicable Grain Loading Standards in the SIP: Combustion Sources: Summary of Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP", no monitoring is required to assure compliance with Regulation 6-1-310 for S3724, S3731, and S3732.

BAAQMD Regulation 6-1-311 (General Operations)

Regulation 6-1-311 applies to fuel-fired direct heat exchangers. A person shall not discharge into the atmosphere from any general operation particulate matter from any emission point, at a rate in excess of that specified in Table 1 of the regulation. S3724, S3731, and S3732 expected to comply with this regulation and no monitoring is required.

Table VII – AM
Applicable Limits and Compliance Monitoring Requirements
S3724 – Reverberatory ALUMINUM Melt Furnace
S3731 – CRUCIBLE ALUMINUM MELT FURNACE
S3732 - CRUCIBLE ALUMINUM MELT FURNACE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NOx	BAAQMD 9-7-307.1	N		30 ppmv @3%O2, dry, 1-hr average		P/A	Annual use of portable analyzer
CO	BAAQMD 9-7-301.1	N		400 ppmv @3%O2, dry, 1-hr average		P/A	Annual use of portable analyzer
SO2	BAAQMD 9-1-301	Y		GLC [1]of 0.5 ppm for 3 min or 0.25 ppm for 60 min or 0.05 ppm for 24 hours		N	
SO2	BAAQMD 9-1-302	Y		SO2 shall not exceed 300 ppm (dry)		N	
Opacity	BAAQMD 6-1-301	N		Ringelmann 1 for < 3 minutes in any hour	None	N	Annual source test
Opacity	SIP 6-301	Y		Ringelmann 1 for < 3 minutes in any hour	None	N	Annual source test
FP	BAAQMD 6-1-310	N		0.15 gr/dscf		N	Annual source test
FP	SIP 6-310	Y		0.15 gr/dscf	None	N	Annual source test
FP	BAAQMD 6-1-311	N		$4.10P^{0.67}$ lb/hr, where P is process weight, ton/hr	None	N	None
FP	SIP 6-311	Y		$4.10P^{0.67}$ lb/hr, where P is process weight, ton/hr	None	N	None

Table VII – AM
Applicable Limits and Compliance Monitoring Requirements
S3724 – Reverberatory ALUMINUM Melt Furnace
S3731 – CRUCIBLE ALUMINUM MELT FURNACE
S3732 - CRUCIBLE ALUMINUM MELT FURNACE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
POC	BAAQMD Condition # 25892 Part 6. (b) & BAAQMD Condition #25346 Part 5	Y		Total Emissions $\leq$ 0.14 lbs/ton	None	P/M	None
NOx	BAAQMD Condition # 25892 Part 6. (c) & BAAQMD Condition #25346 Part 5	Y		Total Emissions $\leq$ 0.01 lbs/ton	None	P/M	None
CO	BAAQMD Condition # 25892 Part 6. (e) & BAAQMD Condition #25346 Part 5	Y		Total Emissions $\leq$ 0.152 lbs/ton	None	P/M	None
PM10	BAAQMD Condition # 25892 Part 6. (a) & BAAQMD Condition #25346 Part 5	Y		Total Emissions $\leq$ 0.1 TPY	BAAQMD Condition # 25892 Part 7	P/A	Source Test

Table VII – AM
Applicable Limits and Compliance Monitoring Requirements
S3724 – Reverberatory ALUMINUM Melt Furnace
S3731 – CRUCIBLE ALUMINUM MELT FURNACE
S3732 - CRUCIBLE ALUMINUM MELT FURNACE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
SO2	BAAQMD Condition # 25892Part 6. (d) & BAAQMD Condition #25346 Part 5	Y		Total Emissions $\leq$ 0.02 TPY	None	P/M	None
Toxics	BAAQMD Condition # 25892 Part 3.	Y		Arsenic $\leq$ 0.002 % Cadmium < 0.004%	BAAQMD Condition # 25892 Part 8	P/M	Records
	BAAQMD Condition # 25346 Part 6. 1. (a)	Y		Bath Temperature < 170 ºF	BAAQMD Condition # 25892 Part 8 (b)	P/M	Records

Discussion of Other Limits:
The permit contains other limits, such as HAP limits, hours of operation, and heat input. There is adequate monitoring for these limits in the standards or permit conditions.

VIII. Test Methods

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not "applicable requirements" as defined by Regulation 2-6-202.

If a rule or permit condition requires ongoing testing, the requirement will also appear in Section IV of the permit.

IX. Permit Shield

The District rules allow two types of permit shields. The permit shield types are defined as follows: (1) A provision in a major facility review permit explaining that specific federally enforceable regulations and standards do not apply to a source or group of sources, or (2) A provision in a major facility review permit

explaining that specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting are subsumed because other applicable requirements for monitoring, recordkeeping, and reporting in the permit will assure compliance with all emission limits.

The second type of permit shield is allowed by EPA's White Paper 2 for Improved Implementation of the Part 70 Operating Permits Program. The District uses the second type of permit shield for all streamlining of monitoring, recordkeeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

This facility has no permit shields. Therefore, this permit has no streamlining.

X. Glossary

This section contains terms that may be unfamiliar to the general public or EPA.

D. Alternate Operating Scenarios

No alternate operating scenario has been requested for this facility.

E. Compliance Status

Tesla certifies compliance on an annual basis by January 31st of each year. There is no change in compliance.

Changes to permit:

Devices permitted since current permit was amended on November 30, 2011:

S #	Description	Capacity
3724	Reverberatory Melt Furnace	4.1 MMBtu/hr
1013	Oven #8 (Wet Sanding Booth)	12.8 MMBtu/hr
1060	Plastic Paint Shop Emergency Standby Diesel Engine	102 hp
3018	Dry Sanding Booth	N/A
3701	Powertrain Manufacturing and Assembly Operations	486.81 gal/yr of solvent and 689 gals/yr of cleanup solvent
3716	Powertrain Motor Line Coating and Assembly Operations	2,523 gals/yr of throughput
3729	Stator Line 1 Multi-Station Machine	57.0 gals/day of solvent
3730	Stator Line 2 Multi-Station Machine	57.0 gals/day of solvent
3731	Crucible Aluminum Melting Furnace 1	1 ton/hr of aluminum, 2.25 MMBtu/hr
3732	Crucible Aluminum Melting Furnace 2	1.5 ton/hr of aluminum, 2.5 MMbtu/hr
4004	Pretreatmant Tank System	N/A
4005	E-Coat Dip Tank System	663,242 gals/y of Resin, 67,891 gals/yr of E-Coat Paste
4006	Oven 1 (E-Coat)	15.19 MMBtu/hr
4007	Sealing Station #1	N/A
4008	Sealing Station #3	N/A
4009	Oven #3 (Wet Sanding Booth)	12.8 MMBtu/hr
4010	Oven #5 (Clear Coat)	16.9 MMBtu/hr
4011	Oven #6 (E-Coat)	15.19 MMBtu/hr
4012	Sealing Station #4	N/A
4013	Sealing Station #6	N/A
4014	Spray Booth #6 (Clear Coat)	214,361 gals/yr of Paint
4015	Emergency Standby Diesel Engine Fire Pump	399 hp
4016	Emergency Standby Diesel Engine Fire Pump	175 hp
A30167	Plastic Plant Thermal Oxidizer	1.535 MMBtu/hr
A30168	Bumper Prime Booth Dry Filter	N/A

APPENDIX A

GLOSSARY

ACT
Federal Clean Air Act

APCO
Air Pollution Control Officer

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

CEM
Continuous Emission Monitor

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). Cumulative increase is 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.

FDOC
Final Determination of Compliance (FDOC), prepared pursuant to District Regulation 2, Rule 3, Power Plants.

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.

HRSG
Heat Recovery Steam Generator

Major Facility
A facility with potential emissions of: (1) at least 100 TPY of regulated air pollutants, (2) at least 10 TPY of any single hazardous air pollutant, and/or (3) at least 25 TPY 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)

NOx
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.

PUC
Public Utilities Commission (California)

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^2	=	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

APPENDIX B

PERMIT APPLICATION ENGINEERING EVALUATIONS

ENGINEERING EVALUATION REPORT
Banking Application Number 21870
Plant Number 1438 – New United Motor Manufacturing Inc. (NUMMI)

Introduction

This application is to bank emission reduction credits (ERCs) from the shutdown of the following sources at the facility in Fremont, CA:

S-61 Passenger Blackout Chassis Booth
S-71 Passenger Cavity Wax Booth
S-801 Stamping Plant Fugitive Solvent Emissions
S-804 Passenger Fugitive Repair Priming

As of April 1, 2010, NUMMI terminated production of its vehicle production operation at its facilities in Fremont, California. NUMMI will dismantle and physically remove the sources listed above from its facility and the permits for these sources will be archived. This banking application was submitted on April 21, 2010. This application was complete upon receipt of permit fees on May 28, 2010.

Emission reduction credit summary

The District's ERC banking rule is Regulation 2, Rule 4. The emission calculation procedure in Section 2-4-601 requires the use of the emission calculation procedures in the New Source Review rule, Regulation 2, Rule 2. The calculations for emission reduction credits (ERC) are described in Section 2-2-605. The general ERC calculation procedure and specific calculations for each source are provided below.

2-2-605.1 Baseline Period:
Per Section 2-2-605.1, the baseline period consists of the 3-year period immediately preceding the submittal of a *complete* banking application. Since this application was complete on May 28, 2010, and because the coating usage data in this application has been provided in monthly increments, ***the baseline period for this application is June 1, 2007 through May 28, 2010***. Sources S-61, S-71, S-801, and S-804 stopped operating permanently on April 1, 2010.

2-2-605.2 Baseline Throughput:
The baseline throughput is the lesser of the actual throughput, or the permitted level during the baseline period. As a result, the baseline throughput is based on the actual coating usage during the baseline period. NUMMI submits monthly reports to the District to report all coating and solvent usage for all permitted sources. These reports were reviewed and the monthly quantities of coating (minus water) were confirmed to be consistent with to those indicated in this application.

2-2-605.3 Baseline Emission Rates:
The baseline emission rate is the actual emission rate during the baseline period, expressed in the units of mass emissions per unit of coating usage (example: lbs per gallon). The baseline

emission rate is typically calculated and compared to the applicable RACT requirement for the source. If the baseline emission rate is greater than the RACT limit, it must be adjusted downward, to meet the most stringent RACT requirement.

For this application, baseline emissions were based on the VOC content of the coatings applied at sources S-61, S-71, S-801 and S-804 during the baseline period.

2-2-605.4 Baseline Throughput and Emission Rate for Fully Offset Source:
For a source that is fully offset, without using credits from the District's Small Facility Banking Account, the baseline throughput and emission rate are based on permitted levels contained in permit conditions, rather than actual levels during the baseline period. This section does not apply to sources S-61, S-71, S-801 and S-804, because they were never offset.

2-2-605.5 Adjusted Baseline Emission Rate:
The baseline emission rate must be adjusted downward, to meet the most stringent RACT, BARCT or district rules that are in effect, or are contained in the most recent Clean Air Plan, adopted January 2006. The VOC of the actual coating applied at sources S-61, S-71, S-801 and S-804 is less than the RACT requirement for the coatings in Regulation 8-13. In addition, there is no proposal to change the requirements of Regulation 8-13, especially since NUMMI will be shutdown permanently in the next few months. There is no RACT adjustment.

2-2-605.6 ERC Calculation:
The emissions during the three-year baseline period were for sources S-61, S-71, S-801 and S-804 are shown in the attached spreadsheets. The following is a summary of the emission reduction credits:

Source Number	Source Name	Averaged 3 Yr Emissions (TPY)
S-61	**Blackout Chassis Booth**	**3.82**
S-71	**Cavity and Hinge Wax Booth**	**1.57**
S-801	**Stamping Plant Fugitive Emissions**	**23.93**
S-804	**Passenger Assembly, Body & Weld**	**12.15**
TOTAL		**41.47**

Statement of compliance

Reg. 2-2-605, Emission Calculation Procedures, Emission Reduction Credits:
The ERC calculations were performed in accordance with the procedures outlined in Reg. 2-2-605. ERCs are calculated based on coating usage and its VOC content over the 3-year baseline period.

Section 2-2-605.5 requires the ERCs to be adjusted for RACT, BARCT or any other District rules in effect or contained in the most recent version of the Clean Air Plan. The District does not currently have a rule that would limit emissions to less than emission rates used to calculate these ERCs.

Reg. 2-4-303, Limitations on Deposits:
Reg. 2-4-303.2 prohibits the banking of ERCs, if the emissions would shift to another source within the District. These emission reductions result from the shutdown of sources at a automobile assembly plant in Fremont, CA. There is currently no other automobile assembly plant in the bay area. Hence, the emissions from the automobile assembly plant will not shift to that of another facility in the Bay Area.

Reg. 2-4-303.5 requires emission reduction credits that were provided from the District's Small Facility Banking Account, SFBA, to be reimbursed before allowing the banking of ERCs. Staff has searched the District's Data Bank for a POC or NOx from the SFBA for NUMMI (P # 1438). There were no SFBA withdrawals; therefore, no reimbursements are required.

California Environmental Quality Act (CEQA):
ERC banking applications are categorically exempt from CEQA per Reg. 2-1-312.10. The applicant has provided an Environmental Information Form (Appendix H) to satisfy CEQA requirements.

Public Notice and Comment:
Prior to approving ERCs totaling more than 40 tons of a single pollutant, Section 2-4-405 requires the District to publish a Public Notice in a local newspaper indicating our preliminary decision to approve the ERCs. A public notice is required for this application because ERCs do total over 40 tons of any single pollutant.

The public notice was published in The Argus and the Oakland Tribune on June 22, 2010. In addition, notice was given to the Air Resources Board and the U.S. Environmental Protection Agency and other interested parties. No comments were received.

Conditions

None.

Recommendation

Staff recommends that the District issue ERCs to NUMMI in the amount indicated below.

POC 41.47 Tons per Year

By: _____
Senior Air Quality Engineer

January 5, 2011

EVALUATION REPORT

Company **New United Motor Manufacturing Inc.** **Application # 10740**
Plant # 1438

Neil Ledbetter
45500 Fremont Blvd.
Fremont, CA 94538
(510) 498-5793

1. Background:

New United Motor Manufacturing Inc. (NUMMI) has applied for an Authority to Construct a new Instrument Panel (IP) paint booth (S-1070) and oven (S-1071) with associated equipment. These sources will be located in the Bumper Building. The polypropylene IPs will be made at NUMMI in their Bumper Molding Operation (S-54), which was determined to be an exempt source, per Regulation 2-1-122.4, in Application No. 6518. The IP production and coating rate will be approximately 250,000 instrument panels per year.

Table 1 provides a summary of project emissions of the IP coating and cleanup operations and applicable trigger levels of the New Source Review Rule (Regulation 2-2). Detailed calculations are provided in the attached spreadsheets in Appendix A. The natural gas usage estimate (1.2 Million Therms/Year) was based on the assumption that the combustion sources will operate 6,600 hours per year:

TABLE 1 - EMISSION SUMMARY (Tons Per Year)

	POC	NO_X	PM_{10}	SO_2	CO
IP Line Cumulative	**58.43**	**1.19**	**3.19**	**0.005**	**1.55**
Current Plant Cumulative	**0.16**	**22.52**	**8.18**	**0.09**	**24.73**
Total Cumulative Increase	**58.59**	**23.71**	**11.37**	**0.095**	**26.28**
BACT Trigger	**0.18**	**0.18**	**0.18**	**0.18**	**0.18**
Offsets Trigger	**1**	**1**	**N/A**	**N/A**	**N/A**
PSD Trigger	**N/A**	**40**	**15**	**40**	**100**

Note: The BACT Trigger Level is 365 pounds per year, which is approximately 0.18 tons per year.

Best Available Control Technology (BACT) review was required for Precursor Organic Compounds (POCs), Nitrogen Oxides (NO_X), and Particulate Matter (PM_{10}), and Carbon Monoxide (CO). Offsets were required for POC and NO_X. The total NOx and CO cumulative emission increases from this and other pending NUMMI applications triggered an air quality impact analysis.

2. Emission Calculations:

A. **Precursor Organic Compound (POC) Emissions** - The total calculated POC emissions from the IP painting and cleanup operations will be **58.38 tons per year**. (The POC combustion emissions account for an additional 0.05 TPY.) The calculated emissions are shown in Appendix A. The total uncontrolled emissions are calculated based on the type, amount, and POC content of each of the coatings listed in the table. Also listed are the sources where emissions occur and the percent of each coating emitted.

The estimated capture and destruction efficiency of the control equipment was used to calculate the emissions after control. The fugitive POC emissions from the cleanup operations (S-1072) include the emissions from the Cold Cleaners (S-1509).

B. Combustion Emissions - The total calculated combustion emissions from the burning of natural gas in the air supply houses (ASH) of the IP Booth (S-1070), heater boxes (HB) of the IP Oven (S-1071), and the Thermal Oxidizer (A-571) for the IP Booth (S-1070) and Oven (S-1071) are summarized in Table 2:

Table 2 - Total Project Combustion Emissions (TPY)

	POC	NO_X	PM_{10}	SO_X	CO
ASH & HB	**0.05**	**1.19**	**0.05**	**0.005**	**1.55**
Thermal Oxidizer	**0.25**	**4.87**	**0.23**	**0.029**	**0.97**
Total	**0.3**	**6.06**	**0.28**	**0.03**	**2.52**

The combustion emissions calculations are detailed in Appendix A. The natural gas usages were provided by NUMMI and will be limited by permit condition. The PM_{10}, SO_2, and POC emission factors for the combustion equipment are from Table 1.4-1 (Uncontrolled Emission Factors for Natural Gas Combustion) of the Environmental Protection Agency's Compilation of Air Pollutant Emission Factors (AP-42). The NO_X and CO emission factors for the combustion equipment are from source testing data.

According to Regulation 2-2-112, the requirements of Sections 2-2-301 (BACT), 302 (Offsets for POC and NOx), and 303 (Offsets for PM_{10} and SO_2) shall not apply to emissions of a secondary pollutant which are the direct result of the use of an abatement device which complies with the BACT requirements of control of another pollutant. As a result, the emissions estimated from the Thermal Oxidizer (A-571), which is considered BACT for the IP Booth (A-1070) and Oven (A-1071), are not included in the cumulative increase for this application on Table 1 - Emission Summary.

C. PM_{10} Particulate Emissions - The total calculated particulate emissions from the IP painting and sanding operations and combustion devices (not including the thermal oxidizer (A-571)) will be **3.19 tons per year**. All particulate emissions from combustion devices (0.05 tons per year) and coating operations (3.14 tons per year) are assumed to be PM_{10}.

The combustion emission calculation procedures for PM_{10} were explained in the previous Combustion Emissions section. Particulate emissions from booth and coating operations are determined using the percent solids of the coatings and the conditioned transfer efficiency and particulate control efficiency for each coating operation.

3. BACT Evaluation

A. BACT - POC Emissions - The total calculated POC emissions from the IP painting and cleanup operations and the combustion equipment, not including the A-571 Thermal Oxidizer, for this project are 58.43 tons per year. Therefore, BACT review is required according to Subsection 2-2-

301.3 of the New Source Review rule for all new POC sources which emit more than 365 pounds per year.

1. **Best Available Control Technology (BACT)** for this project shall include the following strategies:

   NUMMI will use High-Volume-Low-Pressure (HVLP), electrostatic, and/or APCO approved paint equipment with equivalent or higher transfer efficiencies. Because the polypropylene substrate of the IP is a non-conductive substrate, it does not avail itself to electrostatic paint application, unless a conductive adhesion promoter (which contains VOCs) is first applied. In addition, the shape of a IP is expected to inhibit high transfer efficiency. Although the use of HVLP spray guns has been determined to be BACT for overspray control, the transfer efficiency is estimated to be 25%.

   The IP Booth (S-1070) will be completely automated, using robotics. The entire booth will be exhausted through a venturi scrubber (A-10702), which is in the backsection of the booth (S-1070), and to a dry filter (A-10703), which follows the venturi scrubber (A-10702).

   The entire exhaust from the IP Booth (S-1070) will be abated by a Thermal Oxidizer (A-571). However, following the dry filter (A-10703), the booth emissions will be recirculated to concentrate the solvent in the exhaust stream. A slipstream (10%-50%; to be determined by equipment supplier, when the bidding process is completed) from the recirculated flows and the exhaust from the flash-off and setting zones will be exhausted to abatement, which includes a Thermal Oxidizer (A-571). The estimated, minimum capture efficiency of the IP Booth (S-1070) to the Thermal Oxidizer (A-571) is 87.5% and the minimum destruction efficiency of the oxidizer is 95% at low organic inlet concentrations (<500 ppm_V) and 98.5% at higher organic inlet concentrations (≥ 500 ppm_V). This control equipment shall remain in operation during clean-up operations following periods of normal production. However, due to Occupational Safety and Health Act (OSHA) requirements the exhaust will not be recirculated.

   Paint and solvent collected will be recovered in an enclosed collection system and shipped offsite. Paint booth grate stripper use will be reduced by 1) using stripping tanks and/or polymer masking materials, which are released when soaking in hot water, or 2) an in-place low VOC grate coating.

   The booth walls and fixtures of the primer and topcoat booth shall be paper or plastic lined, or coated with a protective removable coating, where practical, to reduce clean-up solvent usage.

B. **BACT - NO_X and CO Emissions** - The NO_X and CO emissions from the combustion equipment, not including the A-571 Thermal Oxidizer, total 1.19 tons per year and 1.55 tons per year, respectively. Hence, according to Subsection 2-2-301 of the New Source Review rule (Regulation 2-2), BACT review is required for NO_X. The NO_X emissions from the combustion equipment will be minimized by the use of low NO_X burners on

the heater boxes of the IP Oven (S-1071) (See Condition C.3.). These burners are also considered BACT for CO.

C. **BACT - PM_{10} Emissions** - The particulate matter (PM_{10}) emissions from the coating operations total 3.14 tons per year. Hence, according to Subsection 2-2-301 of the New Source Review rule (Regulation 2-2), BACT review is required for PM_{10}. For particulate control at the spray booth, the venturi scrubber (A-10702) and the dry filter (A-10703) shall be required by permit condition to achieve at least an overall control efficiency of 90%. The total particulate emissions from combustion equipment, not including the A-571 Thermal Oxidizer, only contribute 0.05 tons per year; therefore, no additional add-on control will be required for the combustion equipment.

D. **Comparison of BACT** - The polypropylene IPs will be made with the same materials as NUMMI's bumpers. Hence, the BACT proposed for this project is almost identical to that of the Bumper Line (Application No. 6518). Similarly to the Bumper Booth (S-57), the IP Booth (S-1070) will be abated by venturi scrubbers (A-10702), dry filters (A-10703), and a thermal oxidizer (A-571); HVLP paint equipment or equivalent will be used. The IP Booth (S-1070) and Oven (S-1071) will use the same thermal oxidizer (A-571) as that for the Bumper Line.

4. Statement of Compliance:

A. **Regulation 8, Rule 13** - The POC emissions from the IP line will be in compliance with District Regulation 8, Rule 13, Section 307 (Limits, Flexible Parts Coating). The following is a comparison of the regulation standards and the expected emission rate from NUMMI's proposed IP painting operation:

Table 6 - Limits, Flexible Parts Coating

Coating	VOC (g/l-H2O)	VOC (lb/gal-H2O)
Color Topcoat	450	3.8

Table 7 - NUMMI, Proposed Limits

Coating	VOC (g/l-H2O)	VOC (lb/gal-H2O)
Color Topcoat	804	6.7

Because NUMMI proposes to use a topcoat that exceed the limits specified in Regulation 8-13-307, their IP coating operation (S-1070 and S-1071) will have its emissions to the atmosphere controlled 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-571) will be required in the permit conditions to attain a minimum efficiency of 95% (See Condition No. C.12).

B. **New Source Performance Standards (NSPS)** - The POC emissions from the IP painting operation are exempt from the provisions of NSPS Subpart MM (Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations), by 40 CFR 60.390(b), for operations used to coat plastic body components.

C. PSD - According to the New Source Review Rule (Regulation 2-2), an air quality impact analysis was required for nitrogen oxides (NOx) for a cumulative increase of 40 TPY or more. For carbon monoxide (CO), an air quality impact analysis was required for a cumulative increase of 100 TPY or more. The NOx and CO cumulative emission increases for this and other pending NUMMI applications triggered an air quality impact analysis. The report, NSR/PSD Modeling Analysis for the NUMMI Bumper Line and Facility Additions (Volumes I and II) are available for review in the District's Permits Services Division.

Maximum ambient concentrations of NO_2 and CO were estimated for various plume dispersion scenarios using established modeling procedures. Maximum ambient impacts were addressed at receptors located in simple and complex terrain, using Gaussian-based modeling methods. In addition, maximum impacts due to building downwash and Types I and III fumigation (inversion breakup and shoreline) were addressed.

The ozone limiting method recommended in EPA's Guideline on Air Quality Models" was applied by the applicant to calculate NO_2 impacts from NOx emissions. Hourly ozone values from the District's air monitoring station in Fremont for the same period as the meteorology were used. The highest monitored hourly and annual NO_2 concentrations at the Fremont station, for the years 1989 through 1991, were used in a conservative approach to determine background values.

The air quality analysis indicates that the proposed project would not interfere with the attainment or maintenance of applicable Ambient Air Quality Standards (AAQS) for NO_2 or CO. The analysis also shows that the Prevention of Significant Deterioration (PSD) increment for NO_2 would not be consumed. The proposed project is in compliance with all Air Quality Modeling requirements specified in Regulation 2-2.

D. California Environmental Quality Act (CEQA) - CEQA requirements are triggered according to Section 2-2-119. The City of Fremont is the lead agency, and they certified the EIR on July 9, 1993 (EIR-89-13 Supplemental, State Clearing House No. 92111072).

E. Certification of Compliance - NUMMI has certified, in accordance with Subsection 2-2-310, that they are in compliance or on a schedule of compliance with all applicable state and federal emission limitations and standards.

NUMMI has also certified that District Subsection 2-2-442, regarding the location of the nearest school, is not applicable to the IP line, since the nearest school is the Warm Springs School (Grades 3 through 6), which is located more than one mile from NUMMI.

5. Health Risk Assessment

A. Carcinogenic Effects - A Health Risk Assessment (HRA), which evaluates the cumulative health impact of this and pending applications at NUMMI was performed by Radian Corporation for NUMMI. The report, New United Motor Manufacturing Inc., Health Risk Assessment for the Proposed Facility Additions, April 1993, is available for review in the

District's Permits Services Division. Table 8 presents the total, annual carcinogenic emissions for the proposed IP line and other pending NUMMI applications:

Table 8 - Carcinogenic Emissions

Contaminant	lbs/yr
Benzene	255.5
1,4-Dioxane	2.2
Formaldehyde	2918.04
Nickel	2.12
Propylene Oxide	4.41

The District is in agreement with the conclusions reached by the HRA; the carcinogenic risk is 0.5 in a million. This is below the District's trigger level of 1 in a million and is not considered significant.

B. **Noncarcinogenic Effects** - The District concurs with NUMMI's calculation that the maximum chronic non-cancer hazard index is less than 0.02. The report, New United Motor Manufacturing Inc., Health Risk Assessment for the Proposed Facility Additions, April 1993, is available for review in the District's Permits Services Division. Table 9 presents the total, annual noncarcinogenic emissions for the proposed IP line and other pending NUMMI applications:

Table 9 - Noncarcinogenic Emissions

Contaminant	lbs/yr
Ethylene Glycol Butyl Ether	79827.14
Ethylene Glycol Monoethyl Ether	1617.90
Methanol	13181.84
Phenol	76.32
Silica (Crystalline)	728.33
Sulfur Dioxide	276.24
Toluene	40520.95
Xylenes	111566.70
Zinc	9.92

To determine the potential for acute health impacts, the District completed an analysis to determine the maximum total acute hazard index based on the 1992 Office of Environmental Health Hazard Assessment (OEHHA) acceptable exposure levels. The maximum acute hazard index for this and other pending NUMMI applications was determined to be about 0.5. This is below the District's trigger level of 1 and is not considered significant.

6. Offsets

POC

The total POC project emissions for the IP coating operations (58.38 tons per year) and combustion equipment, not including the A-571 Thermal Oxidizer (0.05 tons per year), are 58.43 tons per year. The existing facility cumulative increase is 0.16 TPY. Therefore, the total POC cumulative increase for this facility is 58.59 tons per year.

District Regulation 2-2-302 (Offset Requirement, Precursor Organic Compounds) requires POC emissions of more than 1 tons per year to be offset by an offset ratio of 1.2 to 1 for emission reductions provided from on-site sources. Therefore, the total emission offset required for this project is 70.31 tons per year (58.59 X 1.2).

NO_X

The total NO_X project emissions for the IP combustion equipment, not including the A-571 Thermal Oxidizer, are 1.19 tons per year. The existing facility cumulative increase is 22.52 TPY. Therefore, the total NO_X cumulative increase for this facility is 23.71 tons per year.

District Regulation 2-2-302 (Offset Requirement, Precursor Organic Compounds) requires NO_X emissions of more than 1 tons per year to be offset by an offset ratio of 1.2 to 1 for emission reductions provided from on-site sources. Therefore, the total NO_X emission offset required for this project is 28.45 tons per year (23.71 X 1.2).

Total Offsets Required

The District's policy (See attached October 6, 1993 Interoffice Memorandum) is to allow POC emission credits to be used as offsets for NO_X. As a result, a total of 98.76 tons per year (70.31 + 28.45) of offsets will be provided by NUMMI's Banking Certificate No. 313.

7. Conditions

I recommend that the operation for the sources within the IP line be subject to the following permit conditions:

A. Conditions Common to All sources of the IP Line (issued with the A/C only):

1. Once IP production reaches 25 units per hour, but not later than 180 days after start-up, NUMMI shall have source testing required in Conditions 1a, 1b, 1c, 1d, and 1e performed. A status report on source testing progress shall be provided to the District every 30 days after start-up until the source tests have been completed. Prior notification of all source testing shall be provided to the District Source Test Manager. NUMMI shall provide the source test raw data from required source tests upon request.

:

   a. to verify the transfer efficiencies of the coating applicators by the methods detailed in the EPA's Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations (dated December 1988).

   b. to determine the capture and control efficiency of VOC emissions to the abatement equipment 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 (A-571) and the dry filter (A-10703).

c. to verify compliance with all applicable requirements of District Regulation 8, Rule 13, "Light and Medium Duty Motor Vehicle Assembly Plants" pertaining to IP production.

d. to determine the actual emissions for NOx and CO from the Thermal Oxidizer (A-571), IP Booth (S-1070) and IP Oven (S-1071).

e. EPA Test Method 17 or other test methods approved by the District Source Test Manager shall be used to determine the control efficiency of the venturi scrubber (A-10702) and the dry filter (A-10703).

All testing shall be performed with the IP line operating as close as possible to the maximum production rate.

2. The results of the testing required in Condition 1 above shall be submitted to the District within 60 days following the testing date for each test. This period may be extended to 90 days, if NUMMI demonstrates to the satisfaction of the APCO that the additional time is required.

3. At least 30 days before start-up, NUMMI shall notify the District of any changes that were not originally applied for in the permit application and for which an Authority to Construct was not issued, such as new sources or abatement equipment, make and/or model changes, throughput changes, exhaust flow rate changes, substitution of solvent based coatings for water based coatings. NUMMI shall submit a permit application to the District for any changes that the District determines to be modifications to the permit.

B. Because the IP line will share the same thermal oxidizer (A-571) as the Bumper Line sources, the conditions originally proposed for the Bumper Line (Application No. 6518) shall be modified to include reference to the IP line and its contribution to the total natural gas usage (an increase of 1.2 MM Therms Per Year) and its emissions of NOx (an increase of 6.06 tons per year) and CO (an increase of 2.52 tons per year). In addition, the mass emission rate of NOx from the thermal oxidizer alone shall be increased by 0.4 tons per month (4.87 tons per year). Hence, the conditions common for the Bumper Line shall be amended as follows and applicable to both Bumper Line and IP Line sources [strikethrough indicates deletions, while underlines indicate additions] :

1. All conditions shall be in effect at all times during equipment operation, including period of equipment start-up.

2. The combined total natural gas usage for all bumper and Instrument Panel line combustion sources shall not exceed ~~1.96~~ 3.16 Million (MM) Therms per year. Records of natural gas usage, including records provided by the utility company, shall be maintained for two years from the date of entry and shall be maintained available for District personnel upon request. NUMMI shall only use a District-approved gas meter.

3. Only natural gas, propane, butane, and LPG shall be used as a fuel for the heater boxes of this source.

4. The total NOx emissions from the combustion equipment of the bumper and Instrument Panel line shall not exceed ~~20.1~~ 26.16 TPY.

5. The total CO emissions from the combustion equipment of the bumper and Instrument Panel line shall not exceed ~~21.4~~ 23.92 TPY.

6. NUMMI shall not substitute any materials for those described in this permit application's Health Risk Assessment (HRA), which would trigger a toxics review, and which would result in:

   a) an increase in the quantity of permitted air toxic compounds emitted,
   b) the addition of unpermitted air toxic compounds emitted, which were not listed in the permit application HRA, or
   c) an increase in the permitted VOC content or air toxic compound content for each coating category as specified in the permit application Health Risk Assessment.

   without prior notification and approval of the District.

7. In order to demonstrate compliance with Condition Numbers 4 and 5, NUMMI shall calculate quarterly the NOx and CO mass emission rates, using natural gas usage records and District approved NOx and CO emission factors. The NOx and CO emission factors for the Thermal Oxidizer (A-571), Bumper Booth (S-57) and Bumper Oven (S-58), and IP Booth (S-1070) and IP Oven (S-1071) shall be obtained from the results of the source tests, required by the District.

In addition, the mass emission rate of NOx from the thermal oxidizer alone shall be increased by 0.4 tons per month (4.87 tons per year) to account for the contribution from the IP Line. Hence, the Condition 13 for the Bumper Booth (S-57) and Bumper Oven (S-58) shall be amended as follows [strikethrough indicates deletions, while underlines indicate additions]:

13. The NOx emissions from the low-NOx burner of the thermal oxidizer (A-571) shall not exceed ~~1.32~~ 1.72 tons per month.

C. Conditions for Sources S-1070 IP Booth and S-1071 IP Oven:

1. In no event shall the total annual coating emissions from IP Booth (S-1070) and IP Oven (S-1071) combined exceed 21.66 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 38,970 gallons per year

3. The natural gas heater boxes for the IP Oven (S-1070) shall utilize low-NOx burners.

4. Only High-Volume-Low-Pressure (HVLP), electrostatic, and/or APCO approved paint equipment with equivalent or higher transfer efficiencies shall be used to apply coatings.

5. The Thermal Oxidizer (A-571) shall remain in operation during clean-up operations following periods of production.

6. To minimize the amount of clean-up solvent used in the booth, NUMMI shall:
   a. Provide a paper or plastic lining, or a protective removable coating for the walls and fixtures of the booth, except over doors and windows.
   b. Cover all robots, where practical.
   c. Replace the paper/plastic lining, or protective removable coating on an as needed basis.

7. The operator of this source 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) All invoice records of coating and solvents purchased.
   e) To determine compliance, monthly compliance reports showing coating and clean-up usage and calculated emissions shall be submitted to the District permit engineer. The format and content of the compliance reports must be submitted to the District for prior approval.
   f) Daily usage shall be determined by dividing the monthly usage by the total operating days during that month.

   Records shall be available for District inspection for a period of at least 24 months following the date on which such data or reports are recorded or made.

8. The particulate matter emissions from the booth (S-1070) shall be abated by a venturi scrubber (A-10702) and dry filter (A-10703) with an overall control efficiency of 90%.

9. Precursor organic compound (POC) emissions from the IP Booth (S-1070) shall be controlled by a Thermal Oxidizer (A-571). This includes POC emissions from clean-up and wet-down operations that occur during the normal hours of operation. The capture efficiency from the IP Booth (S-1070) to the Thermal Oxidizer (A-571) shall be maintained at 87.5% or greater during operation.

10. The precursor organic compound (POC) emissions from the IP Oven (S-1071) shall be abated by a Thermal Oxidizer (A-571). The capture efficiency to the Thermal Oxidizer (A-571) shall be maintained at 90% or greater during operation.

11. In no event shall the Thermal Oxidizer (A-571) temperature be less than 1400^{O}F, unless NUMMI can demonstrate to the satisfaction of the APCO that the permit conditions can be met with the Thermal Oxidizer (A-571) operating at a lower temperature.

12. The VOC destruction efficiency of the Thermal Oxidizer (A-571) shall be maintained at a minimum of 98.5% by weight, whenever the inlet concentration of VOC to the Thermal Oxidizer (A-571) is equal to or greater than 500 ppm_V, as measured as methane. Below a concentration of 500 ppm_V, the precursor organic destruction efficiency shall be kept at a minimum of 95% by weight or total non-methane organic carbon emissions from the outlet of the Thermal Oxidizer (A-571) shall be 10 ppm by volume or less.

13. The combustion chamber of the Thermal Oxidizer (A-571) shall be equipped with District approved continuous temperature measuring and recording instrumentation. The temperature measuring and recording instrumentation shall be installed, calibrated and maintained according to accepted practice and the manufacture's specifications.

14. The Thermal Oxidizer (A-571) shall be source tested annually, 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 (A-571). Records of the source test results and a maintenance schedule shall be kept. All records shall be kept and made available for District inspection for a period of two years following the date a record was made.

15. Within 60 days of the source testing, a report documenting results shall be provided to the District. If the source testing indicates any violation of the permit conditions, NUMMI shall report such violation to the permit engineer and the Director of Enforcement within 30 days of the source testing.

E. <u>Conditions to S-1072 Fugitive and S-1509 Cold Cleaner</u>:

1. In no event shall the total annual emissions from the combination of S-1072 and S-1509 exceed 36.73 tons per year of Precursor Organic Compounds (POC).

2. Paint and solvent shall be recovered in an enclosed collection system and shipped to solvent recycle or proper disposal.

8. Authority to Construct:

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

S-1070 **IP Booth, Custom Built with Natural Gas-Fired Air Supply House, Custom Built, 5.2 MMBTU/hr; abated by A-571 Thermal Oxidizer, 15 MMBTU/hr; A-10702 Venturi Scrubber, Custom Built Integral to Booth; and A-10703 Dry Filter, Custom Built**

S-1071 **IP Oven, Custom Built with Natural Gas-Fired Heater Boxes or equivalent, 4 MMBTU/hr (combined); abated by A-571 Thermal Oxidizer, Custom Built, 15 MMBTU/hr**

S-1072 **Fugitive, General Cleaning and Paint Cleaning**

S-1509 **Cold Cleaner, Protectoseal Cleaning Tank, 40 Gallon Capacity**

I recommend that a new Banking Certificate (No. 322) be issued to NUMMI for the remaining difference (146.24 TPY) from Banking Certificate No. 313.

9. Exemptions:

None.

_____ Date _____
Air Quality Engineer II

Applicant	**New United Motor Manufacturing Inc.**	**Application Number**	**25397**
Project	**Passenger Paint Shop Modernization**	**Plant Number**	**1438**

1. BACKGROUND

New United Motor Manufacturing, Inc. (NUMMI) has submitted an application to replace the Large Booths, and associated operations, of their Passenger Paint Shop.

Project Description
This project entails construction of a new building north of, and adjacent to, the existing Truck Line Building. Several large emission sources currently located in the Passenger Line Paint Shop will be replaced and located in the new Passenger Paint Shop Building. These sources include: wet sand, and associated dry off oven, dry sand, the primer booth and associated oven, the topcoat booths and associated ovens, and paint repair operations. Ancillary supports for these sources include paint mix and solvent storage tanks, associated clean up operations, and associated combustion equipment such as oven heater boxes, air supply houses, boiler, stand-by generator and building heating ventilation and air conditioning (HVAC).

Passenger Paint Shop Operation
The maximum production for these sources remains at 280,170 units per model year, with anticipated production of 27,500 vehicles per month, 1,145 vehicles per day, and 67 vehicles per hour. The monthly, daily and hourly production values are guidelines which may vary during normal production operations for these sources. The estimated hours of operation is 6,600 hours per year, for both production and combustion emissions.

The following is a description of the proposed sources:

DRY OFF OVEN (S-3007)
This source will have emissions of water vapor, and combustion emissions from oven heaters. This source follows wet sand.

PRIMER SURFACER BOOTH AND OVEN (S-3008 AND S-3009)
Primer Surfacer paint at 44.1% solids by volume will be applied in the booth with “mini bells” electrostatic equipment (Transfer Efficiency (TE) = 75%), and with hand held spray guns (TE=30%). The precursor organic compound (POC) emissions from the automatic zone will be recirculated to concentrate the POCs. A slipstream from the recirculated lines will be vented to a Thermal Abatement Device. In addition to primer, interior color topcoats will be applied manually “wet on wet” in the booth. Repair primer will also be applied manually. Particulate matter (PM_{10}) emissions will be controlled by high efficiency venturi water scrubbing of paint overspray. The water will be recirculated via the paint overspray system where solids will be removed through filtration.

Oven emissions will be abated by thermal oxidation. Emissions from the “setting zone” prior to the oven will be abated as well. The oven will be of the camel-back design, which has the entrance and exit flooring of the booths at a 45 degree angle. This “camel-back” design allows the hot air that rises off the coated vehicles to be captured in the booth, which may aid in the overall capture of oven emissions.

TOPCOAT BOOTHS AND OVENS (S-3014, S-3015, S-3016, AND S-3017)
A combination of mini-bell electrostatic (TE=75%), reciprocating electrostatic (TE=45%), and hand held electrostatic spray guns or equivalent (TE=35%) will be used. The POC emissions from the automatic zones will be recirculated. These concentrated POC emissions are anticipated to be controlled by a thermal abatement device. PM_{10} emissions (paint overspray), will be controlled by high efficiency venturi water scrubbers. The water will be recirculated via the paint overspray system where solids will be removed through filtration.

Oven emissions will be abated by thermal oxidation. Emissions from the "setting zone" prior to the oven will also be abated. The oven will be of the camel-back design, which will aid in the overall capture of oven emissions.

DRY SAND AREAS (S-3018)
Dry sanding will be performed at these sources. The areas where heavy sanding occurs, particulate matter emissions will be captured and controlled by dry filters. Because this area is essentially a "clean" area with minimal dust so as not contaminate paint finish, not much sanding is expected in the open areas. However, light sanding may occur on occasion to repair selected vehicles that require touch-up. In the areas where more heavy sanding occurs, particulate matter emissions will be captured (vacuumed) and controlled by dry filters.

TOUCH UP REPAIR AREAS (S-3019) AND BLACKOUT REPAIR (S-3020)
Repair coatings which may be used at these sources include primer surfacer repair, topcoat solid, base, and clear, as well as interior, lacquer, and adhesion promoter/feathering agent. These sources may consist of more than one location, such as open floor repair areas, work stations or booths. Where practical, such as areas directly exhausted to atmosphere, paint overspray and sanding particulate matter emissions will be controlled by dry filters.

OSTRICH FEATHER BOOTH (S-3021)
Rotating ostrich feathers (or other material), may be used to eliminate any contamination (such as dust or dirt), which may have settled on the vehicle prior to its entrance into the Prime and Topcoat Booths. Currently, no other operations are planned for this area. However, because NUMMI has requested maximum flexibility this area is permitted in the event that solvent cleaning occurs at this source.

FUGITIVE CLEAN-UP (S-30960)
The cleanup materials are those currently in use. These include cleaners for the paint shop area, vehicle cleaners, wipe thinners, and purge thinners. NUMMI has requested that they be allowed to maintain their current permit level for cleanup. To maintain the cleanup emission permit level, good housekeeping and purge thinner recovery and reuse will continue.

BOILER (S-3056)
The boiler will provide process steam for various operations. NUMMI will have the boiler built with low oxides of nitrogen (NOx) burners and flue gas recirculation.

STAND-BY GENERATOR
The stand-by generator is being proposed as an alternative source of electricity should electric service fail. It is an excluded source pursuant to BAAQMD Reg. 1, Section 110.

COLD CLEANER TANK (S-3500 thru S-3502)
Cold Cleaner Tanks will be used to clean parts and equipment.

STORAGE TANKS (S-3503 thru S-3506) and MIXING TANKS (S-3507 thru S-3608)
The paint and thinners will be stored and/or mixed in totes, storage and mixing tanks.

PAINT MIX ROOM
The Paint Mix Room is a large well-ventilated room that houses raw solvent and paints, both in returnable totes and in storage tanks (S-3503 thru S-3506). It also houses in paint mix tanks (S-3507 thru S-3608) the reduced paints and solvents which are hard piped from this room to the Prime and Topcoat Booths for application to the vehicle.

PAINT STRIP ROOM (S-3902)
The Paint Strip Room is a large well-ventilated room which is used for cleaning vehicle carriers and other reused components of the conveyer system. The built up paint from repeat reuse is removed from these items. Primarily this is done with high pressure water. Some solvent cleanup may also occur at this location.

HVAC Paint Building
The HVAC Paint Building source denotes the heating ventilation and air conditioning units utilized to heat or cool the paint building offices, building, and rooms in general. These units are not associated with any individual booth work area.

2. EMISSION CALCULATIONS

Precursor Organic Compounds (POC) and Non-Precursor Organic Compounds (NPOC)
NUMMI's POC emissions come from both process (708.15 TPY) and combustion sources (2.88 TPY). Since POC emissions are determined by gross usage of coatings, all POC emissions are accounted for including small amounts that make their way into process wastewater and solid waste. In addition, because gross usage of coatings is used in the emission calculations, the emissions from Paint Mix Tanks and Storage Tanks are also included. The spreadsheet TABLE X: PROCESS SPREADSHEET (which was provided by NUMMI as part of their permit application and verified by the District), calculates the POC and particulate matter emissions associated with the process steps of the coating sources involved in this application. Process emissions are:

POC Emissions **711.03 tons per year (TPY)**

NPOC Emissions **11.18 TPY (from Toxics Table XV.B for Acetone)**

[Toxics Table XV.B was provided by NUMMI as part of their permit application and was verified by the District.]

Review of the material safety data sheets (MSDS) indicates that the only non-precursor compound (NPOC) involved is acetone. However, because NUMMI does not want the additional recordkeeping requirement of segregating acetone from the rest of the organic compounds, the emissions of acetone will be included in the POC cumulative increase.

Air Toxic Emissions
NUMMI's cumulative Health Risk Assessment (HRA), performed and submitted for the Bumper Line, Application No. 6518, showed a cumulative carcinogenic risk of 0.92 in a million, ($9.2x10^{-7}$). This cumulative HRA included existing operations of the Truck and Passenger Lines at permitted emission levels, as well as the proposed new projects. The proposed new projects of the Axle Line, Truck Fuel Tank Line, Instrument Panel Line, and Bumper Line, showed a risk of 0.47 in a million ($4.7x10^{-7}$). The combined carcinogenic risk, from the existing Truck and Passenger Lines at permitted emissions showed a risk of 0.44 in a million, ($4.4x10^{-7}$). The maximum exposed individual (MEI) is close to the same for both the Truck and the Passenger Lines, resulting in a Passenger Line risk of approximately 0.4 in a million ($4x10^{-7}$).

Due to the proposed Best Available Control Technology (BACT) for the booths and ovens, where booth autozone emissions, and oven emissions will be abated through thermal oxidation, a significant reduction in the carcinogenic risk should result over existing permitted operations. This is demonstrated for this project by choosing the coating baseline usages from which to calculate actual air toxic emissions based on currently used materials. This air toxic emission baseline period is from October 1990 through September 1991. The air toxic baseline emissions are calculated and shown in the attached SECTION VIII, EXISTING ACTUAL EMISSIONS, TABLE XIV.B: ACTUAL PASSENGER LINE AIR TOXIC EMISSIONS BASELINE, TOXIC EMISSIONS (BASED ON: USAGE FOR BASELINE VOC EMISSIONS FOR COATINGS AND CLEAN UP). [Table XIV.B was provided by NUMMI as part of their permit application and was verified by the District.] Also in SECTION VIII, the air toxic emissions, at proposed permit usage levels corresponding to this application, are calculated and shown on TABLE XV.B: PROPOSED PASSENGER LINE AIR TOXIC EMISSIONS, TOXIC EMISSIONS (BASED ON: PROPOSED USAGES). [Table XV.B was provided by NUMMI as part of their permit application and was verified by the District.]

This project only exceeds the BAAQMD Toxic Air Contaminant Trigger Levels specified in the District Air Toxics Risk Screening Policy, for benzene, ethylene glycol monobutyl ether (EGBE), Formaldehyde, and Xylene:

Benzene = 31 lbs/yr

Toxics Trigger Level = 6.7 lbs/yr

EGBE = 284,677.3 lbs/yr
(Butyl Cellosolve) Toxics Trigger Level = 3.86E+03 lbs/yr = 3,860 lbs/yr

Formaldehyde = 3,604.91 lbs/yr
Toxics Trigger Level = 3.3E+01 lb/yr = 33 lbs/yr

Xylene = 114,421 lbs/yr
Toxics Trigger Level = 5.79E+04 lbs/yr = 57,900 lbs/yr

Hence, because toxics trigger for the above toxics are exceed, an Air Toxics Risk Screening was required. Butyl Cellosolve is a noncarcinogenic TAC, with reported effects on the reproductive system. The risk from exposure to noncarcinogens is expressed as a Hazard Index (HI) with an HI of one (1) or greater considered as significant. The HI calculated for Butyl Cellosolve in the AB-2588 facility risk assessment for NUMMI (February 1992) was 0.11. With the increase in Butyl Cellosolve that would result from the proposed project, the HI has been recalculated to be 0.21, a value that is still well below the significance level of one (1). Similarly, the maximum facility risk due to exposure to carcinogenic TACs was determined to be 1.3E-06, or 1.3 in a million, in the AB-2588 risk assessment. This is considered to be an acceptable level of risk, one that does not require any public notification by the facility. Risk associated with this new site will be 1.3 in a million or less. (See May 1, 1996 Interoffice Memorandum from Pat Holmes to MK Carol Lee).

Particulate Matter (PM_{10}) Emissions

NUMMI's PM_{10} emissions for this project, which includes 13.62 TPY process (including overspray and sanding) and 2.13 TPY combustion are approximately 15.75 TPY. The baseline PM_{10} emissions are calculated and shown in attached SECTION VIII, EXISTING ACTUAL EMISSIONS, TABLE XI: ACTUAL POC BASELINE COATING EMISSIONS. This is a decrease from the baseline PM_{10} emissions (29.38 TPY) of 13.63 TPY. [Table XI was provided by NUMMI as part of their permit application and was verified by the District.]

Oxides of Nitrogen (NOx) Emissions

NUMMI is proposing to incorporate low NOx burners for both boilers and Recuperative Thermal Oxidizers or the use of Regenerative Oxidizers to reduce potential NOx emissions from this project. In addition, Flue Gas Recirculation is proposed for the boiler to further reduce NOx emissions. Air Supply Houses and HVAC units constitute NUMMI's remaining NOx sources. However, since these sources supply fresh air to work areas, low NOx burners which produce high CO emissions (a side-effect) cannot be specified.

The proposed permit conditions for the boilers will limit NOx emissions to 20 ppmv at a standard of 3% oxygen (dry). Using the NOx emission factors of 0.1, 0.15, 0.1, and 0.023 pound per million British Thermal Units (lb/MMBTU) for the Thermal Oxidizers, Air Supply Houses, Heater Boxes, and Boilers, respectively, NUMMI's proposed NOx emissions for this project are 49.33 TPY. This total estimated NOx emission limit (49.33 TPY) is included in the proposed permit conditions. This is a net increase in NOx emissions of 32.52 TPY. The baseline NOx emissions are calculated and shown in attached SECTION VIII, EXISTING ACTUAL EMISSIONS, TABLE XIII: ACTUAL NATURAL GAS COMBUSTION EMISSIONS. These baseline emissions total 16.81 TPY. [Table XIII was provided by NUMMI as part of their permit application and was verified by the District.]

Carbon Monoxide (CO) Emissions

The proposed permit conditions for the boilers will limit CO emissions to 50 ppmv at a standard of 3% oxygen (dry). Using the CO emission factors of 0.274, 0.12, 0.1, and 0.034 pound per million British Thermal Units (lb/MMBTU) for the Thermal Oxidizers, Air Supply Houses, Heater Boxes, and Boilers, respectively. NUMMI's proposed CO emissions for this project are 70.49 TPY. However, NUMMI is concerned that their low-NOx burners may emit more CO than estimated, and has requested that their total CO emission limit be allowed to go up 80 TPY, if they can demonstrate by source testing that when the low-NOx burners are functioning correctly and emitting low-NOx emissions that a higher CO emission rate is observed. However, their boiler will have a CO emission factor limit of 50 ppm at a standard of 3% oxygen,

dry. With a limit of 70.49 TPY, the net increase in CO emissions is 59.80 TPY. The baseline CO emissions are calculated and shown in the attached SECTION VIII, TABLE XIII: ACTUAL NATURAL GAS COMBUSTION EMISSIONS. These baseline emissions total 10.69 TPY. [Table XIII was provided by NUMMI as part of their permit application and was verified by the District.]

Oxides of Sulfur (SOx) Reported as SO_2 Emissions

NUMMI's SO_2 emissions for this project are 0.29 TPY. This is a net increase in SOx emissions of 0.22 TPY. The baseline SO_2 emissions are calculated and shown in the attached SECTION VIII, TABLE XIII: ACTUAL NATURAL GAS COMBUSTION EMISSIONS. These baseline emissions total 0.07 TPY. [Table XIII was provided by NUMMI as part of their permit application and was verified by the District.]

SUMMARY TABLE

	PROJECT EMISSIONS (TPY)					
Source	**POC**	**NPOC**	**PM10**	**NOx**	**CO**	**SOx**
S-3007 Dry Off Oven	**0.07**		**0.07**	**1.32**	**1.32**	**0.008**
S-3008 Prime Booth	**114.50**	**11.2**	**1.91**	**4.60**	**3.68**	**0.018**
S-3009 Prime Oven	**5.78**		**0.26**	**4.96**	**4.96**	**0.030**
S-3014 & S-3016 Topcoat Booth #1 & #2	**239.47**		**4.88**	**11.73**	**9.39**	**0.047**
S-3015 & S-3017 Topcoat Oven #1 & #2	**11.79**		**0.33**	**6.07**	**6.07**	**0.036**
S-3018 Dry Sand Areas	**0.03**		**7.20**	**0.53**	**0.53**	**0.003**
S-3019 & S-3020 Repair & Blackout Booth	**16.78**		**0.20**	**1.06**	**1.06**	**0.006**
S-30960&S-3902&S-3500thruS-3502&S-3021	**321.05**					
S-3056 Boiler	**0.70**		**0.07**	**2.67**	**2.38**	**0.042**
A-3008 & A-3009 Thermal Oxidizers	**0.74**		**0.70**	**13.99**	**38.34**	**0.084**
Paint Mix Room Air Supply Houses & HVAC	**0.12**		**0.13**	**3.45**	**2.76**	**0.014**
TOTAL PROJECT EMISSIONS	**711.03**	**11.2**	**15.75**	**49.33**	**70.49**	**0.29**

3. COMPLIANCE DETERMINATION

New Source Performance Standards (NSPS), and BAAQMD Regulation 8, Rule 13

The paint materials, and coatings associated with this project are subject to BAAQMD Regulation 8, Rule 13: Light and Medium Duty Motor Vehicle Assembly Plants, and BAAQMD Regulation 10, Rule 38: 40 CFR Part 60, Subpart MM New Source Performance Requirement, by reference.

Following are the BAAQMD standards and a listing of NUMMI materials which must meet these standards. If the material does not comply "as is" then, an equivalent determination is made. This is done by taking into consideration any available abatement credit.

Primer Booth (S-3008)

This category includes:	S-3019	Repair Areas	Repair Primer
	S-3014 & 3016	Topcoat Booths	Repair Primer

Regulation 8-13-302 Standard: Primer Surfacer 15.0 lb per gallons of applied coating solids (gacs)

NUMMI:	Primer	4.0 lb POC/Gallon, TE= 30%, 75%, Vs=44.1%
	Repair Primer	5.83 lb POC/Gallon, TE= 30%, 75%, Vs=35.5%
		(where Vs is percentage of solids by volume)

The Final Limits pursuant to Regulation 8-13-302 for Topcoat and Primer Surfacer are calculated and presented in the SECTION III, REG. 8, RULE 13 EQUIVALENCY DEMONSTRATION. Compliance is demonstrated by utilizing volume weighted average and after abatement in the Primer Booth. The NUMMI coatings (Primer and Repair Primer) demonstrate compliance at **8.0 lb/Gacs.**

Topcoat Booth (S-3014 and S-3016)

This category includes:	S-#	Description	Coating
	S-3008	Primer Booth	Interior Color/Blackout
	S-3019	Repair Areas	Topcoat Enamel
			Topcoat Lacquer
	S-3020	Black Out Booth	Blackout

Regulation 8-13-302 Standard: Topcoat 15.0 lb/Gacs

NUMMI:	Topcoat Basecoat:	4.88 lb POC/Gallon, TE= 35%, 75%, Vs=31.7%
	Topcoat Clearcoat:	4.12 lb POC/Gallon, TE= 35%, 75%, Vs=43.2%
	Topcoat Solid:	3.59 lb POC/Gallon, TE= 35%, 75%, Vs=49.0%
	Topcoat Basecoat:	4.88 lb POC/Gallon, TE= 30%, Vs=31.7%
	Topcoat Clearcoat:	4.12 lb POC/Gallon, TE= 30%, Vs=43.2%
	Topcoat Solid:	3.59 lb POC/Gallon, TE= 30%, Vs=49.0%
	Interior	4.12 lb POC/Gallon, TE= 30%, Vs=49.0%
	Blackout	4.12 lb POC/Gallon, TE= 30%, Vs=49.0%
	Lacquer:	6.41 lb POC/Gallon, TE= 30%, Vs=8.6%
	Adhesion/Feathering Agent:	6.61 lb POC/Gallon, TE= 30%, Vs=4.0%

The Final Limits pursuant to Regulation 8-13-302 for Topcoat and Primer Surfacer are calculated and presented in the SECTION III, REG. 8, RULE 13 EQUIVALENCY DEMONSTRATION. Compliance is demonstrated by utilizing volume weighted average and after abatement in the Topcoat booths. The NUMMI coatings (Topcoat) demonstrate compliance at **10.8 lb/Gacs.**

Best Available Control Technology (BACT) Review

S-3008 Prime Booth, S-3014 and S-3016 Topcoat Booths #1 and #2, and S-3019 and S-3020 Repair and Blackout Booths are estimated to exceed the BACT trigger level (10 lbs/day) for POC and PM_{10}. S-3009 Prime Oven, S-3015 and S-3017 Topcoat Ovens #1 and #2, the solvent cleaning sources (S-3021 Ostrich Feather Booth, S-30960 Fugitive, S-3902 Paint Strip, and S-3500 thru S-3502 Cold Cleaners), and the

Paint Mix Tanks (S-3507 thru S-3588) are estimated to exceed the BACT trigger level for POC. S-3018 Dry Sand Booth is estimated to exceed the BACT trigger level for PM10. S-3056 Boiler is estimated to exceed the BACT trigger level for NOx.

The technologies for S-3008 Primer Surfacer Booth, S-3019 Primer Surfacer Oven, S-3014 Topcoat Booth, and S-3015 Topcoat Oven proposed by NUMMI and accepted by the District as BACT include:

1. use of "high solids" primer surfacer, and topcoat paints,
2. use of high transfer efficiency (TE) electrostatic paint equipment such as mini-bells (TE=75%), reciprocating electrostatic paint application (TE=45%), and the use of hand held manual HVLP (TE = 30%) or electrostatic spray guns (where coating metallic surfaces, TE=30%),
3. capture of the booth automatic zone emissions,
4. capture of the booth flash and setting zone emissions,
5. capture of the oven entrances and exits, and
6. good housekeeping practices to minimize solvent evaporation, and purge thinner recovery
7. **destruction of captured emissions to a minimum destruction efficiency of 95 to 98.5%, depending on concentration.**

Two POC abatement control technologies are considered: Option 1, regenerative thermal oxidation, and Option 2, rotary bed carbon adsorption followed by thermal oxidation. Wet electrostatic precipitation is assumed for all secondary particulate abatement.

Abatement of the various areas where solvent cleaning will be performed was considered. However, the 321 TPY of cleanup emissions are disbursed throughout many sources and areas. Because NUMMI has stipulated that they do not have the capability to verify the quantity of cleanup solvent that will be used in each booth (i.e., S-3008 Prime Booth, S-3014 and S-3016 Topcoat Booths #1 and #2, S-3019 and S-3020 Repair and Blackout Booth) and other sources (i.e., S-3007 Dry-Off Oven, S-3021 Ostrich Feather Booth) that normally would be exempt (if solvent cleaning did not exist), NUMMI has requested that a permit for Fugitive Cleanup (S-30960) to categorize and quantity all cleanup solvent usage for the Passenger Paint Shop. Because cleanup will occur in open floor areas within the paint building, repair areas, work stations and booths, it was determine that abatement would not be cost-effective because of the large air volumes and dimensions involved. Most cleaning will be done manually, and hence recirculation of solvent air streams is not possible, because of worker safety concerns.

To minimize clean-up emissions, the thermal oxidizers are conditioned to remain in operation during clean-up conducted following periods of production for a period of at least 30 minutes. The booth walls and fixtures of the Prime Booth (S-3008) and Topcoat Booths (S-3014 and S-3016) are required to be paper or plastic lined, or coated with a protective removable coating to reduce clean-up solvent usage. The linings and protective coating will not be applied in areas that may hinder painting operations or egress (which include windows, doors, and moving equipment). The paint booth grating will have a chemical maskant (which contains negligible VOC) applied to it to minimize the use of solvent for cleaning the grates. When the grates get sticky with paint overspray, water is used to remove the chemical maskant (and paint overspray which is stuck to the maskant) and new chemical maskant is applied to the grating. High pressure water blasting of vehicle carriers will minimize the need to use solvent to clean the carriers. NUMMI will use lower VOC solvents in some areas that may only require light paint removal. For example, in the locker rooms and office areas, where paint residue may be tracked in by employee foot track, NUMMI will use a low-VOC cleaner to clean the floors. In the areas leading to and from the booths, where more paint is tracked by employee foot traffic, another low-VOC solvent will be used to clean the floors. In the areas where heavy paint overspray or paint residues are found, low-VOC solvents have been found ineffective for cleaning, because of the "sticky" characteristics of the automotive coatings. In those cases, solvents, such as Isopropanol, Acetone, Glycol Ethers, and other solvent mixtures) are used. Cleanup solvent usage is conditioned to be collected and recovered at 65% or greater in an enclosed collection system to further minimize cleanup emissions. The recovered paint and solvent is to be shipped to a solvent recycling company for proper disposal.

The Cold Cleaners (S-3500, S-3501, and S-3502) using only NUMMI Solvent IV and/or Glycol Ethers, which meets the definition of a low-volatility solvent, are exempt from the requirements of Regulation 8-16-302.5 (freeboard ratio). However, BACT for Cold Cleaners (Page 54.1 of the BACT Workbook) has been

determined to be compliance with Regulation 8-16 for all solvents (including low-volatility solvents). The Cold Cleaners (S-3500, S-3501, and S-3502) will have permit conditions that requires that each be equipped with a cover and have a freeboard ratio greater than or equal to 0.75.

The Paint Mix Tanks (S-3507 thru S-3588) will be required to meet the requirements of Regulation 8-35-301 for stationary tanks. Because the emissions of the Paint Mix Tanks are not estimated to exceed 15 pounds per day of POC emissions, the requirements of Regulation 8-35-305 (80% Capture and Abatement) do not apply.

Cost Effectiveness Study

The cost-effectiveness study for S-3019 Repair Booth and S-3020 Blackout Booth was performed. These two sources may consist of more than one location, such as open floor repair areas, work stations or booths. To perform the cost-effectiveness study the total POC emissions were assumed to come from only one of the booths. This provides a worst case analysis, since the booths are designed for the same volumetric exhaust rates (42,000 CFM). Cost-effectiveness ranged from $80,000 to $155,000 per ton of POC abated. The $80,000 value is for the abatement scenario which would use a carbon concentrator and thermal oxidizer. The $155,000 value is for the abatement scenario for direct exhausting to a thermal oxidizer. Both scenarios demonstrate that it is not cost effective to control either of these two sources either individually or combined. These are manned booths, therefore recirculation of the booth exhaust is not an option. This results in no cost effective means of abating these booths.

EPA Lowest Achievable Emission Rate (LAER)

Research was conducted to determine current LAER for the Automotive Industry by consulting Mr. David Salman of EPA, Research Triangle Park, North Carolina, Office of Air Quality Planning and Standard and the EPA BACT Clearing House, and the recently issued permits for BMW and Mercedes.

The Prime and Topcoat Booth Automatic Zones are being controlled in practice if the coating used is solvent-based. If the coating used is water-borne, no controls are required, and this is considered BACT for the automatic zones. This is reflected in both the recently issued permits for BMW (3/93), and Mercedes (4/94). Both propose the use of water-borne basecoat paints without the control of the automatic basecoat booth zone. Both propose the use of solvent-based clearcoat with the control of the automatic clearcoat booth zone, thereby establishing LAER.

Mr. David Salman confirmed that the Mercedes and BMW permits are, to his knowledge, the most recently issued permits. However, the Mercedes Permit was an EPA BACT determination and does not represent an EPA LAER determination. He confirmed that Topcoat LAER values in the range of 6.7-8 lb VOC/Gacs (0.8-0.95 Kg/Lacs), are reasonable, and that Primer Surfacer LAER values in the range of 5-6.5 lb VOC/Gacs (0.6-0.8 Kg/Lacs), are reasonable.

	NSPS (Kg/Lacs)	NUMMI NSPS (Kg/Lacs)
Guidecoat (primer surfacer)	1.40	0.77
Topcoat	1.47	0.92

NUMMI is not proposing the use of water-borne basecoat paints. Instead, NUMMI is proposing the use of solvent based basecoat paint with the control of the automatic basecoat booth zone. This provides a Topcoat LAER value comparable to Mercedes.

OFFSETS

The baseline emissions for the existing operations which are to be replaced, are calculated and shown in SECTION VIII, EXISTING ACTUAL EMISSIONS, TABLES XI through TABLE XV.B. [Tables XI through Table XV.B were provided by NUMMI as part of their permit application and was verified by the District.] The baseline period for POC and PM coating emissions is from October 1, 1990 through September 30, 1991. The POC coating emissions are 447.58 TPY. The PM_{10} baseline emissions are 30.02 TPY. The baseline period for POC clean up emissions is from March 1, 1991 to February 28, 1992. The baseline

POC clean up emissions are 320 TPY. Hence, the total POC baseline emissions are 767.58 TPY. The baseline period for combustion emissions of NOx, SO_2, and CO, is from October 1, 1991 through September 30, 1992. These baseline emissions are 16.81 TPY of NOx, 0.07 TPY of SO_2, and 10.69 TPY of CO.

Verification of POC and PM10 Coating Emission Reductions

NUMMI had previously applied for emission reductions credit for a transfer efficiency improvement project in Application No. 6518 (Bumper Line). NUMMI implemented a Transfer Efficiency (TE) Improvement Project for its Passenger Line beginning February 1991. The TE Project consisted of replacing all hand held air atomized paint spray guns for both Topcoat and Prime Booths with handheld Graco Self-Generating Electrostatic (ES) spray guns or equivalent High-Volume-Low-Pressure (HVLP) hand held spray guns, except for blackout coating operations. In addition, the Topcoat Booths, Basecoat automatic sections, which consisted of two automatic sections, were reconfigured. The Topcoat basecoat automatic section No. 1, which currently consists of automatic electrostatic reciprocating spray guns, was replaced with high transfer efficiency electrostatic minibells. Topcoat basecoat automatic section No. 2, which currently consists of automatic reciprocating air atomized spray guns will be replaced with automatic electrostatic reciprocating spray guns. The TE project was attributed to the developmental work necessary to meet the TE requirements of the Second Line Permit (Truck Line Application No. 3611). The total capital investment for this Project was approximately 3.7 million dollars.

In the District's evaluation of Application No. 6518 (Bumper Line), the emission reductions from the implementation of the TE Project was determined based on the previous two years (January 1989 through December 1990) of actual emissions prior to its implementation. A review of the copies of purchase orders and material usage logs for Model Years 1989 and 1990 substantiates the material usage for the last two years of actual emissions (January 1989 through December 1990) from the topcoat and prime coat booths:

Actual Usage (Gals/Yr)

TOPCOAT	1989	1990	Average
Base Coat	153,605	143,224	148,415
Clear Coat	55,885	57,370	56,628
NMHS	46,422	42,834	44,628
Interior Colors	25,132	26,628	25,880

Primer	1989	1990	Average
Primer Surfacer	49,371	49,904	49,638

For this application, NUMMI has requested a baseline period from October 1, 1990 through September 30, 1991. Review of the usage logs and purchase orders to this baseline period indicates the following usages:

TOPCOAT	Actual Usage (Gals/Yr)
Base Coat	138,283
Clear Coat	58,723
NMHS	36,139
Interior Colors	28,803

Primer	Actual Usage (Gals/Yr)
Primer Surfacer	50,449

As a result of these verified usages, NUMMI is eligible for the following emission reductions credit from their coating operation:

POC Coating Emission Reductions = 447.08 TPY

PM10 Coating Emission Reductions = 29.38 TPY

Verification of POC Clean Up Emission Reductions

NUMMI had previously applied for emission reductions credit achieved from usage reductions of the Passenger Line clean-up materials in Application No. 11488. Because the program to reduce clean-up material usage was implemented in early March 1992, the period of March 1, 1991 to February 28, 1992 was determined as the emissions baseline period. In accordance with Section 2-4-301.2 ("actual emission reductions due to the installation of different processes or equipment, which emit less than previous process or equipment that perform the same function"), the actual emissions reductions were bankable.

NUMMI's highest annual emissions ended on the last day of the month of February 1992. NUMMI's annual emissions for this time period were 565 TPY as reported to the District in their monthly VOC Emission reports. NUMMI's monthly VOC Emissions reports were verified to establish the baseline emissions of clean-up materials, when compared to the purchase and recovery records for the clean-up materials. For example, a summation of the monthly VOC Emissions reports for March 1991 through February 1992 showed net usage of 118,462 gallons per year of Purge Thinner. NUMMI's purchase records showed that 255,110 gallons per year of Purge Thinner was received; subsequently, NUMMI's gross usage log showed that 255,610 gallons per year of Purge Thinner was used. NUMMI's recovery records showed that 136,547 gallons per year of Purge Thinner was recovered for shipping to an off-site disposal facility. As a result, according to NUMMI's usage and recovery log, net purge thinner usage is determined to be 119,063 gallons per year. Hence, the net usage of Purge Thinner provided in the summation of NUMMI's monthly VOC Emissions records (118,462 gallons per year) was a conservative and valid accounting of the material.

Because usage of Booth Stripper, Wipe Thinner, Oven Cleaner, Urethane Cleaner, and Jig Cleaners is not recovered, there is no recovery records for these materials. As a result, the purchase records provide

good validation of the usage records for these materials in NUMMI's VOC Emissions reports. The following is a comparison of the material purchase and usage records:

	Purchased (gallons/year)	Used (gallons/year)	
Booth Stripper	41408	25127	
Misc. Solvents	8538	8250	
Misc. Cleaners	1408	1078	

As in the case of the Purge Thinner records, NUMMI's purchase records for the other clean-up materials, show that enough material was purchased to be used. After review of NUMMI's recordkeeping and supporting documentation, a baseline of 565 TPY of POC was established. Hence, it was determined that NUMMI is eligible for 245 TPY of POC emissions reductions credit, when their permit conditions were amended to reduce POC clean-up usage to 320 TPY. A Banking Certificate (No. 313) was issued to NUMMI for 245 TPY of POC, as a result of Application No. 11488. The permit conditions related to clean-up materials were amended to reduce the amount of solvent usage as follows:

Old

Clean-Up Usage	Gal/Yr	Gal/Mon	Gal/Day	Ton/Yr
157025	15413	1090	570	

(BASELINE = 565 TPY)

New

Clean-Up Usage	Gal/Yr	Gal/Mon	Gal/Day	Ton/Yr
	88154	8653	612	320

NUMMI has requested the same baseline period for review in this application as that of Application No. 11488. Hence, because the baseline period was already verified in Application No. 11488, NUMMI is eligible for 320 TPY of POC emission reduction credits.

Verification of Combustion Emission Reductions

The baseline period for combustion emissions of NOx, SO_2, and CO, is from October 1, 1991 through September 30, 1992. Review of the natural gas usage logs indicates a natural gas usage of **2,514,519 Therms** during the baseline period. **As a result, the combustion emission reductions associated with the combustion equipment was determined to be 0.64 TPY of PM_{10}, 16.81 TPY of NOx, 0.07 TPY of SO_2, and 10.69 TPY of CO**.

This application calculates the following emissions: 708.15 TPY of POCs, 15.75 TPY of PM, 49.33 TPY of NOx, 0.29 TPY of SO_2, and 70.49 TPY of CO. The cumulative increases are calculated and shown as follows:

	CONTEMPORANEOUS EMISSION REDUCTIONS (TPY)	CUMULATIVE INCREASE FOR PROPOSED PROJECT (TPY)	NET CUMULATIVE EMISSIONS INCREASE (TPY)
POC	767.58	711.03	-56.55
PM10	29.38	15.75	-13.63
NOx	16.81	49.33	32.52
SO_2	0.07	0.29	0.22
CO	10.69	70.49	59.80

The cumulative emissions increase column shows that emissions of NOx will require offsets. These offsets can be provided from the excess contemporaneous reductions of POC emissions pursuant to BAAQMD Reg. 2-2-302.1. The NOx increase in emissions requires offsets at the ratio of 1.15 to 1.0 pursuant to BAAQMD Reg. 2-2-302. The total NOx **offsets required are 37.40 TPY (32.52 x 1.15)**. Hence, using the excess POC contemporaneous reductions of POC (56.55 TPY), the following emission reductions credit should be issued to NUMMI in the form of a Banking Certificate:

POC Emission Reductions Credit = 56.55 - 37.40 = 19.15 TPY

Prevention of Significant Deterioration (PSD)

According to the New Source Review Rule (Regulation 2-2-304), an air quality impact analysis was required for nitrogen oxides (NOx) for a cumulative increase of 40 TPY or more. For carbon monoxide (CO), an air quality impact analysis was required for a cumulative increase of 100 TPY or more. The NOx and CO cumulative emission increases for the Bumper Line (Application No. 6518), Fuel Tank Line (Application No. 9856), Instrument Panel Line (Application No. 10740), Axle Line (Application No. 10741), and Thermal Oxidizer Retrofits (Application No. 25768) triggered an air quality impact analysis in 1993. That 1993 air quality analysis for the following emissions inventory:

Pollutant	**TPY**
NOx	**107.8**
CO	**114.2**
SOx	**0.7**
PM10	**12.2**

indicated that the projects (Bumper, Fuel Tank, Instrument Panel, and Axle Lines, and Thermal Oxidizer Retrofit) would not interfere with the attainment or maintenance of applicable Ambient Air Quality Standards (AAQS) for NO_2 or CO. The analysis also shows that the Prevention of Significant Deterioration (PSD) increment for NO_2 would not be consumed. The proposed project is in compliance with all Air Quality Modeling requirements specified in Regulation 2-2.

Application No. 25713, which was to permit an additional Bumper Booth and Oven, accounted for an additional 22.56 TPY of CO emissions that were not included in the 1993 PSD Modeling, because the low-NOx burners emitted more CO than originally estimated. With the additional CO emissions, plus the emissions from the new sources of this application, minus the contemporaneous reductions from this application, the resulting net emissions do not trigger PSD modeling requirements for NOx, SO_2, PM_{10}, or CO:

Cumulative Increase Since 1993 PSD Analysis	
Pollutant	**TPY**
NOx	**32.52**
CO	**82.36 = 59.80 + 22.56**

SOx 0.22
PM10 -13.63

NUMMI is replacing existing sources, which will provide contemporaneous emission reduction credits, which when subtracted from the new replacement sources' proposed emissions results in emission levels below the PSD modeling trigger levels. However, according to Regulation 2-2-405, the application requires publication and public comment.

Exempt Sources
The following equipment is exempt from Sections 2-1-301 and 302, in accordance with the specific section(s) of Regulation 2-1 cited in Section 1:

Standby Generator, 13 MMBTU/hr (exempt by 2-1-113.2.10)
Paint Mix Room, Custom Built, 6 MMBTU/hr (exempt by 2-1-113.2.14)
HVAC Paint Building, Custom Built, Total 15 MMBTU/hr (exempt by 2-1-113.2.14)
Satellite #1 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #2 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #3 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #4 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #5 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #6 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #7 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #8 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #9 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #10 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #11 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #12 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #13 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #14 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #15 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #16 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #17 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #18 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #19 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #20 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)

The above described exempt equipment:

- does not emit one or more toxic air contaminants in quantities that exceed the limits listed in Table 2-1-316 of Regulation 2-1.
- has not received two or more public nuisance violations, under Regulation 1-301 or Section 41700 of the California Health and Safety Code, within any consecutive 180-day period.
- does not emit any hazardous substances in excess of the quantities listed in Regulation 2-1-318 (for PSD Major Facilities).

California Environmental Quality Act
The City of Fremont is the Lead Agency for the purposes of the California Environmental Quality Act (CEQA). NUMMI submitted an Addendum to the Environmental Impact Report, EIR-89-13, prepared for the Passenger Vehicle Paint Building Project to the City of Fremont, who certified the Addendum on May 21, 1996.

NUMMI has certified that the distance from the facility to the nearest school is over 1,000 feet.

4. PERMIT CONDITIONS

START-UP OVERLAP
There will be an overlap of operation between the existing sources of the passenger paint shop, and the replacement sources which are the subject of this application. During the start-up operations vehicles will be processed through both the existing and new sources. This will be done until all unforeseen problems associated with a project of this size can be resolved. This will allow NUMMI to prove the operation and reliability of the new equipment and sources, without an interruption of production. During this one-year period (as specified in the proposed permit conditions), excluding non-production trials, any vehicle produced in the new paint shop will not be produced in the existing paint shop. Therefore, commercial production in the existing source will be replaced on a one to one basis, resulting in a net decrease in emission, until full conversion of vehicle production in the new paint shop is accomplished. At that point the existing sources that are being replaced will be permanently shutdown.

REPAIR EMISSIONS LIMIT
In allocating the quantity of repair coatings (coatings used to repair imperfections in applied coating and/or to provide touch-up), NUMMI had estimated a certain quantity of repair coating to be used in the Topcoat Booths and Ovens (S-3014, S-3015, 3016, and S-3017) and Prime Surfacer Booth and Oven (S-3008 and S-3009), in addition to the quantities used in the Touch-up Repair Areas (S-3019) and Blackout Repair (S-3020) sources. However, it is possible that all repair coatings may be applied in the Touch-up Repair Areas and Blackout Repair (S-3020) sources. As a result, NUMMI has requested that the emission limit for the Touch-up Repair Areas and Blackout Repair (S-3020) sources include the repair emissions already accounted for in the emission limits for the Topcoat Booths and Ovens (S-3014, S-3015, 3016, and S-3017) and Prime Surfacer Booth and Oven (S-3008 and S-3009). Instead of a POC-coating-emissions limit of 16.73 TPY, NUMMI requested an emission limit of 19.91 TPY, which includes 3.18 TPY of emissions already accounted for in the other coating sources. However, NUMMI is not requesting an additional emissions increase of 3.18 TPY in the overall POC emission limit of 708.15 TPY. In other words, NUMMI has requested the flexibility in their permit conditions to allow them the use up to 1.59 TPY of repair coatings in the Topcoat Booths and Ovens (S-3014, S-3015, 3016, and S-3017), 1.59 TPY in the Prime Surfacer Booth and Oven (S-3008 and S-3009), and 19.91 TPY in the Touch-up Repair Areas and Blackout Repair (S-3020) sources. However, the total emissions from the use of repair coatings is 19.91 TPY, and is restricted by the overall emissions limit of 708.15 TPY.

MONTHLY LIMITS
For the purpose of determining compliance with emissions and/or usage limits, a year is defined as a twelve-month consecutive period in which NUMMI produces a vehicle model (typically August 1 thru July 31); a month is defined as a calendar month.

The purpose of defining limits for calendar month and model year, is to allow flexibility for the variable production system at NUMMI. Flexibility is required in the event of increased production following a plant shutdown. Each model year, NUMMI must make a set number of vehicles to meet consumer demands. At certain times during the calendar year, they stop production for a variety of reasons including but not limited to model changes, holidays, equipment failure, or natural disasters. The consequent loss of production volume, must be overcome by increasing the production rate in subsequent month(s).

NUMMI has requested that their monthly limits be flexible to properly accommodate production down-time and increased production. NUMMI defines a year as the time it takes them to produce a vehicle model in a consecutive twelve-month period. Monthly limits, derived by dividing the annual limits by 8 months instead of 12 months, will result in monthly limits that will accommodate sporadic production increases. For example, if NUMMI were to shut down the plant for one month due to a model change, there would be

essentially no coating usage or emissions. NUMMI could easily exceed an average monthly limit (derived by dividing the annual limits by 12 months) during the month(s) following a shut down when NUMMI increases production hours to make-up for the lack of production. By allowing NUMMI a monthly limit derived by dividing the annual limit by 8 months, the temporary production rate increase would then be less likely to exceed the derived monthly limit(s), without exceeding the annual limits.

I recommend that the operation for the sources within the Passenger Line be subject to the following permit conditions:

A.1 Conditions Common to All sources of the Passenger Line (issued with the A/C only):

1. Once passenger vehicle production reaches 25 units per hour, but not later than 180 days after start-up, NUMMI shall have source testing required in Conditions 1a, 1b, 1c, 1d, and 1e performed. A status report on source testing progress shall be provided to the District every 30 days after start-up until the source tests have been completed. Prior notification of all source testing shall be provided to the District Source Test Manager. NUMMI shall provide the source test raw data from required source tests upon request.

a. to verify the transfer efficiencies of the coating applicator systems by the methods detailed in the EPA's Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations (dated December 1988).

b. to determine the capture and control efficiency of VOC emissions to the abatement equipment 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 (A-3008 and A-3009).

1. In lieu of capture efficiency (CE) demonstration, 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:

i) Calculated POC emissions on a pound per unit basis [A] shall be determined by multiplying the annualized coating usage with the POC content and dividing by the annualized production rate.
ii) Measured 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].
iii) Measured 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].
iv) [B] and [C] shall each be divided by the production rate measured during the source test yielding a pound 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.
v) 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].
vi) The determined value [A-B+C] shall be multiplied by the actual, annual production rate.
vii) Within 60 days of the above described source testing, a report documenting results 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 emissions greater than emission limits for coating line (booth(s) and oven(s) combined)], NUMMI shall report such violation to the permit engineer and the Director of Enforcement in the report.

c. to verify compliance with all applicable requirements of District Regulation 8, Rule 13, "Light and Medium Duty Motor Vehicle Assembly Plants" pertaining to passenger line production.

d. to determine the actual emissions for NOx and CO from the combustion sources (including Booth Air Supply Houses, Oven Heater Boxes, Thermal Oxidizers, and Boiler) of the passenger line. Burners in Thermal Oxidizers are typically estimated to emit 0.274-pound CO per million BTU (or 400 ppmv). If source tests indicate that emissions are higher than 0.274-pound CO per million BTU, then the operator shall provide a detailed explanation and/or other documentation to verify that the burners are indeed being utilized correctly.
e. EPA Test Method 17 or other test methods approved by the District Source Test Manager shall be used to determine the control efficiency of the dry filters of the S-3008 Prime Booth, S-3014 Topcoat #1 Booth, S-3016 Topcoat #2 Booth, S-3018 Prime Dry Sand Booth, S-3019 Repair Booth, and S-3020 Black Out Booth.

All testing shall be performed with the passenger line operating as close as possible to the maximum production rate.

2. The results of the testing required in Condition 1 above shall be submitted to the District within 60 days following the testing date for each test. This period may be extended to 90 days, if NUMMI demonstrates to the satisfaction of the APCO that the additional time is required.

3. At least 30 days before start-up, NUMMI shall notify the District of any changes that were not originally applied for in the permit application and for which an Authority to Construct was not issued, such as new sources or abatement equipment, make and/or model changes, throughput changes, exhaust flow rate changes, substitution of solvent based coatings for water based coatings. NUMMI shall submit a permit application to the District for any changes that the District determines to be modifications to the permit.

4. NUMMI shall shutdown and relinquish the permits of the following sources within one year of start-up of this Authority to Construct the Passenger Paint Shop, unless extended by written approval of the APCO. During this start-up period, vehicles may be processed through either the existing or new Passenger Paint Shop sources, as long as the vehicle production limits specified in Condition No. 207 are not exceeded:

S-4	Passenger Primer Surfacer Booth and Air Supply Houses
S-5	Passenger Primer Surfacer Oven and Heater Boxes
	A-5 Prime Oven Recuperative Thermal Oxidizers (2)
A-61	Prime and Interior Oven Exit Vestibule Catalytic Thermal Oxidizer
S-6	Passenger Interior Color Booth and Air Supply Houses
S-7	Passenger Interior Color Oven and Heater Boxes
S-8	Passenger 1st Color Booth and Air Supply Houses
S-9	Passenger 1st Color Booth and Air Supply Houses
S-10	Passenger 1st Color Oven/Catalytic Incinerator and Heater Boxes
	A-9 1st Color Oven Catalytic Thermal Oxidizers (3)
S-11	Passenger 2nd Color Oven/Catalytic Incinerator and Heater Boxes
S-12	Passenger 3rd Color Booth and Air Supply Houses
S-13	Passenger 3rd Color Oven w/ Catalytic Incinerator and Heater Boxes
	A-13 3rd Color Oven Catalytic Thermal Oxidizer (1)
	A-131 Topcoat Oven Exit Vestibule Catalytic Thermal Oxidizer
S-439	Pass Enamel PMB Tank (160 Gal)
S-440	Pass Enamel PMB Tank (160 Gal)
S-441	Pass Enamel PMB Tank (160 Gal)
S-442	Pass Enamel PMB Tank (160 Gal)
S-443	Pass Enamel PMB Tank (160 Gal)
S-444	Pass Enamel PMB Tank (160 Gal)
S-445	Pass Enamel PMB Tank (160 Gal)
S-446	Pass Enamel PMB Tank (160 Gal)
S-447	Pass Enamel PMB Tank (160 Gal)

S-448	Pass Enamel PMB Tank (160 Gal)
S-449	Pass Enamel PMB Tank (160 Gal)
S-450	Pass Enamel PMB Tank (160 Gal)
S-451	Pass Enamel PMB Tank (160 Gal)
S-452	Pass Enamel PMB Tank (160 Gal)
S-453	Pass Enamel PMB Tank (25 Gal)
S-454	Pass Enamel PMB Tank (120 Gal)
S-455	Pass Enamel PMB Tank (120 Gal)
S-456	Pass Enamel PMB Tank (120 Gal)
S-457	Pass Enamel PMB Tank (120 Gal)
S-458	Pass Enamel PMB Tank (120 Gal)
S-459	Pass Enamel PMB Tank (120 Gal)
S-460	Pass Enamel PMB Tank (120 Gal)
S-461	Pass Enamel PMB Tank (120 Gal)
S-462	Pass Enamel PMB Tank (120 Gal)
S-463	Pass Enamel PMB Tank (120 Gal)
S-464	Pass Enamel PMB Tank (120 Gal)
S-465	Pass Enamel PMB Tank (120 Gal)
S-466	Pass Enamel PMB Tank (120 Gal)
S-467	Pass Enamel PMB Tank (120 Gal)
S-468	Pass Enamel PMB Tank (120 Gal)
S-469	Pass Enamel PMB Tank (120 Gal)
S-470	Pass Enamel PMB Tank (120 Gal)
S-471	Pass Enamel PMB Tank (120 Gal)
S-472	Pass Enamel PMB Tank (120 Gal)
S-477	Pass Enamel PMB Tank (120 Gal)
S-478	Pass Enamel PMB Tank (120 Gal)
S-479	Pass Enamel PMB Tank (120 Gal)
S-480	Pass Enamel PMB Tank (120 Gal)
S-481	Pass Enamel PMB Tank (60 Gal)
S-482	Pass Enamel PMB Tank (60 Gal)
S-483	Pass Enamel PMB Tank (60 Gal)
S-484	Pass Enamel PMB Tank (60 Gal)
S-485	Pass Enamel PMB Tank (60 Gal)
S-486	Pass Enamel PMB Tank (60 Gal)
S-487	Pass Enamel PMB Tank (60 Gal)
S-488	Pass Enamel PMB Tank (60 Gal)
S-489	Pass Enamel PMB Tank (60 Gal)
S-490	Pass Enamel PMB Tank (60 Gal)
S-491	Pass Enamel PMB Tank (60 Gal)
S-492	Pass Enamel PMB Tank (60 Gal)
S-493	Pass Enamel PMB Tank (60 Gal)
S-494	Pass Enamel PMB Tank (60 Gal)
S-495	Pass Enamel PMB Tank (60 Gal)
S-496	Pass Enamel PMB Tank (60 Gal)
S-497	Pass Enamel PMB Tank (60 Gal)
S-498	Pass Enamel PMB Tank (60 Gal)
S-499	Pass Enamel PMB Tank (60 Gal)
S-500	Pass Enamel PMB Tank (60 Gal)
S-501	Pass Enamel PMB Tank (60 Gal)
S-502	Pass Enamel PMB Tank (60 Gal)
S-503	Pass Enamel PMB Tank (60 Gal)
S-504	Pass Enamel PMB Tank (60 Gal)
S-505	Pass Enamel PMB Tank (60 Gal)
S-506	Pass Enamel PMB Tank (60 Gal)

S-529	Pass Enamel PMB Tank (120 Gal)
S-530	Pass Enamel PMB Tank (120 Gal)
S-531	Pass Enamel PMB Tank (120 Gal)
S-532	Pass Enamel PMB Tank (120 Gal)
S-533	Pass Enamel PMB Tank (120 Gal)
S-534	Pass Enamel PMB Tank (120 Gal)
S-535	Pass Enamel PMB Tank (120 Gal)
S-536	Pass Enamel PMB Tank (120 Gal)
S-537	Pass Enamel PMB Tank (120 Gal)
S-628	Pass Satellite Tank
S-629	Pass Enamel PMB Tank
S-630	Pass Enamel PMB Tank
S-631	Pass Enamel PMB Tank
S-632	Pass Enamel PMB Tank
S-633	Pass Enamel PMB Tank
S-634	Pass Enamel PMB Tank
S-635	Pass Enamel PMB Tank
S-636	Pass Enamel PMB Tank
S-734	Special Color Mix Tank (Satellite Tank)
S-735	Special Color Mix Tank (Satellite Tank)
S-736	Special Color Mix Tank (Satellite Tank)
S-737	Special Color Mix Tank (Satellite Tank
S-738	Special Color Mix Tank (Satellite Tank)
S-739	Special Color Mix Tank (Satellite Tank
S-740	Special Color Mix Tank (Satellite Tank)
S-741	Special Color Mix Tank (Satellite Tank
S-742	Special Color Mix Tank (Satellite Tank)
S-743	Special Color Mix Tank (Satellite Tank
S-744	Special Color Mix Tank (Satellite Tank)
S-745	Special Color Mix Tank (Satellite Tank
S-746	Special Color Mix Tank (Satellite Tank)

A.2. <u>Conditions Common to All Sources of the Passenger Paint Shop</u>:

1. All conditions shall be in effect at all times during equipment operation, including period of equipment start-up, unless otherwise indicated.

For the purposes of determining compliance with emissions and/or usage limits, a year is defined as a twelve-month consecutive period in which NUMMI produces a vehicle model (typically August 1 thru July 31); a month is defined as a calendar month.

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

    a. A temperature excursion not exceeding 20 degrees F; or

    b. A temperature excursion period or periods aggregating less than or equal to 15 minutes in any hour; or

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

        i. There are no more than 2 excursions per facility (Plant No. 1438) per calendar day;

ii. There are no more than 2 excursions per abatement device per calendar month; and
iii. There are no more than 5 excursions per facility (Plant No. 1438) per calendar month.

3. NUMMI shall keep sufficient records to demonstrate that they meet all qualifying criteria for Allowable Temperature Excursions, including but not limited to the following:

a. Starting date and time, and the duration of each Allowable Temperature Excursion;
b. Minimum temperature during each Allowable Temperature Excursion;
c. Number of Allowable Temperature Excursions (> 15 minutes) per abatement device per calendar month;
d. Total number of Allowable Temperature Excursions (> 15 minutes) for the entire facility per calendar month.

A summary of these records shall be included in NUMMI's monthly report to the District. To satisfy the NSPS requirement of 40CFR60, Subpart MM, a negative declaration is also required in NUMMI's monthly report if there are no temperature excursions.

4. The District reserves the right to revise or revoke condition 2 and 3 in the future if source operations change significantly such that the basis for granting this condition is no longer valid.

5. Total emissions of organic compounds from the Passenger Paint Shop sources, calculated on the basis of coating and solvent usage and including any reductions due to abatement, shall not exceed **708.15 tons per year (TPY) of Precursor Organic Compounds (POC)**.

6. The combined total natural gas usage for all Passenger Paint Shop combustion sources shall not exceed 6.83 Million (MM) Therms per year. Records of natural gas usage, including records provided by the utility company, shall be maintained for two years from the date of entry and shall be maintained available for District personnel upon request. NUMMI shall only use a District-approved gas meter.

7. Only natural gas, propane, butane, and LPG shall be used as a fuel for combustion equipment of this source.

8. Manual touch-up or repair operations may be performed in the Passenger Paint Shop booth and oven sources. However, the total usage of coating for manual touch-up or repair shall not exceed 6,906 gallons per year, or result in POC emissions exceeding 19.91 tons per year.

9. The total NOx emissions from the combustion equipment (including Booth Air Supply Houses, Oven Heater Boxes, Thermal Oxidizers, and Boiler) of the Passenger Paint Shop sources shall not exceed 49.33 TPY.

10. The total CO emissions from the combustion equipment (including Booth Air Supply Houses, Oven Heater Boxes, Thermal Oxidizers, and Boiler) of the Passenger Paint Shop sources shall not exceed 70.49 TPY, unless source tests demonstrate that CO emissions are higher due to the low-NOx nature of the combustion equipment. If source tests and/or other operator documentation verify that CO emissions are higher than 70.49 TPY, the CO emissions limit shall be raised to that higher level, which is not to exceed 80 TPY.

11. The operator of this source shall maintain the following data:

a) Usage records of each coating shall be kept on a monthly basis.
b) Amount of clean-up solvent used shall be kept on a monthly basis.
c) All invoice records of coating and solvents purchased.
d) To determine compliance, monthly compliance reports showing coating and clean-up usage and calculated emissions shall be submitted to the District permit engineer. The format and content of the compliance reports must be submitted to the District for prior approval. If an

exceedance is calculated, NUMMI shall submit a written report with this monthly report to the District to demonstrate that the overall Passenger Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.5.

Records shall be available for District inspection for a period of at least two (2) years following the date on which such data or reports are recorded or made.

12. In order to demonstrate compliance with Condition Numbers 9 and 10, NUMMI shall calculate quarterly the NOx and CO mass emission rates, using natural gas usage records and District approved NOx and CO emission factors. The NOx and CO emission factors for the Thermal Oxidizers (A-3008 and A-3009), Booths (S-3008, S-3014, S-3016) and Ovens (S-3009, S-3015, and S-3017) shall be based on the results of the source tests, required by the District in the conditions for the Authority to Construct for the Passenger Paint Shop.

13. To allow for future operating flexibility without falling into the category of a "major modification" under pending provisions of Title V, changes to limits on material usage and/or VOC contents and relocation of coatings between sources of the passenger line are allowed, if all of the following criteria are met:

a. Changes do not result in overall VOC emissions exceeding the limit specified in Condition A.2.5.
b. Changes are in compliance with all applicable District regulations, including Best Available Control Technology (BACT) and offset requirements of Regulation 2-2-301 and 2-2-302.
c. Changes are not implemented until written approval (i.e., Change of Conditions) are obtained from the APCO.

B. Conditions for S-3008 Primer Booth
S-3009 Primer Oven

1. In no event shall the annual coating emissions (not including manual touch-up or repair) from these two sources (S-3008 and S-3009) combined exceed **119.86 tons per year or 14.98 tons per month of Precursor Organic Compounds (POC)**, unless NUMMI notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall Passenger Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.5.

2. The total coating usage (not including manual touch-up or repair) at these two sources (S-3008 and S-3009) 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:

Coating	Gallons per Year	Gallons per Month
Primer	**60,869**	**7,608**
Interior Color	**32,435**	**4,054**
Black Out	**8,105**	**1,013**

One or more of these coatings usages may increase above the specified usage limits provided there is a corresponding usage decrease for one or more of the other coatings, which is based on controlled emissions, so that total emissions do not exceed the limit, specified in Condition No. 1. The operator of this source shall provide documentation to demonstrate compliance with Condition No. 1 within 30 days of the exceedance of any of the coating limits.

3. The natural gas heater boxes for the Primer Oven (S-3009) shall utilize low-NOx burners or equivalent. Low-NOx burners in heater boxes are typically estimated to emit 0.1 pound per

million BTU. If source tests indicate that emissions are higher than 0.1 pound per million BTU, then the operator shall provide a detailed explanation and/or other documentation to verify that low-NOx burners are indeed being utilized correctly.

4. Only High-Volume-Low-Pressure (HVLP), electrostatic, and/or APCO approved paint equipment with equivalent or higher transfer efficiencies shall be used to apply coatings. Air-atomized spray equipment may be used to apply Repair, Blackout, and Soft-Chip coatings.

5. The Thermal Oxidizers (A-3008 and A-3009) shall remain in operation during clean-up operations for at least thirty minutes after periods of production.

6. To minimize the amount of clean-up solvent used in the booth, NUMMI shall:
   a. Provide a paper or plastic lining, or a protective removable coating for the walls and fixtures of the booth, except over doors and windows.
   b. Cover all robots, where practical.
   c. Replace the paper/plastic lining, or protective removable coating on an as needed basis.

7. The particulate matter emissions from the Primer Booth (S-3008) shall be abated by a venturi scrubber and autozone dry filter (A-30081) with an overall control efficiency of 98%, as determined above the background level (as measured in the stack when no painting is occuring).

2. Precursor organic compound (POC) emissions from the Primer Booth (S-3008) autozone shall be controlled a Thermal Oxidizer (A-3008), with the option of being concentrated first by an Activated Carbon Adsorber (A-30082). This includes POC emissions from clean-up and wet-down operations that occur during the normal hours of operation.

3. The precursor organic compound (POC) emissions from the Primer Oven (S-3009) shall be abated by a Thermal Oxidizer (A-3009).

4. In no event shall the Thermal Oxidizers (A-3008 and A-3009) temperature be less than 1400^{O}F, unless NUMMI can demonstrate to the satisfaction of the APCO that the permit conditions can be met with the Thermal Oxidizer (A-3008 and A-3009) operating at a lower temperature. Prior written approval from the District is required to operate at a lower temperature.

5. The VOC destruction efficiency of the Thermal Oxidizers (A-3008 and A-3009) shall be maintained at a minimum of 98.5% by weight, whenever the inlet concentration of VOC to the Thermal Oxidizers (A-3008 and A-3009) is equal to or greater than 500 ppm_V, as measured as methane. Below a concentration of 500 ppm_V, the precursor organic destruction efficiency shall be kept at a minimum of 95% by weight or total non-methane organic carbon emissions from the outlet of the Thermal Oxidizer (A-3008) shall be 10 ppm by volume or less.

6. The combustion chamber of the Thermal Oxidizers (A-3008 and A-3009) shall be equipped with District approved continuous temperature measuring and recording instrumentation (analog or digital). The temperature measuring and recording instrumentation shall be installed, calibrated and maintained according to accepted practice and the manufacture's specifications.

The temperature chart (or digital) recorder periods of inoperation greater than 24 hours shall be reported to the District's Enforcement Section within the following working day by telephone and within three days in writing, followed by the notification of resumption of operation. Until the temperature chart (or digital) recorder is in correct operation, the temperature shall be manually recorded every two hours. Adequate proof of expeditious repair shall be furnished to the APCO for downtime in excess of fifteen consecutive days.

7. The Thermal Oxidizers (A-3008 and A-3009) shall be source tested annually, 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 Oxidizers (A-3008 and A-3009). Records of the source test results and a maintenance schedule shall be kept. All records shall be kept and made available for District inspection for a period of two years following the date a record was made.

8. Within 60 days of the above described source testing, a report documenting results 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, NUMMI shall report such violation to the permit engineer and the Director of Enforcement in the report.

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C. Conditions for S-3014 Topcoat Booth #1
S-3015 Topcoat Oven #1
S-3016 Topcoat Booth #2
S-3017 Topcoat Oven #2

1. In no event shall the annual coating emissions (not including manual touch-up or repair) from the Topcoat Booths and Ovens (S-3014, S-3015, S-3016, and S-3017) combined exceed **250.5 tons per year or 31.3 tons per month of Precursor Organic Compounds (POC),** unless NUMMI notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall Passenger Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.5.

2. The total coating usage (not including manual touch-up or repair) 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:

Coating	Gallons Per Year	Gallons Per Month
Base Coat	**123,552**	**15,444**
Clear Coat	**91,289**	**11,411**
Non-Metallic High-Solids	**52,452**	**6,557**

One or more of these coatings usages may increase above the specified usage limits provided there is a corresponding usage decrease for one or more of the other coatings, which is based on controlled emissions, so that total emissions do not exceed the limit, specified in Condition No. 1. The operator of this source shall provide documentation to demonstrate compliance with Condition No. 1 within 30 days of the exceedance of any of the coating limits.

3. The natural gas heater boxes for the Topcoat #1 and #2 Ovens (S-3015 and S-3017) shall utilize low-NOx burners or equivalent. Low-NOx burners in heater boxes are typically estimated to emit 0.1 pound per million BTU. If source tests indicate that emissions are higher than 0.1 pound per million BTU, then the operator shall provide a detailed explanation and/or other documentation to verify that low-NOx burners are indeed being utilized correctly

4. Only High-Volume-Low-Pressure (HVLP), electrostatic, and/or APCO approved paint equipment with equivalent or higher transfer efficiencies shall be used to apply coatings. Air-atomized spray equipment may be used to apply Repair, and Blackout coatings.

5. The Thermal Oxidizers (A-3008 and A-3009) shall remain in operation during clean-up operations for at least thirty minutes after periods of production.

6. To minimize the amount of clean-up solvent used in the booth, NUMMI shall:
   a. Provide a paper or plastic lining, or a protective removable coating for the walls and fixtures of the booth, except over doors and windows.
   b. Cover all robots, where practical.
   c. Replace the paper/plastic lining, or protective removable coating on an as needed basis.

7. The particulate matter emissions from the Topcoat #1 and #2 Booths (S-3014 and S-3016) shall be abated by venturi scrubbers and autozone dry filters (A-30141 and A-30161) with an overall control efficiency of 98%, as determined above the background level (as measured in the stack when no painting is occuring).

8. Precursor organic compound (POC) emissions from the Topcoat #1 and 2 Booths (S-3014 and S-3016) autozone shall be controlled by a Thermal Oxidizer (A-3008), with the option of being concentrated by Activated Carbon Adsorbers (A-30142 and A-30162). This includes POC emissions from clean-up and wet-down operations that occur during the normal hours of operation.

9. The precursor organic compound (POC) emissions from the Topcoat #1 and #2 Ovens (S-3015 and S-3017) shall be abated by a Thermal Oxidizer (A-3009).

10. In no event shall the Thermal Oxidizers (A-3008 and A-3009) temperature be less than 1400^{O}F, unless NUMMI can demonstrate to the satisfaction of the APCO that the permit conditions can be met with the Thermal Oxidizer (A-3008 and A-3009) operating at a lower temperature. Prior written approval from the District is required to operate at a lower temperature.

11. The POC destruction efficiency of the Thermal Oxidizers (A-3008 and A-3009) shall be maintained at a minimum of 98.5% by weight, whenever the inlet concentration of POC to the Thermal Oxidizers (A-3008 and A-3009) are equal to or greater than 500 ppm_V, as measured as methane. Below a concentration of 500 ppm_V, the precursor organic destruction efficiency shall be kept at a minimum of 95% by weight or total non-methane organic carbon emissions from the outlet of the Thermal Oxidizer (A-3008) shall be 10 ppm by volume or less.

12. The combustion chamber of the Thermal Oxidizers (A-3008 and A-3009) shall be equipped with District approved continuous temperature measuring and recording instrumentation (analog or digital). The temperature measuring and recording instrumentation shall be installed, calibrated and maintained according to accepted practice and the manufacture's specifications.

The temperature chart (or digital) recorder periods of inoperation greater than 24 hours shall be reported to the District's Enforcement Section within the following working day by telephone and within three days in writing, followed by the notification of resumption of operation. Until the temperature chart (or digital) recorder is in correct operation, the temperature shall be manually recorded every two hours. Adequate proof of expeditious repair shall be furnished to the APCO for downtime in excess of fifteen consecutive days.

13. The Thermal Oxidizers (A-3008 and A-3009) shall be source tested annually, 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 Oxidizers (A-3008 and A-3009). Records of the source test results and a maintenance schedule shall be kept. All records shall be kept and made available for District inspection for a period of two years following the date a record was made.

14. Within 60 days of the above described source testing, a report documenting results 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, NUMMI shall report such violation to the permit engineer and the Director of Enforcement in the report.

D. Conditions for Source S-3018 Prime Dry Sand and S-3021 Ostrich Feather Booth:

1. The Dry Filter of the Booths (S-3018 and S-3021) shall be properly maintained according to accepted practice and the manufacturer's specifications and kept in good operating condition at all times to abate the particulate emissions from this source.

2. The particulate matter emissions from the booths (S-3018 and S-3021) shall be abated by a dry filter (A-3018) with an overall control efficiency of 80%, as determined above the background level (as measured in the stack when no painting is occuring).

E. Conditions for Source S-3019 Repair Booth and S-3020 Black Out Booth:

1. The Dry Filter of the Booths (A-3019 and A-3020) shall be properly maintained according to accepted practice and the manufacture's specifications and kept in good operating condition at all times to abate the particulate emissions from this source.

2. The particulate matter emissions from the booths (S-3019 and A-3020) shall be abated by a dry filter (A-3019 and A-3020) with an overall control efficiency of 98%, as determined above the background level (as measured in the stack when no painting is occuring).

3. In no event shall the total coating emissions from these two sources (S-3019 and S-3020) combined exceed **19.91 tons per year or 2.49 tons per month of Precursor Organic Compounds (POC),** unless NUMMI notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall Passenger Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.5.

F. Conditions to S-30960 Fugitive Cleanup, S-3902 Paint Strip, S-3500, S-3501, and S-3502 Cold Cleaners:

1. In no event shall the total annual emissions from the combination of S-30960, S-3902, S-3500, S-3501, and S-3502 exceed **321.03 tons per year or 40.13 tons per month of Precursor Organic Compounds (POC)**, unless NUMMI notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall Passenger Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.5.

2. Clean-up solvent usage shall be collected and recovered at 65% or greater (overall), as demonstrated by comparing gross solvent usage records to throughput of solvent recovery tank and/or disposal records.

3. Purged paint and solvent shall be recovered in an enclosed collection system and shipped to solvent recycle or proper disposal.

4. The Cold Cleaners (S-3500, S-3501, and S-3502) shall each be equipped with a cover, maintain a minimum freeboard ratio of 0.75, and use only low-volatility compounds, as define by 8-16-216.

G. Conditions to S-3503, S-3504, S-3505, and S-3506 Storage Tanks:

1. This source shall be used to store materials for the passenger line coating operation.

2. This source shall be equipped with a submerged fill pipe.

H. Conditions to S-3507 thru S-3588 Paint Mix Tanks:

1. This source shall be used to mix coatings for the passenger line coating sources.

2. This source 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.

3. 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).

4. This source shall be primarily cleaned using a closed cleaning system that is maintained 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.

I. Conditions to S-3056 Boiler:

1. Source S-3056 Boiler shall burn only natural gas except that distillate oil be permitted only during short test periods (100 hours/year maximum) and/or during periods of natural gas curtailment by Pacific Gas & Electric Company.

2. Source S-3056 Boiler shall not burn fuel oil having a sulfur content greater than 0.05% by weight.

3. The usage of natural gas and fuel oil shall be recorded monthly in a District approved data log and retained for at least two years from date of entry. The fuel oil usage entries shall also specify the actual days of oil burning. This log shall be kept on site and made available to the District staff upon request.

4. Visible particulate emissions from this source shall not exceed Ringelmann 0.5.

5. Source S-3056 Boiler shall utilize low-NOx burners.

6. The NOx emissions from S-3056 Boiler shall not exceed 20 ppmv at a standard of 3% oxygen, dry.

7. The CO emissions from S-3056 Boiler shall not exceed 50 ppmv at a standard of 3% oxygen, dry.

8. After prior notification to and approval from the District's Source Test Manager and within 30 days of startup of S-3056 Boiler, a source test will be conducted to verify compliance with Condition No. 6 and 7.

9. Within 60 days of the source testing, a report documenting results shall be provided to the District. If the source testing indicates any violation of the permit conditions, NUMMI shall report such violation to the permit engineer and the Director of Enforcement within 30 days of the source testing.

5. AUTHORITY TO CONSTRUCT:

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

S-3007 Dry-Off Oven, Custom Built with Natural Gas-Fired Heater Boxes, 5.0 MMBTU/hr
S-3008 Prime Booth, Custom Built with Venturi Scrubber Paint Overspray System and Natural Gas-Fired Air Supply House, 31 MMBTU/hr; abated by A-30081 Dry Filter, Custom Built, A-30082 Activated Carbon Adsorber, and A-3008 Thermal Oxidizer, Custom Built, 10 MMBTU/hr
S-3009 Prime Oven, Custom Built with Natural Gas-Fired Heater Boxes or equivalent, 19 MMBTU/hr (combined); abated by A-3009 Thermal Oxidizer, Custom Built, 7.7 MMBTU/hr
S-3014 Topcoat #1 Booth, Custom Built with Venturi Scrubber Paint Overspray System and Natural Gas-Fired Air Supply House, 40 MMBTU/hr; abated by A-30141 Dry Filter, Custom Built, A-30142 Activated Carbon Adsorber, and A-3008 Thermal Oxidizer, Custom Built, 10 MMBTU/hr
S-3015 Topcoat #1 Oven, Custom Built with Natural Gas-Fired Heater Boxes or equivalent, 12 MMBTU/hr (combined); abated by A-3009 Thermal Oxidizer, Custom Built, 7.7 MMBTU/hr
S-3016 Topcoat #2 Booth, Custom Built with Venturi Scrubber Paint Overspray System and Natural Gas-Fired Air Supply House, 40 MMBTU/hr; abated by A-30161 Dry Filter, Custom Built, A-30162 Activated Carbon Adsorber, and A-3008 Thermal Oxidizer, Custom Built, 10 MMBTU/hr
S-3017 Topcoat #2 Oven, Custom Built with Natural Gas-Fired Heater Boxes or equivalent, 12 MMBTU/hr (combined); abated by A-3009 Thermal Oxidizer, Custom Built, 7.7 MMBTU/hr
S-3018 Prime Dry Sand Booth, Custom Built, with Air Supply House, 2 MMBTU/hr; abated by A-3018 Dry Filter, Custom Built
S-3019 Repair Booth, Custom Built, with Air Supply House, 2 MMBTU/hr; abated by A-3019 Dry Filter, Custom Built
S-3020 Black Out Booth, Custom Built, with Air Supply House, 2 MMBTU/hr; abated by A-3020 Dry Filter, Custom Built
S-3021 Ostrich Feather Booth, Custom Built
S-30960 Fugitive, General Cleaning and Paint Cleaning
S-3902 Paint Strip
S-3056 Boiler, 25 MMBTU/hr Capacity w/Low NOx Burner and Fuel Gas Recirculation
S-3500 Cold Cleaner, Custom Made Cleaning Tank, 40 Gallon Capacity
S-3501 Cold Cleaner, Custom Made Cleaning Tank, 40 Gallon Capacity
S-3502 Cold Cleaner, Custom Made Cleaning Tank, 40 Gallon Capacity
S-3503 Purge Thinner Storage Tank, Custom Built, 3000 Gallon Capacity
S-3504 Purge Thinner Storage Tank, Custom Built, 3000 Gallon Capacity
S-3505 Waste Solvent Storage Tank, Custom Built, 3000 Gallon Capacity
S-3506 Waste Solvent Storage Tank, Custom Built, 3000 Gallon Capacity
S-3507 Topcoat Metallic Base #1 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3508 Topcoat Metallic Base #2 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3509 Topcoat Metallic Base #3 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3510 Topcoat Metallic Base #4 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3511 Topcoat Metallic Base #5 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3512 Topcoat Metallic Base #6 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3513 Topcoat Metallic Base #7 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3514 Topcoat Metallic Base #8 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3515 Topcoat Metallic Base #9 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3516 Topcoat Metallic Base #10 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3517 Topcoat Metallic Base #11 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3518 Topcoat Metallic Base #12 Paint Mix Tank, Custom Built, 80 Gallon Capacity

S-3519 Topcoat Metallic Base #13 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3520 Topcoat Metallic Base #14 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3521 Topcoat Metallic Base #15 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3522 Topcoat Metallic Base #16 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3523 Topcoat Metallic Base #17 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3524 Topcoat Metallic Base #18 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3525 Topcoat Metallic Base #19 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3526 Topcoat Metallic Base #20 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3527 Topcoat Metallic Base #21 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3528 Topcoat Metallic Base #22 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3529 Topcoat Metallic Base #23 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3530 Topcoat Metallic Base #24 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3531 Topcoat Metallic Base #25 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3532 Topcoat Metallic Base #26 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3533 Topcoat Metallic Base #27 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3534 Topcoat Metallic Base #28 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3535 Clearcoat #1 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3536 Clearcoat #2 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3537 Clearcoat #3 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3538 Clearcoat #4 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3539 Clearcoat #5 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3540 Clearcoat #6 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3541 Clearcoat #7 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3542 Clearcoat #8 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3543 Solids #1 Paint Mix Tank, Custom Built, 160 Gallon Capacity
S-3544 Solids #2 Paint Mix Tank, Custom Built, 160 Gallon Capacity
S-3545 Solids #3 Paint Mix Tank, Custom Built, 160 Gallon Capacity
S-3546 Solids #4 Paint Mix Tank, Custom Built, 160 Gallon Capacity
S-3547 Solids #5 Paint Mix Tank, Custom Built, 160 Gallon Capacity
S-3548 Solids #6 Paint Mix Tank, Custom Built, 160 Gallon Capacity
S-3549 Solids #7 Paint Mix Tank, Custom Built, 160 Gallon Capacity
S-3550 Solids #8 Paint Mix Tank, Custom Built, 160 Gallon Capacity
S-3551 Prime #1 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3552 Prime #2 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3553 Prime #3 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3554 Prime #4 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3555 Prime #5 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3556 Prime #6 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3557 Prime #7 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3558 Prime #8 Paint Mix Tank, Custom Built, 80 Gallon Capacity
S-3559 Interior #1 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3560 Interior #2 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3561 Interior #3 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3562 Interior #4 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3563 Interior #5 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3564 Interior #6 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3565 Interior #7 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3566 Interior #8 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3567 Interior #9 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3568 Interior #10 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3569 Interior #11 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3570 Interior #12 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3571 Interior #13 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3572 Interior #14 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3573 Interior #15 Paint Mix Tank, Custom Built, 60 Gallon Capacity

S-3574 Interior #16 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3575 Interior #17 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3576 Interior #18 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3577 Interior #19 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3578 Interior #20 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3579 Interior #21 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3580 Interior #22 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3581 Interior #23 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3582 Interior #24 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3583 Interior #25 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3584 Interior #26 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3585 Interior #27 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3586 Interior #28 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3587 Sash #1 Paint Mix Tank, Custom Built, 60 Gallon Capacity
S-3588 Sash #2 Paint Mix Tank, Custom Built, 60 Gallon Capacity

The following sources will be archived, upon issuance of the Permits to Operate for the above described sources:

S-4 Passenger Primer Surfacer Booth
S-5 Passenger Primer Surfacer Oven; abated by A-5 & A-61 Catalytic Thermal Oxidizer
S-6 Passenger Interior Color Booth
S-7 Passenger Interior Color Oven
S-8 Passenger 1st Color Booth
S-9 Passenger 1st Color Oven; abated by A-9 Catalytic Thermal Oxidizer
S-10 Passenger 2nd Color Booth
S-11 Passenger 2nd Color Oven; abated by A-11 Catalytic Thermal Oxidizer
S-12 Passenger 3rd Color Booth
S-13 Passenger 3rd Color Oven; abated by A-13 and A-131 Catalytic Thermal Oxidizer
S-439 Passenger Enamel PMB Tank (160 Gallon Capacity)
S-440 Passenger Enamel PMB Tank (160 Gallon Capacity)
S-441 Passenger Enamel PMB Tank (160 Gallon Capacity)
S-442 Passenger Enamel PMB Tank (160 Gallon Capacity)
S-443 Passenger Enamel PMB Tank (160 Gallon Capacity)
S-444 Passenger Enamel PMB Tank (160 Gallon Capacity)
S-445 Passenger Enamel PMB Tank (160 Gallon Capacity)
S-446 Passenger Enamel PMB Tank (160 Gallon Capacity)
S-447 Passenger Enamel PMB Tank (160 Gallon Capacity)
S-448 Passenger Enamel PMB Tank (160 Gallon Capacity)
S-449 Passenger Enamel PMB Tank (160 Gallon Capacity)
S-450 Passenger Enamel PMB Tank (160 Gallon Capacity)
S-451 Passenger Enamel PMB Tank (160 Gallon Capacity)
S-452 Passenger Enamel PMB Tank (160 Gallon Capacity)
S-453 Passenger Enamel PMB Tank (25 Gallon Capacity)
S-454 Passenger Enamel PMB Tank (180 Gallon Capacity)
S-455 Passenger Enamel PMB Tank (180 Gallon Capacity)
S-456 Passenger Enamel PMB Tank (180 Gallon Capacity)
S-457 Passenger Enamel PMB Tank (180 Gallon Capacity)
S-458 Passenger Enamel PMB Tank (180 Gallon Capacity)
S-459 Passenger Enamel PMB Tank (180 Gallon Capacity)
S-460 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-461 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-462 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-463 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-464 Passenger Enamel PMB Tank (120 Gallon Capacity)

S-465 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-466 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-467 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-468 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-469 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-470 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-471 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-472 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-477 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-478 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-479 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-480 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-481 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-482 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-483 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-484 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-485 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-486 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-487 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-488 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-489 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-490 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-491 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-492 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-493 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-494 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-495 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-496 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-497 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-498 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-499 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-499 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-500 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-501 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-502 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-503 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-504 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-505 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-506 Passenger Enamel PMB Tank (60 Gallon Capacity)
S-529 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-530 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-531 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-532 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-533 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-534 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-535 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-536 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-537 Passenger Enamel PMB Tank (120 Gallon Capacity)
S-628 Passenger Satellite Tank
S-629 Passenger Enamel PMB Tank
S-630 Passenger Enamel PMB Tank
S-631 Passenger Enamel PMB Tank
S-632 Passenger Enamel PMB Tank
S-633 Passenger Enamel PMB Tank
S-634 Passenger Enamel PMB Tank

S-635 Passenger Enamel PMB Tank
S-636 Passenger Enamel PMB Tank
S-734 Passenger Enamel PMB Tank (Satellite Tank)
S-735 Passenger Enamel PMB Tank (Satellite Tank)
S-736 Passenger Enamel PMB Tank (Satellite Tank)
S-737 Passenger Enamel PMB Tank (Satellite Tank)
S-738 Passenger Enamel PMB Tank (Satellite Tank)
S-739 Passenger Enamel PMB Tank (Satellite Tank)
S-740 Passenger Enamel PMB Tank (Satellite Tank)
S-741 Passenger Enamel PMB Tank (Satellite Tank)
S-742 Passenger Enamel PMB Tank (Satellite Tank)
S-743 Passenger Enamel PMB Tank (Satellite Tank)
S-744 Passenger Enamel PMB Tank (Satellite Tank)
S-745 Passenger Enamel PMB Tank (Satellite Tank)
S-746 Passenger Enamel PMB Tank (Satellite Tank)

After archiving the above described sources, NUMMI shall be issued a Banking Certificate for 19.15 TPY of emission reductions credit.

6. EXEMPTIONS:

I recommend that exemption status be issued for the following:

Standby Generator, 13 MMBTU/hr (exempt by 1-110.2 and 2-1-113.2.10)
Paint Mix Room, Custom Built, 6 MMBTU/hr (exempt by 2-1-113.2.14)
HVAC Paint Building, Custom Built, 15 MMBTU/hr (exempt by 2-1-113.2.14)
Satellite #1 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #2 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #3 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #4 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #5 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #6 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #7 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #8 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #9 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #10 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #11 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #12 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #13 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #14 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #15 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #16 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #17 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #18 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #19 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)
Satellite #20 Paint Mix Tank, Custom Built, 40 Gallon Capacity (exempt by 2-1-121.5)

_____ Date _____

Air Quality Engineer II

ENGINEERING EVALUATION

Application Number 3611
Plant Number 1438
New United Motor Manufacturing, Inc.
45500 Fremont Blvd
Fremont, CA 94538

I. Background:

New United Motor Manufacturing, Inc. (NUMMI) is applying for an Authority to Construct a new second assembly line to manufacture Toyota light duty trucks at their Fremont plant.

The new truck line will produce an average of 100,000 vehicles per year at an average rate of 25 vehicles per hour. NUMMI's projected maximum emissions for the new second vehicle line are based on a maximum production rate of 125,000 vehicles per year, 30 vehicles per hour, 600 vehicles per day, and 13,000 vehicles per month. The maximum operating hours of the truck production line will be 20 hours per day, 6 days per week and 50 weeks per year, but no more than 5000 hours per year.

The total project emissions for the proposed second line are as follows:

Total Project Emissions

	POC	NOx	PM10	SO_2	CO
Worst Day lb/day	**7410**	**207**	**108**	**1.6**	**43**
tons/yr	**772**	**26**	**13.6**	**0.2**	**5.4**

The project emissions of Precursor Organic Compounds (POC), NOx and PM10 for the new line are subject to Best Available Control Technology (BACT) requirements according to District Regulation 2-2-301. The total project POC emissions shall be offset in accordance with District Regulation 2-2-303. CEQA requirements are triggered according to Section 2-2-119. The City of Fremont is the lead agency, and they have certified the EIR.

This new second line will replace the old General Motors truck assembly line, which ceased operation in December, 1981. NUMMI has retained the permits to operate the GM truck line since the beginning of the joint venture. The old truck line will provide a partial source of offset credit for the new truck line. Additional offsets shall be provided by reducing the present permit conditions for clean-up and purge usage and for urethane coating usage on the passenger line.

A new paint building will contain the truck coating and painting equipment operations. The new truck assembly line will occur in the existing building space. The existing passenger assembly line will continue to operate at the current production rate as conditioned in the passenger line permits.

ENGINEERING EVALUATION
APPLICATION NUMBER 3611
Plant 1438, New United Motors Manufacturing, Inc.
Page - 2

II. Emission Calculations:

A. **Precursor Organic Compound (POC) Emissions** - The total calculated paint shop emissions from the second vehicle line will be **771 tons of POC per year.** The Elpo, Sealer, Primer Surfacer, Topcoat I and Topcoat II ovens will each be controlled by thermal incinerators with destruction efficiencies between 95% to 98% and estimated capture efficiencies between 90 to 95%. The automatic, flash-off and setting zone emissions from the Primer Surfacer, Topcoat I and Topcoat II booths will be exhausted to dry filters. The automatic zone exhaust will also be recirculated to concentrate the POCs. A slipstream from the recirculated lines and the exhaust from the flash-off and setting zones will be vented to rotary drum carbon adsorption units. Each carbon adsorption unit is desorbed and vented to a separate thermal incinerator. The required capture efficiency of the control system is 85%, and the destruction efficiency is 95%.

The calculated emissions are shown in Table I. The total uncontrolled emissions are calculated based on the types, amounts, and POC content of each of the coatings listed in the table. Also listed are the sources where the emissions occur and the percent of each coating emitted; This was used to calculate the uncontrolled emissions at each source. The listed capture and destruction efficiency of the control equipment was used to calculate the emissions after control. The VOC Content for S-1809 Fugitive - Stamping, Body & Assembly under Various Coatings is shown as 2.78 lbs/gal. This VOC Content was back-calculated from the total uncontrolled emissions determined for the total of all the coatings. No individual coating has a VOC content of 2.78 lbs/gal.

In addition, to account for the net amount of POC carryover into the next booth zone, a pseudo automatic zone emission factor was included to estimate the emissions in the automatic, flash-off and setting zones of the primer and topcoat booths.

B. **Combustion Emissions** - The total calculated Combustion Emissions for the second vehicle line will be as follows:

Total Project Combustion Emissions

	POC	NOx	PM10	SOx	CO
Worst Day lbs/day	**10.4**	**207**	**10**	**1.6**	**43**
tons/yr	**1.3**	**26**	**1.2**	**0.2**	**5.4**

The Combustion Emissions for each source are shown in Table II. The emission factors for the Air Supply House Boilers were taken from NUMMI's "Design Requirements for NUMMI Truck Project", Part 3.2 (Boiler), April, 1989, which are consistent with low-NOx burner factors. The NOx emission factor was based on a BACT standard of 30 ppm for low-NOx burners and flue-gas recirculation.

The emission factors for the standby-generator were taken from AP-42, Table 3.4-1, Emission Factors for Stationary Large Bore Diesel and Dual Fuel Engines under Diesel Engine Type in units of pounds per thousand gallons.

Application Number 3611
NUMMI Second Vehicle Line

Table 1 - Volatile Organic Emissions from Coatings
Page 1 of 3 (02/15/90)

Source	Description	Coating	Usage gal/yr	VOC Content lbs/gal	Uncontr. Emission TPY VOC	%Emitted at Booth	%Booth in auto zone	%Emitted at Oven	Uncontr. Booth TPY	Uncontr. Oven TPY	% Capture Eff.	% Incin. Eff.	Total Emission TPY VOC	Emissions Per Source TPY VOC
S-1001	ED Bath	ELPO Primer	107,371	.59	31.67	31	-	-	-	-	-	-	9.50	9.50
S-1002	ED Oven	ELPO Primer	-	-	-	-	-	70	-	22.17	90	95	3.21	3.21
S-1003	Bead Sealer Dect	Bead Sealer	110,256	.25	13.78	20	-	-	2.76	-	-	-	2.76	2.76
S-1005	PVC Undercoat Booth	PVC Undercoat	291,757	.60	87.53	30	-	-	26.26	-	-	-	26.26	26.26
S-1006	Anti-Chip Booth	Anti-chip I	14,678	4.76	34.93	75	-	-	26.20	-	-	-	26.20	29.81
		Anti-chip II	33,396	.72	12.02	30	-	-	3.61	-	-	-	3.61	-
S-1007	Sealer Oven	Bead Sealer	-	-	-	-	-	80	-	11.02	90	95	1.60	12.97
		PVC Undercoat	-	-	-	-	-	70	-	61.27	90	95	8.88	-
		Anti-chip I	-	-	-	-	-	23	-	8.73	90	95	1.27	-
		Anti-chip II	-	-	-	-	-	70	-	8.42	90	95	1.22	-
S-1008	Prim. Surfacer Booth	Primer (Auto.)	37,543	4.08	76.59	66	76.7	-	50.55	-	85	95	19.24	82.97
		Primer (Man.)	14,353	4.08	29.28	83	-	-	24.30	-	-	-	24.30	-
		Int. Color	23,274	4.46	51.90	75	-	-	38.93	-	-	-	38.93	-
		Others-Repair	233	4.63	.54	95	-	-	.50	-	-	-	.50	-
S-1009	Primer Surfacer Oven	Primer (Auto.)	-	-	-	-	-	34	-	26.04	95	95	2.54	4.29
		Primer (Man.)	-	-	-	-	-	17	-	4.98	95	95	.49	-
		Int. Color	-	-	-	-	-	25	-	12.98	95	95	1.27	-
		Others-Repair	-	-	-	-	-	7	-	.04	95	95	.00	-
S-1010	Repair Primer	Repair Primer	857	4.63	1.94	100	-	-	1.94	-	-	-	1.94	1.94
S-1012	Touch Up Booth	Repair Primer	233	4.63	.54	95	-	-	.50	-	-	-	.50	.50
S-1013	Touch Up Oven	Repair Primer	-	-	-	-	-	7	-	.04	-	-	.04	.04
S-1014	Topcoat Booth I	Solids (Bell)	18,468	3.54	32.69	79	85.2	-	22.88	-	85	95	7.14	137.39
		Solids (Man)	9,494	3.54	16.80	85	18.3	-	14.28	-	85	95	12.17	-
		Base Coat (Bell)	13,866	4.79	33.21	84	95.4	-	27.90	-	85	95	6.41	-
		Base Coat (REA)	23,109	4.79	55.35	84	95.4	-	46.49	-	85	95	10.68	-
		Base Coat (Man)	21,386	4.79	51.22	84	12.8	-	43.02	-	85	95	38.58	-
		Clear Coat (Bell)	50,873	4.12	104.80	79	85.2	-	73.36	-	85	95	22.89	-
		Clear Coat (Man)	26,154	4.12	53.88	85	18.3	-	45.80	-	85	95	39.03	-
		Others-Repair	233	4.63	.54	95	-	-	.50	-	-	-	.50	-
S-1015	Topcoat Oven I	Solids (Bell)	-	-	-	-	-	30	-	9.81	95	95	.96	7.24
		Solids (Man)	-	-	-	-	-	15	-	2.52	95	95	.25	-
		Base Coat (Bell)	-	-	-	-	-	16	-	5.31	95	95	.52	-
		Base Coat (REA)	-	-	-	-	-	16	-	8.86	95	95	.86	-
		Base Coat (Man)	-	-	-	-	-	16	-	8.20	95	95	.80	-
		Clear Coat (Bell)	-	-	-	-	-	30	-	31.44	95	95	3.07	-
		Clear Coat (Man)	-	-	-	-	-	15	-	8.00	95	95	.79	-
		Others-Repair	-	-	-	-	-	7	-	.04	95	95	.00	-
SUBTOTALS					689.20								318.88	318.88

Application Number 3611
NUMMI Second Vehicle Line

Table 1 - Volatile Organic Emissions from Coatings
Page 2 of 3 (02/15/90)

Source	Description	Coating	Usage gal/yr	VOC Content lbs/gal	Uncontr. Emission TPY VOC	%Emitted at Booth	%Booth in auto zone	%Emitted at Oven	Uncontr. Booth TPY	Uncontr. Oven TPY	% Capture Eff.	% Incin. Eff.	Total Emission TPY VOC	Emissions Per Source TPY VOC
SUBTOTAL from page 1					689.20								318.88	318.88
S-2014	Topcoat Booth II	Solids (Bell)	4,468	3.54	7.91	70	85.9	-	5.54	-	85	95	1.70	45.96
		Solids (Man)	3,590	3.54	6.35	85	14.1	-	5.40	-	85	95	4.79	-
		Base Coat (Bell)	3,395	4.79	8.04	84	96.4	-	6.75	-	85	95	1.50	-
		Base Coat (REA)	5,591	4.79	13.39	84	96.4	-	11.25	-	85	95	2.49	-
		Base Coat (Man)	8,047	4.79	19.37	84	13.8	-	16.27	-	85	95	14.46	-
		Clear Coat (Bell)	12,368	4.12	25.35	70	85.9	-	17.75	-	85	95	5.44	-
		Clear Coat (Man)	9,890	4.12	20.37	85	14.1	-	17.32	-	85	95	15.35	-
		Others-Repair	116	4.63	.27	98			.25	-	-	-	.25	-
S-2015	Topcoat Oven II	Solids (Bell)	-	-	-	-	-	30	-	2.37	95	95	.23	2.00
		Solids (Man)	-	-	-	-	-	15	-	.95	95	95	.09	-
		Base Coat (Bell)	-	-	-	-	-	16	-	1.29	95	95	.13	-
		Base Coat (REA)	-	-	-	-	-	16	-	2.14	95	95	.21	-
		Base Coat (Man)	-	-	-	-	-	16	-	3.10	95	95	.30	-
		Clear Coat (Bell)	-	-	-	-	-	30	-	7.61	95	95	.74	-
		Clear Coat (Man)	-	-	-	-	-	15	-	3.06	95	95	.30	-
		Others-Repair	-	-	-	-	-	7	-	.02	95	95	.00	-
S-1016	Touch-up Off Line Repair Deck	Solids	686	3.54	1.07	100	-	-	1.07	-	-	-	1.07	6.56
		Base Coat	857	4.79	2.05	100	-	-	2.05	-	-	-	2.05	-
		Clear Coat	1,665	4.12	3.43	100	-	-	3.43	-	-	-	3.43	-
S-1017	Touch-up Booth	Solids	276	6.32	.87	100	-	-	.87	-	-	-	.87	5.73
		Base Coat	385	6.41	1.23	100	-	-	1.23	-	-	-	1.23	-
		Clear Coat	630	6.30	1.98	100	-	-	1.98	-	-	-	1.98	-
		Adhesion Promoter	495	6.61	1.64	100	-	-	1.64	-	-	-	1.64	-
S-1808	Touch-up Off Line Repair Booth	Solids	415	6.32	1.31	100	-	-	1.31	-	-	-	1.31	8.60
		Base Coat	578	6.41	1.85	100	-	-	1.85	-	-	-	1.85	-
		Clear Coat	946	6.30	2.98	100	-	-	2.98	-	-	-	2.98	-
		Adhesion Promoter	743	6.61	2.46	100	-	-	2.46	-	-	-	2.46	-
S-1018	Black Out Booth	ASCA Chassis Blk	12,317	2.95	18.17	100	-	-	18.17	-	-	-	18.17	18.17
S-1019	Cavity Wax Booth	Cavity Wax	15,486	.73	5.62	100	-	-	5.62	-	-	-	5.62	14.50
		Hinge Wax	2,566	6.92	8.88	100	-	-	8.88	-	-	-	8.88	-
S-1020	Paint Hospital	Solids	629	3.54	1.11	100	-	-	1.11	-	-	-	1.11	7.75
		Base Coat	893	4.79	2.14	100	-	-	2.14	-	-	-	2.14	-
		Clear Coat	1,734	4.12	3.57	100	-	-	3.57	-	-	-	3.57	-
		Lacquer	279	6.61	.92	100	-	-	.92	-	-	-	.92	-
SUBTOTALS					851.55								428.14	428.14

Application Number 3611
NUMMI Second Vehicle Line

Table 1 - Volatile Organic Emissions from Coatings
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Source	Description	Coating	Usage gal/yr	VOC Content lbs/gal	Uncontr. Emission TPY VOC	%Emitted at Booth	%Booth in auto zone	%Emitted at Oven	Uncontr. Booth TPY	Uncontr. Oven TPY	% Capture Eff.	% Incin. Eff.	Total Emission TPY VOC	Emissions Per Source TPY VOC
SUBTOTAL from page 2					851.55								428.14	428.14
S-1021	Exterior Wax Booth	Underbody Wax	26,806	.73	9.78	60	-	-	5.87	-	-	-	5.87	15.39
		Engine Wax	1,776	.54	.48	60	-	-	.29	-	-	-	.29	-
		Exterior Wax	20,112	1.50	15.38	60	-	-	9.23	-	-	-	9.23	-
S-1053	Wax Dry Off Oven	Underbody Wax	-	-	-	-	-	40	-	3.91	-	-	3.91	10.26
		Engine Wax	-	-	-	-	-	40	-	.19	-	-	.19	-
		Exterior Wax	-	-	-	-	-	40	-	6.15	-	-	6.15	-
S-1810	Cleaning Materials	Wipe Solvent	17,616	7.09	62.45	100	-	-	-	-	-	-	62.45	272.02
		Purge Thinner	60,174	7.30	220.00	100	-	-	-	-	85	-	33.00	-
		Wet Down	13,699	7.30	50.00	100	-	-	-	-	26	95	37.51	-
		P&TC Booth CU (A)	20,148	7.30	75.00	100	-	-	-	-	26	95	56.26	-
		P&TC Booth CU (M)	20,148	7.30	75.00	100	-	-	-	-	-	-	75.00	-
		Other Booth CU	1,507	7.30	5.50	100	-	-	-	-	-	-	5.50	-
		Paint Pipe CU	6,101	7.30	23.00	100	-	-	-	-	90	-	2.30	-
S-1809	Fugitive - Stamping, Body & Assembly	Sealant	12,100	.40	2.50	100	-	-	-	-	-	-	2.50	45.07
		Adhesive	8,100	.16	.68	100	-	-	-	-	-	-	.68	-
		Various	30,990	2.78	41.89	100	-	-	-	-	-	-	41.89	-
TOTALS					1433.22								770.87	770.87

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Table II - Combustion Emissions
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Source	Description	Average Fuel Use therms/yr	Average Fuel Use 10E6 ft3	PM10 lbs/yr	SO2 lbs/yr	NOx lbs/yr	CO lbs/yr	POC lbs/yr
S-1000	Phosphate Boiler	413,174	39.35	196.75	23.61	1570.06	787.00	208.55
S-1002	ED Oven	263,089	25.06	125.28	15.03	2630.89	501.12	132.80
		220,713	21.02	105.10	12.61	2207.13	420.41	111.41
S-1003	ED Dry Sand Booth	40,611	3.87	19.34	2.32	406.11	77.35	20.50
S-1005	Underbody PVC Booth	91,816	8.74	43.72	5.25	918.16	174.89	46.35
S-1006	Anti-Chip Booth	100,645	9.59	47.93	5.75	1006.45	191.70	50.80
S-1007	Sealer Oven	263,089	25.06	125.28	15.03	2630.89	501.12	132.80
		210,118	20.01	100.06	12.01	2101.18	400.22	106.06
S-1008	Primer Surfacer Booth	317,826	30.27	151.35	18.16	3178.26	605.38	160.43
		120,068	11.44	57.18	6.86	1200.68	228.70	60.61
S-1009	Primer Surfacer Oven	234,838	22.37	111.83	13.42	2348.38	447.31	118.54
		143,022	13.62	68.11	8.17	1430.22	272.42	72.19
S-1011	Dry Sand	44,143	4.20	21.02	2.52	441.43	84.08	22.28
S-1012	Touch Up Booth	60,034	5.72	28.59	3.43	600.34	114.35	30.30
S-1013	Touch Up Oven	203,056	19.34	96.69	11.60	2030.56	386.77	102.49
S-1014	Topcoat Booth I	312,529	29.76	148.82	17.86	3125.29	595.29	157.75
		180,101	17.15	85.76	10.29	1801.01	343.05	90.91
		146,533	13.96	69.78	8.37	1465.33	279.11	73.96
S-2014	Topcoat Booth II	312,529	29.76	148.82	17.86	3125.29	595.29	157.75
		180,101	17.15	85.76	10.29	1801.01	343.05	90.91
		146,533	13.96	69.78	8.37	1465.33	279.11	73.96
S-1015	Topcoat Oven I	231,307	22.03	110.15	13.22	2313.07	440.58	116.75
		132,428	12.61	63.06	7.57	1324.28	252.24	66.84
S-2015	Topcoat Oven II	231,307	22.03	110.15	13.22	2313.07	440.58	116.75
		132,428	12.61	63.06	7.57	1324.28	252.24	66.84
S-1010	Black Out Booth	74,159	7.06	35.31	4.24	741.59	141.20	37.43
S-1053	Wax Dry Off Oven	60,000	5.71	28.57	3.43	600.00	114.29	30.29
S-1056	ASH Boiler #1	470,625	44.82	47.06	26.89	1788.38	470.63	47.06
S-1057	ASH Boiler #2	470,625	44.82	47.06	26.89	1788.38	470.63	47.06
S-1058	ASH Boiler #3	470,625	44.82	47.06	26.89	1788.38	470.63	47.06
SUBTOTAL	Natural Gas lbs/yr	6,278,072	597.91	3458.42	358.75	51465.42	10680.82	2597.46
	tons/yr			1.23	.18	25.73	5.34	1.30
S-1059	Stand-by Gen* lbs/yr	1,158	.86	1.72	51.47	428.89	111.51	11.15
TOTAL	lbs/yr			3460.14	410.21	51894.31	10792.33	2608.61
	tons/yr			1.23	.21	25.95	5.40	1.30

*Stand-by generator, 800 KW Diesel Unit; Tested 30 min each 15 days = 12 hrs/yr
AP42 Table 3.4-1 Diesel Engine in lb/10^3 gal
PM=50 lb/mgal, NOx=500 lb/mgal, CO=130 lb/mgal, POC=13 lb/mgal, SO2=60 lb/mgal
Commercial Boilers AP42 Table 1.4-1
NOx Emission Factor for Thermal Heat Recovery Units from Coen Co. NOx=0.11 lb/mmbtu
Emission Factors for Air Supply (Ash) Boilers taken from
"Design Requirements for NUMMI Truck Project,
Part 3.2 (Boiler), April, 1989, NOx=0.038 lb/mmbtu based on BACT standard of 30 ppm
CO=10.5 lb/mmft^3, POC=1.05 lb/mmft^3, PM=1.05 lb/mmft^3
Heating Value for Natural Gas = 1050 BTU/SCF

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Emission factors for the remaining ovens, incinerators and air supply houses were taken from AP-42, Table 1.4-1, Uncontrolled Emission Factors for Natural Gas Combustion, for Commercial Boilers. The NOx Emission Factor of 0.1 lb/mmbtu was used for the Thermal Heat Recovery Units based on Coen Co. factor and the condition limit.

C. **Particulate Emissions (PM10)** - The total calculated particulate emissions from the second vehicle line will be 13.5 tons per year, or 108 pounds per day based on 250 operating days per year. All particulate emissions from combustion devices and coating operations are assumed to be PM10. The calculated emissions are shown in Table III - Particulate Emissions from Booth and Coating Operations and in Table II - Combustion Emissions.

Total Particulate Emissions (PM10)

	lbs/day	tons/yr
Booth and Coating Operations	98.3	12.29
Combustions Emissions	9.8	1.23
Total	108	13.5

The combustion emission calculation procedures for particulate were explained above in the Combustion Emissions section. Particulate emssions from booth and coating operations were determined using the percent solids of the coating and the conditioned transfer efficiency and particulate control efficiency for each coating operation.

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Table III - Particulate Emissions
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Source	Coating	Usage gal/yr	% Volume Solids	overspray solids L/job	Solids Specific Gravity	Transfer Eff.	solids overspray lbs/yr	Part. Control Eff.	Part. Emissions lbs/yr
S-1001	ELPO Primer	107,371	90.7	.000	1.43	85	0	-	0
S-1003	ED Dry Sand Booth	-	-	.001	1.43	-	386	80	77
S-1004	ED Repair Dry Sand	-	-	.001	1.43	-	386	80	77
S-1005	PVC Undercoat	291,757	96.8	-	1.45	80	668,950	99	6,690
S-1006	Anti-chip I	14,678	45.0	-	2.10	60	46,273	98	925
	Anti-chip II	33,396	89.0	-	1.45	80	71,887	99	719
S-1008	Primer (Auto.)	37,543	44.1	-	1.45	75	49,364	98	987
	Primer (Man.)	14,353	44.1	-	1.43	30	52,842	98	1,057
	Interior Color	23,274	38.7	-	1.18	55	39,888	98	798
	Others-Repair	233	35.5	-	1.35	30	642	98	13
S-1010	Repair Primer	837	35.5	-	1.45	30	2,481	80	496
S-1011	Dry Sand Booth	-	-	.005	1.45	-	1,969	80	394
S-1012	Repair Primer	233	35.5	-	1.45	30	691	98	14
S-1014	Solids (Bell)	18,468	51.0	-	1.43	75	28,082	98	562
	Solids (Man)	9,494	51.0	-	1.45	35	37,535	98	751
	Base Coat (Bell)	13,866	31.7	-	1.11	75	10,173	98	203
	Base Coat (REA)	23,109	31.7	-	1.11	45	37,299	98	746
	Base Coat (Man)	21,386	31.7	-	1.11	35	40,794	98	816
	Clear Coat (Bell)	50,873	43.2	-	1.08	75	49,488	98	990
	Clear Coat (Man)	26,154	43.2	-	1.08	35	66,149	98	1,323
	Others-Repair	233	35.5	-	1.23	30	579	98	12
S-2014	Solids (Bell)	4,468	51.0	-	1.45	75	6,794	98	136
	Solids (Man)	3,590	51.0	-	1.45	35	14,193	98	284
	Base Coat (Bell)	3,355	31.7	-	1.11	75	2,461	98	49
	Base Coat (REA)	5,591	31.7	-	1.11	45	9,024	98	180
	Base Coat (Man)	8,087	31.7	-	1.11	35	15,426	98	309
	Clear Coat (Bell)	12,308	43.2	-	1.08	75	11,973	98	239
	Clear Coat (Man)	9,890	43.2	-	1.08	35	25,014	98	500
	Others-Repair	116	35.5	-	1.23	30	288	98	6
S-1016	Solids (repair)	606	51.0	-	1.45	30	2,580	98	52
	Base Coat (repair)	857	31.7	-	1.11	30	1,760	98	35
	Clear Coat (repair)	1,665	43.2	-	1.08	30	4,535	98	91
S-1017	Solids (lacq. repair)	276	8.6	-	1.15	30	159	98	3
	Base Coat (lacq. rep.)	385	7.2	-	1.15	30	186	98	4
	Clear Coat (lacq.rep.)	630	8.8	-	1.15	30	372	98	7
	Adhesion Promoter	495	4.0	-	1.13	30	127	98	3
S-1808	Solids (lacq. repair)	415	8.6	-	1.15	30	240	98	5
	Base Coat (lacq. rep.)	578	7.2	-	1.15	30	279	98	6
	Clear Coat (lacq.rep.)	946	8.8	-	1.15	30	559	98	11
	Adhesion Promoter	743	4.0	-	1.13	30	191	98	4
S-1018	ASC/ Chassis Blackout	12,317	57.2	-	1.05	30	43,187	98	864
S-1019	Cavity Wax	15,406	88.0	-	1.18	95	6,671	98	133
	Hinge Wax	2,566	27.1	-	1.18	95	342	98	7
S-1020	Solids	629	51.0	-	1.53	25	3,010	98	60
	Base Coat	893	31.7	-	1.14	25	2,019	98	40
	Clear Coat	1,734	43.2	-	1.13	25	5,154	98	103
	Lacquer	279	4.0	-	1.13	30	72	98	1
S-1021	Underbody Wax	26,806	88.0	-	1.18	70	69,644	98	1,393
	Engine Wax	1,776	93.0	-	1.18	60	6,502	98	130
	Exterior Wax	20,512	80.5	-	1.18	30	113,750	98	2,275
TOTAL PARTICULATE EMISSIONS LBS/YR									24,579
TOTAL PARTICULATE EMISSIONS TONS/YR									12.29

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III. **Statement of Compliance:** Table IV shows the calculated emissions after abatement in "pounds POC per gallon coating" and in "pounds POC per gallon of applied solids."

A. Regulation 8, Rule 13 - The POC emissions from the second vehicle line will be in compliance with District Regulation 8, Rule 13, Sections 302, 303 and 306. The following is a comparison of the regulation standards and the expected emission rate from the second vehicle line.

Coating	Reg. Stand.	NUMMI	
ELPO Primer	1.2	0.24	lbs POC/gal
Spray Primer	15.0	2.62	lbs POC/gal appl solids
Primer Surfacer	15.0	6.94	lbs POC/gal appl solids
Topcoat	15.0	9.23	lbs POC/gal appl solids
Final Repair	4.9	4.38	lbs POC/gal

B. New Source Performance Standards (NSPS) - The POC emissions from the second vehicle line will be in compliance with the NSPS Subpart MM standards for the coatings applied. The following is a comparison of the NSPS and the expected emission rate from the second vehicle line.

Coating	NSPS	NUMMI	
Prime Coat	1.3	0.31	lbs POC/gal appl solids
Guide Coat	11.7	6.51	lbs POC/gal appl solids
Top Coat	12.3	7.91	lbs POC/gal appl solids

IV. **Health Risk Assessment:**

A. Carcinogenic Effects - The estimated cancer risk to the maximally exposed individual for the second vehicle line is 2.3 in a million. District policy requires that the TBACT be applied to those sources that contribute significantly to the total risk number whenever the risk is greater than 1 in a million. Table V shows the carcinogenic air contaminants that are emitted, the source of those emissions and the calculated cancer risk. TBACT is required for the Primer Surfacer, Topcoat I and Topcoat II Booths.

B. Noncarcinogenic Effects: The hazard index is used to evaluate the potential for chronic effects due to the emissions of noncarcinogenic compounds. Based on the information that was submitted in their Health Risk Assessment, the hazard index associated with the second vehicle line is 02. This is below the District's trigger level of 1 and is not considered significant.

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Table IV - Precursor Organic Emissions Compliance
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Coating	Source	Usage gal/yr	POC Content lbs/gal	% Volume Solids	Transfer Eff.	gal. appl. solids	Control. Emission TPY POC	lbs POC/ gal	lbs POC/ gal appl solids
ELPO Primer	S-1001	107,371	.59	90.7	85	82,778	9.50		
ELPO Primer (oven)	S-1002	-	-	-	-	-	3.21		
TOTAL ELPO/PRIME COAT		107,371				82,778	12.72	.24	.31
Anti-chip I	S-1006	14,678	4.76	45.0	60	3,963	26.20		
Anti-chip I (oven)	S-1007	-	-	-	-	-	1.27		
Anti-chip II	S-1006	33,396	.72	89.0	80	23,778	3.61		
Anti-chip II (oven)	S-1007						1.22		
Adhesion Promoter	S-1017	495	6.61	4.0	30	6	1.64		
Adhesion Promoter	S-1808	743	6.61	4.0	30	9	2.46		
TOTAL SPRAY PRIMER						27,756	36.39	-	2.62
Primer (Auto.)	S-1008	37,543	4.08	44.1	75	12,417	19.24		
Primer (Auto., oven)	S-1009	-	-	-	-	-	2.54		
Primer (Man.)	S-1008	14,353	4.08	44.1	30	1,899	24.30		
Primer (Man., oven)	S-1009	-	-	-	-	-	.49		
TOTAL GUIDE COAT						14,316	46.57	-	6.51
Others-Repair	S-1008	233	4.63	35.5	30	25	.50		
Others-Repair (oven)	S-1009	-	-	-	-	-	.00		
Repair Primer	S-1010	837	4.63	35.5	30	89	1.94		
Repair Primer	S-1012	233	4.63	35.5	30	25	.50		
Repair Primer (oven)	S-1013	-	-	-	-	-	.04		
Others-Repair	S-1014	233	4.63	35.5	30	25	.50		
Others-Repair (oven)	S-1015	-	-	-	-	-	.00		
Others-Repair	S-2014	116	4.63	35.5	30	12	.25		
Others-Repair (oven)	S-2015	-	-	-	-	-	.00		

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Table IV - Precursor Organic Emissions Compliance
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Coating	Source	Usage gal/yr	POC Content lbs/gal	% Volume Solids	Transfer Eff.	gal. appl. solids	Control. Emission TPY POC	lbs POC/ gal	lbs POC/ gal appl solids
Interior Color	S-1008	23,274	4.46	38.7	55	4,954	38.93		
Interior Color (oven)	S-1009	-	-	-	-	-	1.27		
Solids (Bell)	S-1014	18,468	3.54	51.0	75	7,064	7.14		
Solids (Man)	S-1014	9,494	3.54	51.0	35	1,695	12.17		
Base Coat (Bell)	S-1014	13,866	4.79	31.7	75	3,297	6.41		
Base Coat (REA)	S-1014	23,109	4.79	31.7	45	3,296	10.68		
Base Coat (Man)	S-1014	21,386	4.79	31.7	35	2,373	38.58		
Clear Coat (Bell)	S-1014	50,873	4.12	43.2	75	16,483	22.10		
Clear Coat (Man)	S-1014	26,154	4.12	43.2	35	3,954	39.03		
(OVEN EMISSIONS)	S-1015	-	-	-	-	-	7.24		
TOPCOAT BOOTH I						38,162	144	-	7.55
Solids (Bell)	S-2014	4,468	3.54	51.0	75	1,709	1.70		
Solids (Man)	S-2014	3,590	3.54	51.0	35	641	4.79		
Base Coat (Bell)	S-2014	3,355	4.79	31.7	75	798	1.50		
Base Coat (REA)	S-2014	5,591	4.79	31.7	45	798	2.49		
Base Coat (Man)	S-2014	8,087	4.79	31.7	35	897	14.46		
Clear Coat (Bell)	S-2014	12,308	4.12	43.2	75	3,988	5.44		
Clear Coat (Man)	S-2014	9,890	4.12	43.2	35	1,495	15.35		
(OVEN EMISSIONS)	S-2015	-	-	-	-	-	2.80		
TOPCOAT BOOTHS II						10,325	48	-	9.25
TOPCOAT BOOTHS I & II						48,487	191.87	-	7.91
Solids (repair)	S-1016	606	3.54	51.0	30	93	1.37		
Base Coat (repair)	S-1016	857	4.79	31.7	30	82	2.05		
Clear Coat (repair)	S-1016	1,665	4.12	43.2	30	216	3.43		
Solids (lacq. repair)	S-1017	276	6.32	8.6	30	7	.87		
Base Coat (lacq. rep.)	S-1017	385	6.41	7.2	30	8	1.23		
Clear Coat (lacq.rep.)	S-1017	630	6.30	8.8	30	17	1.98		
Solids (lacq. repair)	S-1808	415	6.32	8.6	30	11	1.31		
Base Coat (lacq. rep.)	S-1808	578	6.41	7.2	30	12	1.85		
Clear Coat (lacq.rep.)	S-1808	946	6.30	8.8	30	25	2.98		
TOTAL TOPCOAT						53911.50	248.85	-	9.23

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Table IV - Precursor Organic Emissions Compliance
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Coating	Source	Usage gal/yr	POC Content lbs/gal	% Volume Solids	Transfer Eff.	gal. appl. solids	Control. Emission TPY POC	lbs POC/ gal	lbs POC/ gal appl solids
Solids	S-1020	629	3.54	51.0	25	80	1.11		
Base Coat	S-1020	893	4.79	31.7	25	71	2.14		
Clear Coat	S-1020	1,734	4.12	43.2	25	187	3.57		
Lacquer	S-1020	279	6.61	4.0	30	3	.92		
TOTAL FINAL REPAIR		3,535				342	7.75	4.38	-
Bead Sealer	S-1803	110,236	.25	98.7	99	107,715	2.76		
Bead Sealer (oven)	S-1007	-	-	-	-	-	1.60		
TOTAL BEAD SEALER						107,715	4.35	-	.08
PVC Undercoat	S-1005	291,757	.60	94.8	80	221,269	26.26		
PVC Undercoat (oven)	S-1007	-	-	-	-	-	8.88		
TOTAL PVC UNDERCOAT						221,269	35.14	-	.32
ASCA Chassis Blackout	S-1018	12,317	2.95	57.2	30	2,114	18.17	-	17.19
Cavity Wax	S-1019	15,406	.73	88.0	95	12,879	5.62		
Hinge Wax	S-1019	2,566	6.92	27.1	95	661	8.88		
Underbody Wax	S-1021	26,806	.73	88.0	70	16,512	5.87		
Engine Wax	S-1021	1,776	.54	93.0	60	991	.29		
Exterior Wax	S-1021	20,512	1.50	80.5	30	4,954	9.23		
(OVEN EMISSIONS)	S-1053	-	-	-	-	-	10.25		
TOTAL WAX						35,997	40	-	2.23
TOTAL MISC. COATINGS						367,094	97.80	-	.53
Wipe Solvent	S-1810	17,616	7.09	-	-	-	62.45		
Purge Thinner	S-1810	60,274	7.30	-	-	-	44.00		
Wet Down	S-1810	13,699	7.30	-	-	-	45.00		
Clean-up	S-1810	48,904	7.30	-	-	-	178.50		
Sealant	S-1809	12,500	.40	-	-	-	2.50		
Adhesive	S-1809	8,500	.16	-	-	-	.68		
Various	S-1809	30,090	2.78	-	-	-	41.89		
TOTAL FUGITIVE							375.02		

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Table V - Carcinogenic Compound Emissions by Source
02/05/90

		EMISSIONS (LBS/YR)						Source's
SOURCE	DESCRIPTION	Benzene	1,4-Dioxane	Formaldehyde	Methylene chloride	Perchloro-ethylene	Vinyl Chloride	contribution to the total cancer risk
S-1005	PVC Undercoat	-	-	-	-	-	2.0	8.7E-10
S-1006	Anti-chip	-	-	-	-	1338.6	-	3.4E-08
S-1007	Sealer Oven	-	-	-	-	103.5	.5	3.2E-09
S-1008	Primer	-	-	1232.8	-	-	-	8.1E-07 *
S-1009	Primer Oven	-	-	37.0	-	-	-	2.4E-08
S-1014	Topcoat I	-	-	1251.6	-	-	-	8.2E-07 *
S-1015	Topcoat I Oven	-	-	37.6	-	-	-	2.5E-08
S-2014	Topcoat II	-	-	699.8	-	-	-	4.6E-07 *
S-2015	Topcoat II Oven	-	-	10.7	-	-	-	7.0E-09
S-1016	Touch-up Deck	-	-	36.0	-	-	-	2.4E-08
S-1020	Paint Hospital	-	-	37.0	-	-	-	2.4E-08
S-1809	Fugitive	8.8	141.0	-	684.8	-	.3	7.7E-08 *
TOTAL POUNDS PER YEAR		8.8	141.0	3342.3	684.8	1341.9	2.8	-
CANCER RISK		2.8E-08	9.4E-09	2.2E-06	3.9E-08	3.9E-08	1.2E-09	2.3E-06 **

* Sources that contribute significantly to the total cancer risk.
** Total estimated cancer risk for the truck line.

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V. BACT/TBACT Evaluation:

A. POC Emissions - The controlled POC emissions from the paint shop for this project are 771 tons per year; therefore, Best Available Control Technology is required according to Section 2-2-301.1 and 301.3 for all new POC sources. TBACT is required for the Primer Surfacer, Topcoat I and Topcoat II Booths. TBACT requirements are the same as the BACT requirements for this project.

1. Best Available Control Technology for this project shall include the following strategies:

High transfer efficiency electrostatic "mini-bells" (TE = 75%) and reciprocating electrostatic application equipment (TE = 45%) (REA) will be used in the automatic zones of the primer and topcoat spraybooths and the PVC undercoat booth.

High-solids coatings especially in the anti-chip, PVC Undercoat, bead sealer, paint hospital, cavity wax and hinge wax booths will allow for high transfer eficiency coating operations of 80 to 90%.

The automatic, flash-off and setting zone emissions from the Primer Surfacer, Topcoat I and Topcoat II booths will be exhausted to dry filters. The automatic zone exhaust will also be recirculated to concentrate the solvent in the exhaust stream. A slipstream from the recirculated ines and the exhaust from the flash-off and setting zones will be vented to rotary drum carbon adsorption units. The carbon adsorption units are desorbed to thermal incinerators; The estmated capture efficiency of these systems is 85% and the minimum destruction efficiency is of the incinerator is 95%. This control equipment shall remain in operation during clean-up operations following periods of normal production.

The Elpo, Sealer ovens shall have a capture efficiciency of at least 90% and the Primer Surfacer, Topcoat I and Topcoat II ovens shall have a capture efficiency of at least 95%; all of these ovens shall be controlled by thermal incinerators with a minimum destruction efficiency of 95%.

All thermal incinerators shall have a retention time of 0.5 seconds and shall be conditioned to achieve the following minimum level of control:

At incinerator inlet POC concentrations of less than 500 ppm C_1, the minimum allowable incinerator operating temperature shall be 1450^{O}F.

At incinerator inlet POC concentrations of greater than 1200 ppm C_1, the minimum allowable incinerator destruction efficiency shall be 98% by weight.

At incinerator inlet POC concentrations from 500 ppm to 1200 ppm C_1, the minimum allowable incinerator destruction efficiency shall vary linearly with POC concentration from 95 to 98% by weight.

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V. **BACT/TBACT Evaluation:**

A. **POC Emissions**

1. **Best Available Control Technology - Continued**

All purge solvent usage from hand-held and automatic paint guns are conditioned to be collected and recovered at 85%. All internal paint pipe system clean-up solvent usage are conditioned to be recovered at 90%. Paint and solvent collected will be recovered in an enclosed collection system and shipped to a solvent recycler. Paint Booth grate stripper use will be reduced by using stripping tanks and/or polymer masking materials, which are released when soaked in hot water.

The booth walls and fixtures of the primer and topcoat booths shall be paper or plastic lined, or coated with a protective renoveable coating to reduce clean-up solvent usage.

2. **Comparison of LAER values with other recently permited automobile assembly plants:**

Lowest Achievable Emission Reduction (LAER) values are used by many other agencies across the country instead of BACT. Therefore, LAER values are included in this BACT determination to help establish BACT for this project.

NUMMI's LAER value for the topcoat paint operation is 7.92 lb POC/gallon of solids applied. NUMMI is proposing control of the Base Coat Automatic zones, the Clear Coat/NMHS Automatic zones, the Flash Off zones, and the Setting zones of the Topcoat Booths.

Lowest Achievable Emission Reduction (LAER) for the application of topcoat in the topcoat booth is:

Facility	LAER
General Motors, Arlington, Texas	8.7 lbs POC/gal appl solids
NUMMI, Fremont, California	7.9 lbs POC/gal appl solids (see Table IV, Topcoat I & II)

Ford Avon Lake, Ohio and Ford, Wixom, Michigan have calculated LAER numbers of 5.4 and 5.3 lbs POC/gal appl solids, respectively. However, from phone conversations with Dave Salmon of EPA, Research Triangle Park, the LAER numbers calculated for the Ford plants do not accurately reflect the actual emissions. A reasonable LAER number would be between 7.5 and 8.5. NUMMI's LAER number is within this range.

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V. **BACT/TBACT Evaluation:**

A. **POC Emissions**

3. **Recent NSR Projects at Other Facilities:**

GM - Arlington: The General Motors plant in Arlington Texas plans to install a new Base Coat/Clear Coat Topcoat Paint facility under an Authority to Construct from the Texas Air Control Board. GM is switching the passenger line topcoat operation from a lacquer system to the Base Coat/Clear Coat system. The proposed control for this project results in a LAER value of 8.73 lb POC/Gallons of applied solids. BACT for the first topcoat spraybooth will be regenerative incineration of emissions from the clear coat manual and automatic zones, the setting area between the booth and the oven, and the oven exhaust. The required destruction efficiency of the REECO Regenerative Oxidizer is 93%. No recirculation or solvent concentrating equipment will be used. This incinerator, with a capacity of 429,000 acfm, was an existing unit installed on the previous topcoat spraybooth to meet RACT requirements for the lacquer topcoat system. GM Arlington proposes no control for the base coat automatic zones and the Second Color Booth. Approximately 30% of the cars are sent back to the second color booth for repair. This facility will not use primer surfacer.

Ford - Wixom: Ford Motor Company has received a LAER permit from the Michigan Air Pollution Control Commission for a new topcoat system at its Wixom, Michigan plant. Thermal incinerators will control POC emissions from the automatic zones of the primer surfacer, the base coat/clear coat automatic zones of the new topcoat spray booth, the primer oven and the topcoat oven. The thermal oxidizer shall maintain a minimum operating temperature of 1400^{O}F.

Ford - Avon Lake: Ford Motor Company has received a "permit to install" from the State of Ohio EPA for two new coating lines at its Avon Lake, Ohio facility. This facility is located in an area designated as nonattainment for ozone. Thermal incinerators will control the POC emissions from the automatic zones application sections of the primer surfacer and topcoat spray booths, and the oven exhaust from these operations. The thermal oxidizer shall maintain a minimum operating temperature of 1200^{O}F. A control efficiency of 90% is required for the incinerators controlling the ovens, and a control efficiency of 85% is required for the incinerators controlling the automatic zones of the booths. Only non-photochemically reactive materials may be used in the solvent wipe operaiton. Ford is required to recover 90% of all purge materials. Since this project has not been constructed yet, 90% recovery has not been demonstrated as achievable.

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V. **BACT/TRACT Evaluation:**

A. **POC Emissions**

4. **Cost-Effectiveness:**

The total proposed budget for the Second Line Truck Paint Process equipment is over 152 million dollars. Of this total budget, over 41 million dollars is the dedicated cost for air pollution abatement equipment, which is over 27 percent.

The South Coast AQMD uses $17,500 per ton of POC or $8.75 per pound as the maximum cost-effectiveness criterion for BACT determinations. NUMMI's highest value for controling the automatic zone of the Prime Booth is $9.37/lb, which is proposed to meet BACT for the Prime Booth, especially because the automatic zone in the Prime Booth was also controlled at Ford-Avon Lake. The cost per ton of controlling the automatic zones and the Clear Coat and Non-Metallic High Solids manual zones of the Topcoat Booths would be approximately $20,000 per ton using a 10 year annualization or $9.83 per pound.

However, the additional capital cost of controlling the Clear Coat and Non-Metallic High Solids marual zones of the Topcoat Booths will be approximately 12 million dollars. This would increase air abatement equipment costs to approximately **35%** of the Truck paint budget. The additional cost of adding the Base Coat Manual Zone of the Topcoat Booths will be and additional 12 million dollars; the combined percent cost of control would be almost **43%** of the Truck Paint Budget. Therefore, additional add-on control for the manual zones in the Prime and Topcoat Booths are not proposed for control as BACT for this project.

Table VI - Cost Comparison of Controlling Various Booths and Booth Zones
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Source	Description	Control Option	Emission TPY POC	Emission Reduction TPY POC	SCFM to Incin./ Carbon	Annualized $/lb POC abated 10 year	Annualized $/lb POC abated 7 year	Control Proposed
S-1001	ED Bath	Thermal Oxidizer	9.50	9.00	6,720	$24.11	$29.63	no
S-1005	PVC Undercoat Booth	Recirc./Carbon/Incin.	26.26	21.00	44,288	$20.63	$25.57	no
S-1006	Anti-Chip Booth (Auto)	Auto. Recirc./Carbon/Incin.	29.81	19.00	34,778	$19.37	$23.91	no
S-1008	Primer (Man) Repr.	Carbon/Incin.	.57	.46	59,998	$990.37	$1,227.82	no
	Primer (Auto)/Flash-Off	Auto. Recirc./Carbon/Incin.	51.86	42.00	38,295	$9.37	$11.59	yes
	Primer & IC (Man)	Carbon/Incin.	62.52	50.00	179,999	$22.26	$27.87	no
S-1014	TC - BC&Repr Prim (Man)	Carbon/Incin.	56.43	46.00	120,000	$18.09	$22.32	no
&	TC - BC/CC&HS (Auto)/F-O's	Auto. Recirc./Carbon/Incin.	211.88	172.00	167,537	$8.69	$10.90	yes
S-2014	TC - CC&HS (Man)	Carbon/Incin.	79.33	64.00	120,000	$13.83	$16.88	no
	TC - CC&HS (Man)	Carbon/Incin.	7.09	5.00	120,000	$152.44	$188.22	no
S-1017	Touch-up Booth	Carbon/Incin.	5.73	5.00	32,256	$55.22	$67.58	no
S-1018	Black Out Booth	Carbon/Incin.	18.17	15.00	80,639	$35.79	$44.46	no
S-1019	Cavity Wax Booth	Carbon/Incin.	14.50	12.00	37,094	$24.07	$29.54	no
S-1021	Exterior Wax Booth	Carbon/Incin.	15.39	12.00	73,199	$38.76	$48.10	no
S-1053	Wax Dry Off Oven	Thermal Oxidizer	10.26	8.00	6,700	$15.77	$17.25	no

ASSUMPTIONS
1. Wet ESP is used for all secondary particulate abatement
2. 15% of all POC emissions will be fugitive and the POC abatement device destruction efficiency is 95%.

NUMMI Second Vehicle Line

Table VI - Cost of Controlling Entire Primer and Top Coat Booths
POC Concentrating and Incineration vs. Regenerative Incineration
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Source	Description	Control Option	Emission TPY POC	Emission Reduction TPY POC	SCFM to Incin./ Carbon	Annualized $/lb POC abated 10 year	Annualized $/lb POC abated 7 year	Control Proposed
S-1008	Primer (Man) Repr.	Carbon/Incin.	.57	.46	59,998			
	Primer (Auto)/Flash-Off	Auto. Recirc./Carbon/Incin.	51.86	42.00	38,295			
	Primer & IC (Man)	Carbon/Incin.	62.52	50.00	179,999	$21.22	$26.44	no
S-1008	Primer (Man) Repr.	Regenerative	.57	.46	59,998			
	Primer (Auto)/Flash-Off	Thermal Oxidizer	51.86	42.00	38,295			
	Primer & IC (Man)	No Recirculation	62.52	50.00	179,999	$35.60	$42.48	no
S-1014	TC - BC&Repr Prim (Man)	Carbon/Incin.	56.43	46.00	120,000			
&	TC - BC/CC&HS (Auto)/F-O's	Auto. Recirc./Carbon/Incin.	211.88	172.00	167,537			
S-2014	TC - CC&HS (Man)	Carbon/Incin.	79.33	64.00	120,000			
	TC - CC&HS (Man)	Carbon/Incin.	7.09	5.00	120,000	$13.63	$16.93	no
S-1014	TC - BC&Repr Prim (Man)	Regenerative	56.43	46.00	120,000			
&	TC - BC/CC&HS (Auto)/F-O's	Thermal Oxidizer	211.88	172.00	167,537			
S-2014	TC - CC&HS (Man)	No Recirculation	79.33	64.00	120,000			
	TC - CC&HS (Man)		7.09	5.00	120,000	$25.66	$30.66	no

ASSUMPTIONS
1. Wet ESP is used for all secondary particulate abatement
2. 15% of all POC emissions will be fugitive and the POC abatement device destruction efficiency is 95%.

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Table VI - Cost of Controlling Specified Zones of the Primer and Top Coat Booths
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Source	Description	Control Option	Emission Emission TPY POC	Emission Reduction TPY POC	SCFM to Incin./ Carbon	Annualized $/lb POC abated 10 year	7 year	Control Proposed
S-1008	Primer (Auto)/Flash-Off	Auto. Recirc./Carbon/Incin.	51.86	42.00	38,295			
	Primer & TC (Man)	Carbon/Incin.	62.52	50.00	179,999	$16.38	$20.43	no
S-1014	TC - BC/CC&HS (Auto)/F-O's	Auto. Recirc./Carbon/Incin.	211.88	172.00	167,537			
S-2014	TC - CC&HS (Man)	Carbon/Incin.	79.33	64.00	120,000	$9.83	$12.25	no
S-1014	TC - BC&Repr Prim (Man)	Carbon/Incin.	56.43	46.00	120,000			
&	TC - BC/CC&HS (Auto)/F-O's	Auto. Recirc./Carbon/Incin.	211.88	172.00	167,537			
S-2014	TC - CC&HS (Man)	Carbon/Incin.	79.33	64.00	120,000	$11.17	$13.90	no

ASSUMPTIONS
1. Wet ESP is used for all secondary particulate abatement
2. 15% of all POC emissions will be fugitive and the POC abatement device destruction efficiency is 95%.

B. **BACT - NOx Emissions**: Total NOx emissions from this project exceed 150 pounds per day and 25 tons per year; therefore Best Available Control Technology is required according to Section 2-2-301.1 and 301.3. The three Air Supply House Boilers, and the Phosphate Boiler will be equipped with low NOx burners and flue gas recirculation; the NOx condition limit for these four sources is 30 ppmdv NOx at 3% O_2. Low NOx burners will also be used on thermal heat recovery abatement equipment. NOx from the POC thermal incinerators will also be minimized by the use of activated carbon POC concentrating units for control of the topcoat and primer automatic zones of the spraybooths, which recuces the required capacity for the incinerators. The air supply houses supply fresh air in working areas of the booths; therefore, low NOx burners, which increase CO emissions, cannot be used.

C. **BACT - PM10**: Total Particulate Emissions from this project exceed 80 pounds per day, which exceeds the BACT trigger limit in Section 2-2-301.1 for PM10. Total annual particulate emissions are less than 15 tons per year; therefore, the PSD Requirement in Section 2-2-304 is not triggered. All particulate emissions from combustion devices and coating operations are assumed to be PM10.

BACT for particulate control at spraybooths shall be dry filters and venturi scrubbers achieving at least 98% control efficiency. The automatic zones of the primer and topcoat booths shall be controlled by dry filters with a control efficiency of at least 90%.

The total particulate emissions from combustion devices are only 1.2 tons per year; therefore, no additional add-on control will be required for these sources. BACT for these sources is considered to be good combustion of natural gas.

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VI. Offsets:

A. **Offsets Required:**

The total POC project emissions for the Second Vehicle Line are 772.2 tons per year. NUMMI has a current cumulative RFP balance of 2 pounds per day, which equals 0.37 tons per year. Therefore, the **total POC emissions required to be offset for this project are 772.6 tons per year.**

District Regulation 2-2-303, Offset Requirement, Precursor Organic Compounds, requires POC emissions of more than 40 tons per year to be offset by an offset ratio of 1.1 to 1 for emissions provided from on-site sources. Therefore, **the total emission offset required to be provided for this project is 850 tons per year.**

Offsets are proposed to be provided from the following sources:

	tons/year
Old Truck Line Sources	424
Passenger Line Condition Limits:	
Clean-Up Solvent	323
Urethane Coating Usage	103
Total	850

B. **Alternate Baseline for old Truck Line Sources wth existing permits:**

By approving the Authority to Construct for this project, the APCO will be approving an alternate baseline period for the emissions from the old truck line sources, which will be used as offsets for this project. The alternate baseline period to be approved is the last two years from the date of shutdown of the previous truck line, which was December, 1981; therefore, the baseline is calendar years 1980 and 1981. No use of this alternate baseline can result in future banking credit, since the credits resulting from the alternate baseline do not meet the requirements of District Regulation 2, Rule 4, Emissions Banking.

The available RACT-adjusted emissions calculated based on the alternate baseline period are 424 tons per year. The RACT-adjustment was based on the most recent version of Regulation 8, Rule 13, adopted September 20, 1989 for control of POC emissions from automobile assembly plants. The actual coating usage annual inventory logs for this baseline period were audited. See Appendix A for explanation of RACT-adjustment determination.

C. **RACT-Adjusted Passenger Line Emissions Available for Offsets:**

NUMMI has proposed to provide the remainder of the offsets required for this project by reducing the present permit conditions for clean-up and purge emissions and for urethane coating usage for the passenger line. The current Passenger Line Clean Up condition limit required in Permit No. 29614, which is currently 893 tons per year, shall be reduced to 570 tons per year; the difference, 323 tons per year, is to be provided as credit for offsets.

In April, 1989, NUMMI started a program to reduce and recover paint line purge thinner, and in December, 1989 a new grate cleaning operation was introduced to reduce clean-up solvent emissions. The passenger line clean up emissions for 1987 were 8795 tons per year (893 tons per year is the condition limit) at a production level of 195,442 vehicles, which is well below full permitted production of 280,170 jobs/year.

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VI. Offsets, Cont.:

C. RACT-Adjusted Emissons Available for Offsets, Continued:

NUMMI has proposed to provide the remainder of the offsets required for this project by reducing the present permit conditions for clean-up and purge emissions and for urethane coating usage for the passenger line. The current Passenger Line conditions, permitted in Application 29614, allow urethane coating emissions of 172 tons per years. NUMMI is proposing to reduce this emission limit by 95.5 tons per year to provide offset credit. The Passenger Car Line cordition limit for urethane coating usage will be revised to allow a total emission limit of 76 tons per year for future urethane coating operations. The conditions limiting urethane coatings and clean-upand purge materials will be revised and re-issued upon issuance of the Final Authority to Construct for this application.

Passenger Car Line Permit Condition Revisions

	tons/year
Clean-up Solvent	570
Urethane Coating	69

VII. CEQA: A CEQA review is required for this project. The City of Fremont is the lead agency, and they have certified the EIR. (The certification is currently being appealed. The District commented on the air quality issues in the EIR.)

VIII. Certification of Compliance: NUMMI has certified, in accordance with Regulation 2-2-310, that they are in compliance or on a schedule of compliance with all applicable state and federal emission limitations and standards. (See NUMMI letter and certification dated December 15, 1989)

NUMMI has also certified that District Regulation 2-2-442, regarding the location of the nearest school, is not applicable to the Truck Line application, since the nearest school is located greater than 1 mile from the proposed project stacks.

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IX. **Authority to Construct:** I recommend that a conditional authority to construct be issued for the following:

S-1000	Phosphate Cleaning Boiler, *Cleaver-Brooks, Model CB700-200-30*, 14 MMBtu/hr, abated by Low NOx Burners, *Cleaver-Brooks, Model CB700 with Flue Gas Recirculation*
S-1001	Electrophoretic Deposition (ED) Bath, *Haden Schweitzer Custom Built*, 6,800 CFM
S-1002	Electrophoretic Deposition (ED) Oven abated by A-10021 ED Oven Thermal Heat Recovery/Thermal Oxidizer I, *Durr Industries DC-11*, 8.0 MMBtu/hr, with Low NOx Burner, *Maxon Incinocone* Heater I, *Durr Industries, UGB-40-28* Heater II, *Durr Industries, UGB-40-28* Heater III, *Durr Industries, UDFB-15-40* Heater IV, *Durr Industries, UDFB-15-40*
S-1003	Electrophoretic Deposition Dry Sand Booth, *TKS Custom Built*, 2.8 MMBtu/hr Air Supply House, *TMI Custom Built*
S-1004	Electrophoretic Deposition Repair Booth, *TKS Custom Built*, 7,000 CFM
S-1033	Sealer Deck, *NUMMI Custom Built*
S-1005	PVC Undercoat *TKS Custom Built*, 5.9 MMBtu/hr, 97,300 CFM Air Supply House, *TMI Custom Built*
S-1006	Anti-chip Booth, *TKS Custom Built*, 6.7 MMBtu/hr, 112,500 CFM Air Supply House, *TMI Custom Built*
S-1007	Sealer Oven, *Durr Industries*, Welded Modular, abated by A-10071 Sealer Oven Thermal Heat Recovery/Thermal Oxidizer I, 6.0 MMBtu/hr, *Durr DC-8*, with Low NOx Burrer, *Maxon Incinocone*
S-1008	Primer Surfacer Booth, *TKS Custom Built*, 23 MMBtu/hr, 360,000 CFM with Automatic Zone abated by A-10081 Primer Booth Dry Filter, *American Air Filter, Custom Built*, A-10082 Primer Booth Activated Carbon, *KPR 1500-2300A* and A-1008 Primer Booth Thermal Heat Recovery/Thermal Oxidizer, 3.1 MMBtu/hr, *Durr Industries DC-6*, with Low NOx Burner, *Maxon Incinocone*
S-1009	Primer Surfacer Oven, *Durr Industries*, Welded Modular Heater Box, *Durr Industries, UGB-40-28*, abated by A-10091 Primer Oven Thermal Heat Recovery/Thermal Oxidizer I, 6.0 MMBtu/hr, *Durr Industries DC-9*, with Low NOx Burner, *Maxon Incinocone*
S-1010	Offline Repair, *TKS Custom Built*, 14,000 CFM

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S-1011	Dry Sand Booth, *TKS Custom Built*, 2.9 MMBtu/hr Air Supply House, *TMI Custom Built*
S-1012	Primer Touchup Booth, *TKS Custom Built*, 4.1 MMBtu/hr, 67,700 CFM Air Supply House, *TMI Custom Built*
S-1013	Wet Sand Dry-Off Oven, *Durr Industries*, Welded Modular, 4.0 MMBtu/hr
S-1014	Topcoat Booth I, *TKS Custom Built*, 27 MMBtu/hr, 400,000 CFM, with Automatic Zones abated by A-10143 & A-10145 Topcoat Booth I Dry Filters I & II, *American Air Filter, Custom Built, each*, A-10144 & A-10146 Topcoat Booth I Activated Carbon I & II, *Durr KPR-1500-2300A, each*, and A-10141 & A-10142 Topcoat Booth I Thermal Heat Recovery/Thermal Oxidizer I & II, *Durr Industries DC-6 and DC-7*, 4.7 & 3.9 MMBtu/hr with Low NOx Burners, Maxor Incinocone Air Supply House, *TMI Custom Built*
S-1015	Topcoat Oven I, *Durr Industries*, Welded Modular, abated by A-10151 Topcoat Oven I Thermal Heat Recovery/Thermal Oxidizer I, 6.0 MMBtu/hr, *Durr Industries DC-8*, with Low NOx Burner, *Maxon Incirocone* Heater Box, *Durr Industries, UGB-40-28*
S-2014	Topcoat Booth II, *TKS Custom Built*, 27 MMBtu/hr, 400,000 CFM, with Automatic Zones abated by A-20143 & A-20145 Topcoat Booth II Dry Filters I & II, *American Air Filter Custom Built, each*, A-20144 & A-20146 Topcoat Booth II Activated Carbon I & II, *Durr KPR-1500-2300A, each*, and A-20141 & A-20142 Topcoat Booth I Thermal Heat Recovery/Thermal Oxidizer I & II, 4.7 & 3.9 MMBtu/hr, *Durr Industries, DC-6 and DC-7*, each with Low NOx Burners, Maxon Incinocone Air Supply House, *TMI Custom Built*
S-2015	Topcoat Oven II, *Durr Industries*, Welded Modular, abated by A-10151 Topcoat Oven II Therma Heat Recovery/Thermal Oxidizer I 6.0 MMBtu/hr, *Durr Industries, DC-8*, with Low NOx Burner, *Maxon Incinocone* Heater Box, *Durr Industries, UGB-40-28*
S-1808	Touchup Offline Repair Booth, *TKS Custom Built*
S-1016	Touchup Offline Repair Deck, *TKS Custom Built*, 21,000 CFM
S-1017	Touchup Booth, *TKS Custom Built*, 32,300 CFM
S-1018	Blackout Booth, *TKS Custom Built*, 4.9 MMBtu/hr, 80,700 CFM Air Supply House, *TMI Custom Built*

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S-1019	Cavity and Hinge Wax Booth, *NUMMI Custom Built*, 37,100 CFM
S-1020	Paint Hospital, *NUMMI Custom Built*, 43,900 CFM
S-1021	Underbody, Ergine and Exterior Wax Booth, *NUMMI Custom Built*, 73,200 CFM
S-1053	Wax Dry-off Booth, *NUMMI Custom Built*, 3 MMBtu/hr, 6,700 CFM
S-1609	Stamping, Body and Assembly, Fugitive Operations
S-1610	Cleaning Materials, Fugitive Operations
S-1056	ASH Boiler #1 *Keewanee 600 HP Model H3S-600-G III*, 25.1 MMBtu/hr, abated by Low NOx Burners, Keewanee and 20% Flue Gas Recirculation
S-1057	ASH Boiler #2 *Keewanee 600 HP Model H3S-600-G III*, 25.1 MMBtu/hr, abated by Low NOx Burners, Keewanee and 20% Flue Gas Recirculation
S-1058	ASH Boiler #3 *Keewanee 600 HP Model H3S-600-G III*, 25.1 MMBtu/hr, abated by Low NOx Burners, Keewanee and 20% Flue Gas Recirculation

X. Exemptions:

S-1059 **Stand-by Generator, *Sierra Allison 800 kW*, 9.7 MMBtu/hr**

Exemption 2-1-115: Internal Combustion Engines used solely as a source of standby power and that are operated less than 100 hours per year or 1) are only used for power when normal power line service fails, or 2) are only used for the emergency pumping of water.

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XI. Truct Line Sources - NUMMI shall relinquish their existirg permits for the following sources, the baseline emissions from which shall be used as partal offsets for the new line.

103	Truck PX Spray Booth
104	Truck Sealer Cure Oven
105	Truck 1st Color spray booth
106	Truck 1st Color Oven
107	Truck 2nd Color Spray Booth
108	Truck 2nd Color Oven
109	Truck Touch Up Booth
110	Truck Sheet Metal ELPO Tank
111	Truck Sheet Metal ELPO Oven
112	Truck Small Parts & Wheel ELPO Tank
113	Passenger and Truck Small Parts ELPO Oven
114	Small Parts Enamel Spray Booth
115	Small Parts Enamel Oven
116	Truck Wheel Spray Booth
117	Truck Wheel Oven
119	Truck Repair Spray Booth (West)
120	Truck Repair Oven (West)
121	Truck Repair Spray Booth (East)
122	Truck Repair Oven (East)
126	Truck Sheet Metal Dry Off Oven
274	Air Supply House
608	Door Air Heater
610	Door Air Heater
621	Door Air Heater
622	Door Air Heater
637	Truck Enamel Small Parts Mix Tank
638	Truck Enamel Small Parts Mix Tank
639	Truck Enamel Small Parts Mix Tank
711	Truck Enamel Auxiliary Mix Tank
712	Truck Enamel Auxiliary Mix Tank
713	Truck Enamel Auxiliary Mix Tank
714	Truck Enamel Auxiliary Mix Tank
715	Truck Enamel Auxiliary Mix Tank
716	Truck Enamel Auxiliary Mix Tank
724	Truck First Color Prime Mix Tank
725	Truck First Color Prime Mix Tank
726	Truck PX Booth Mix Tank

APPENDIX A

SUMMARY OF OFFSETS AUDIT FOR GM TRUCK LINE

In the August 11, 1989 update application for an Authority to Construct and/or Permit to Operate a "Second" Line for the manufacture of Toyota Trucks (Application No. 3611), NUMMI submitted a summary of emissions for their former truck line for the Model Years 1977 through 1982 with annual inventory logs for each of those years as supporting background documentation. A Model Year is defined as September 1 of one year to September 1 of the next year. For the purpose of this audit Model Years 1980 through 1982 are actually Calendar Years 1980 through 1981. The truck line ceased operation in December, 1981.

Using the annual inventory logs for the Model Years 1980 through 1982, the District independently recalculated the unadjusted emissions on a per truck and total annual basis and obtained values relatively consistent to NUMMI's calculated values.

Using the standards currently dictated in Regulation 8, Rule 13, the District determined that the coatings, used by NUMMI in their former truck line, are noncomplying to today's standards. Hence, the unadjusted emissions were adjusted to the coating VOC limits dictated in Regulation 8-13 to obtain RACT adjusted emissions on a per truck and total annual basis. The followng procedure was used in determining RACT adjusted emission values:

1. Because the standards dictated in Regulation 8-13 have units of pounds of VOC per gallon of solids applied (#VOC/GALSOL), the following equation was used to determine the #VOC/GALSOL in each coating:

   #VOC/GALSOL = (#VOC/GAL)/[(%SOLIDS)*(T.E.)]

   where,

   #VOC/GAL = pounds of VOC per gallon of coating
   %SOLIDS = percent solids in coating
   T.E. = Transfer Efficiency = 30%

2. Comparing the actual #VOC/GALSOL to the allowable (RACT) value dictated in Regulation 8-13, the District determined that the RACT value was always the lower. Hence, using the RACT standards (RACT #VOC/GALSOL) the emissions were adjusted to RACT levels:

   RACT Adjusted Emission
   (TONSVOC/YR) = [(GALS/YR)*(%SOLIDS)*(T.E.)*(RACT #VOC/GALSOL)]/2000
   (#VOC/UNIT) = [(GALS/YR)*(%SOLIDS)*(T.E.)*(RACT #VOC/GALSOL)]/(#TRUCKS)

   where,

   GALS/YR = Gallons of Coating Usage Per Year
   TONSVOC/YR = Tons of VOC Emissions Per Year
   #VOC/UNIT = Pounds of VOC Emissions Per Unit Truck

Although the inventory log for the Model Year 1980 documented production and coating usage from April 28, 1979 to May 14, 1980 and varies somewhat from the defined Model Year of September 1 of one year to September 1 of the next year, NUMMI and the District assumes that the VOC emissions per truck remains the same. However, to determine the total unadjusted and RACT adjusted emissions per year for Model Year 1980, the VOC emissions per truck is multiplied by the 56,678 trucks produced from September 1, 1979 to September 1, 1980, instead of 84,629 trucks produced from April 28, 1979 through May 14, 1980.

The RACT adjusted emission values calculated by the District varied slightly from the values estimated by NUMMI, because NUMMI used a different RACT adjustment procedure. This RACT adjustment procedure is similar to the procedure described in the District's January 5, 2984 Engineering Report for the General Motors-Toyota Joint Venture (Permit Application #29614) for the passenger car line and can be summarizec in three steps:

1. **Total actual emissions were determined for the Model Years 1976 through 1982.**

2. **Emissions from use of solvent-containing materials were calculated and separated into categories of:**

   Subject to RACT Requirements (E_{act})
   – ELPO, Prime, Topcoat
   Not Subject to RACT Requirements ($E_{non\text{-}ract}$)
   – Cleanup, Miscellaneous

3. **Emissions from use of solvents-containing materials subject to RACT requirements (E_{act}) were adjusted to RACT levels (E_{ract}). The formula used to make this adjustment is**

   $$E_{ract} = E_{act}(T.E._{act}/T.E._{ract})(VOC_{act}/VOC_{ract})(Vs_{act}/Vs_{ract})$$

   where,
   T.E. = Transfer Efficiency
   VOC = Volatile Organic Compound content
   Vs = 1 - (VOC/D), D = density of coating

   At the time of the former truck line's operation, Regulation 8, Rule 13 dictated the following:

Coating Operation	$T.E._{ract}$ (%)	VOC_{ract} (#/GAL)	Vs_{ract} (%)
ELPO	30	1.2	83
Spray Primer	30	2.9	59
Topcoat	30	2.8	60

   Note that to calculate Vs_{ract}, assumption of D_{ract} = 7.00 lb VOC/gal.

Previously in a April 18, 1986 letter, NUMMI had submitted a summary of emissions for the Model Years 1976 through 1981 for their former Truck line. Tables 1 through 6 attached to their April 18, 1986 letter provided average emission rates and RACT adjusted emission rates on a per truck basis for those years. The emissions details are summarized for ELPO, Spray Primer, Topcoat, Final Repair and Miscellaneous other source categories. In addition, Table 7 attached to ther April 18, 1986 letter summarizes the truck production volumes, emission rates and RACT adjusted emissions on a per truck and total basis during those years. However, no backup documentation was provided or available to support their estimated unadjusted emission rates.

Comparing the RACT-Adjusted-Emissions to the Unadjusted-Emissions previously calculated in their April 18, 1986 letter and using supportable annual inventory logs, NUMMI recalculated the RACT-Adjusted-Emissions for Model Years 1977 through 1982. Because Model years 1977 through 1979 were most representative of normal production volumes and emissions and the ratios of RACT-Adjusted-Emissions to Unadjusted-Emissions were relatively constant, the averages of both the topcoat-only and total-annual ratios comparing RACT-Adjusted-Emissions to Unadjusted-Emissions for the three year period were used as conversion factors in calculating the RACT adjusted total-annual and topcoat-only emissions for the Model Years 1977 through 1982 from their unadjusted values, obtained from previous annual inventory logs.

Finally, assuming an afterburner incinerator efficiency of 85%, the adjusted emissions were estimated contending that only 15% of the RACT adjusted topcoat emissions (E_{ract}(Topcoat)) were emitted in the total adjusted emissions:

$$\text{RACT-Adjusted-Emissions} = (0.15 * E_{ract}(\text{Topcoat})) + (E_{ract} - E_{ract}(\text{Topcoat}))$$

The reduction due to incineration was included as part of the RACT adjustment because the incinerators were existing control for the ovens.

Reviewing Model Years 1980 through 1982, the District has verified the Unadjusted and BACT-RACT-Adjusted Emissions provided by NUMMI in their summary tables and background documentation and determined them mathematically correct.

A January 11, 1980 Cement and Sealer Report for the former General Motors Assembly Division documented that a Year-To-Date total of 18,265 trucks were produced for December 1979. Hence, if 56,678 trucks were produced from September 1, 1979 to September 1, 1980 and 18,265 trucks were made from September 1, 1979 to December 31, 1979, then 38,413 tucks were made from January 1, 1980 to September 1, 1980. Using the ratio of 38,413 to 56678, the average annual emission offset equation is the following:

$$\text{AVE} = (((\text{Year1980}) * (38{,}413/56678)) + \text{Year1981} + \text{Year1982})/2$$

where,

Year____ = Emissions for the Year ____

The District's estimated average annual emission offset is approximately 3% less than the NUMMI's estimated value.

To verify the coating usages documented in the inventory logs for the Model Years 1977 through 1979, the District visited the NUMMI plant to review the original inventory cards, which the annual inventory logs are based. Based on that review, the District verified the annual usages documented in the annual inventory logs as consistent to the total of the usages documented in the inventory cards for the Model Years 1977 through 1979.

To verify the coating usages documented in the inventory logs for the Model Years 1980 through 1982, the District totalled the coating usages to determine the gallons of coating used per year for total coatings and for each separate coating category (e.g., Primer, Truck Paint, Blazer Paint, ELPO). Because the Model Years 1977 through 1979 were most representative of norma production volumes and emissions and because the District had already determned the accuracy of the annual inventory logs for the Model Years 1977 through 1979, the separate coating categories were further used to approximate the gallons of each coating categoy used per truck for each of the Model years 1977 through 1979. Using the average of the values for three years, the 1980 through 1982 annual coating usages for total coating and for each coating category were estimated and compared to actual values provided in the annual inventory logs for the Model years 1980 through 1982.

Because the inventory log for the Model year 1980 documented production and coating usage from April 28, 1979 through May 14, 1980 and varies somewhat from the other inventory logs that summarize production and coating usage from September 1 of one year to September 1 of the next year, the annual usages for total coatings and for each coating category was multiplied by the ratio of 56,678 trucks produced from September 1, 1979 to September 1, 1980 to 84,629 trucks produced from April 28, 1979 through May 14, 1980 to estimate the amount of coating used for Model Year 1980.

For the individual coating categories, the estimated annual usages had standard deviations varying from their actual values by as much as of 33%. However, for total coatings, the estimated total annual usages had standard deviations varying from their actual values by only 16%.

SUMMARY

TRUCK LINE EMISSIONS SUMMARY FOR 1980 THROUGH 1982 NUMMI(APPLICATION#3611)
FOR PRECURSOR VOC EMISSIONS WITH RACT ADJUSTMENTS

NOTE: ANNUAL AVERAGE = (YEAR1980*(38,413/56678))+(YEAR1981)+(YEAR1982)

UNADJUSTED

YEAR	PRODUCTION SEPT 1 TO SEPT 1	PRECURSOR SUBTOTAL (#VOC/UNIT)	FUGITIVE SUBTOTAL (#VOC/UNIT)	ANNUAL TOTAL (#VOC/UNIT)	PRECURSOR SUBTOTAL (TONSVOC/YR)	FUGITIVE SUBTOTAL (TONSVOC/YR)	ANNUAL TOTAL (TONSVOC/YR)
1980	56678	16.07	4.98	21.05	455.4	141.1	596.5
1981	59756	14.50	10.90	25.40	433.2	325.7	758.9
1982	5928	12.14	10.83	22.97	36.0	32.1	68.1
					ANNUAL AVERAGE (TONS/YR)		615.6

RACT ADJUSTED

YEAR	PRODUCTION SEPT 1 TO SEPT 1	PRECURSOR SUBTOTAL (#VOC/UNIT)	FUGITIVE SUBTOTAL (#VOC/UNIT)	ANNUAL TOTAL (#VOC/UNIT)	PRECURSOR SUBTOTAL (TONSVOC/YR)	FUGITIVE SUBTOTAL (TONSVOC/YR)	ANNUAL TOTAL (TONSVOC/YR)
1980	56678	9.16	4.98	14.14	259.6	141.1	400.7
1981	59756	6.45	10.90	17.35	192.7	325.7	518.4
1982	5928	8.05	10.83	10.78	36.5	32.1	58.4
					ANNUAL AVERAGE (TONS/YR)		424.3

NOTE: a = description of VOC containing materials
b = annual usage documented in annual NUMMI inventory recaps
c = VOC content of materials documented in annual NUMMI inventory recaps
d = ((b*c)/2000) = unadjusted annual VOC emissions
e = ((d*2000)/(#trucks made)) = unadjusted annual VOC emissions per truck
f = verification of numbers estimated by NUMMI in annual NUMMI inventory recaps
g = percent solids in materials documented in annual NUMMI inventory recaps
h = transfer efficiency documented in April 18, 1986 NUMMI letter to District
i = ((b/(g*h)) = actual VOC in solids
j = Regulation 8, Rule 13 standards of allowed VOC in solids
k = ((b*g*h*i)) = RACT adjusted annual VOC emissions
l = ((k*2000)/(#trucks made)) = RACT adjusted annual VOC emissions per truck

"Carol Lee"
<CLee@baaqmd.gov>
03/09/2004 11:21 AM

To: <EMoore@nummi.com>
cc:
Subject: RE: Permit Condition 10484

Steve told me that because it is more stringent than the rule that it can't be the rule that the basis was determined to. So it must be BACT, because it is too stringent.

-----Original Message-----
From: EMoore@nummi.com [mailto:EMoore@nummi.com]
Sent: Tuesday, March 09, 2004 9:51 AM
To: Carol Lee
Subject: Permit Condition 10484

Carol,

Just curious. Why was the basis of permit condition 10484, part 4 changed from District Regulation 8-13-308 to BACT? The limit of 8-13-308 is 2.8 lbs per gallon and in the engineering evaluation that was one of the basis for its approval.

I didn't see an explanation for this in the draft statement of basis.

Don't want to make a big issue of it, but also don't want to be blindsided if someone asks me why the change was made.

Edward Moore
Staff Specialist
Environmental Affairs Department
New United Motor Manufacturing, Inc.

Engineering Evaluation Report
Plant 20459: Tesla Motors, Inc. (Fremont, CA)
Application 26812: North Paint Shop

BACKGROUND:

Tesla Motors, Inc. (Tesla) has submitted this application to modify three existing paint shops that are referred to as the North Paint Shop, the Truck Line Paint Shop, and the Plastics Paint Shop

Sources that are part of the Truck Line Paint Shop will be merged with the North Paint Shop and sources that are part of the Plastics Paint Shop will be merged with the South Paint Shop. New equipment will also be added to the North Paint Shop. This evaluation report is limited to discussing sources/abatement devices at the North Paint Shop.

Sources from the Plastics Paint Shop and South Paint Shop will operate under the current permit conditions and limits and are not being modified. Any modifications will require a permit application in the future.

Prior to Tesla, the plant was owned/operated by the "New United Motor Manufacturing, Inc. (NUMMI)". NUMMI used to manufacture cars and trucks. NUMMI ceased its operations on October 22nd, 2010 and the ownership of the plant was transferred to Tesla on the same day.

Unlike NUMMI, Tesla only manufactures cars. Tesla manufactured 23,004 Model S cars in 2013 and expects the combined demand for its Model S car and Model X (crossover utility vehicle) to be 520,000 units in 2018. The proposed modifications to the North Paint Shop discussed in this report are required to accommodate an increase in demand for Tesla vehicles. Tesla has proposed to use the same type of coatings that are currently being used but in much larger quantities. Tesla has contended the increased coating usage coupled with enhanced overall efficiency (capture efficiency x control device destruction efficiency) will reduce emissions from existing permitted levels.

Attachment A contains a process flow diagram of sources cited in Table 1 and a brief description of the various steps involved in painting a vehicle at Tesla.

PROJECT SCOPE:

Tesla will relocate the following existing sources/abatement device from the South Paint Shop to the North Paint Shop: S-1003, S-1008, S-1013, S-1014, S-1009, S-1015, S-1803, and A-1008.

Tesla will continue to operate the following existing sources at the North Paint Shop:
S-3008, S-3014, S-3016, S-3009, S-3015, S-3017, S-3018, and S-3025.

Tesla will construct the following new sources/abatement device at the North Paint Shop:
S-4004, S-4005, 4014, S-4006, S-4011, S-4010, S-4007, S-4009, S-4012, S-4008, S-4013, and A-3008.

Tesla will relocate the following existing sources from the Plastics Shop to the South Paint Shop:
S-57, S-58, S-59, and S-65.

Tesla will continue to operate the following existing sources at the South Paint Shop: S-1001 and S-1002.

EMISSIONS CALCULATIONS:

Tesla will relocate existing equipment and install new equipment in two phases.

The following sources/abatement devices will be relocated/newly constructed as part of Phase 1: S-4004, S-4005, S-3008, S-3009, S-3014, S-3015, S-3016, S-3018, S-3020, S-3025, S-4006, S-4007, S-4008, S-4009, S-4010, A-3008, A-30083, A-30145, and A-30165.

The following sources/abatement devices will be relocated/newly constructed as part of Phase 2: S-1008, S-1009, S-1011, S-1013, S-1014, S-1015, S-1803, S-3017, S-4011, S-4012, S-4013, 4014, S-1003, A-1008, A-10083, A-10146, and 30166.

Precursor Organic Compound (POC) emissions from the above sources are either from the coating of vehicles (non-combustion) and/or combustion (associated with natural gas usage) related. The proposed and permitted coating related POC emissions from the above sources (as applicable) are summarized in Table 1. It should be noted that Table 1 does not include Wet Sanding Ovens 3 and 8 (S-1003 and S-3018) and Dry Sanding Booths 1 and 2 (S-1013 and S-4009) because the above sources do not emit POCs.

Because NUMMI had fully offset POC emissions from existing sources that are part of the proposed project, Table 1 cites the "Permitted Emissions" associated with such sources (where applicable). The "Proposed Emissions" in Table 1 are emissions associated with new and existing sources when Tesla's production in 2018 is 520,000 units.

Table 1:
North Paint Shop (NPS) POC emissions

Number of Cars			520,000			
Process Area	**Proposed Source ID**	**Proposed Source Description**	**Proposed Emissions tons/year**	**Existing Source ID**	**Existing Source Description**	**Permitted Emissions (tons/year)**
Pretreatment	S-4004	Pretreatment Tank System	0.0601	None		
E-coat	S-4005	E-Coat Dip Tank System	0.0409	None		
Body Painting	Primer Booths (1 and 4)					
	S-3008	Spray booth 1	57.52	S-3008	NPS prime booth	114.5
	S-1008	Spray booth 4	57.52	S-1008	Truck prime booth	105.9
	Basecoat Booths (2 and 5)					
	S-3014	Spray booth 2	36.71	S-3014	NPS topcoat paint booth #1	119.74
	S-1014	Spray booth 5	36.71	S-1014	Truck topcoat booth	130.76
	Clear Coat Booths (3 and 6)					
	S-3016	Spray booth 3	93.69	S-3016	NPS Topcoat paint booth #2	119.74
	S-4014	Spray booth 6	93.69	None		
	EC Ovens (1 and 6)					
	S-4006	Oven 1	7.05	None		

Table 1: North Paint Shop (NPS) POC emissions						
Number of Cars			520,000			
Process Area	Proposed Source ID	Proposed Source Description	Proposed Emissions tons/year	Existing Source ID	Existing Source Description	Permitted Emissions (tons/year)
	S-4011	Oven 6	7.05	None		
	Primer Ovens (2 and 7)					
	S-3009	Oven 2	49.47	S-3009	NPS Prime oven	5.78
	S-1009	Oven 7	49.47	S-1009	Truck prime oven	5.09
	Basecoat Ovens (4 and 9)					
	S-3015	Oven 4	15.77	S-3015	NPS topcoat paint oven #1	11.79
	S-3017	Oven 9	15.77	S-3017	NPS topcoat paint oven #2	
	Clear Coat Ovens (5 and 10)					
	S-4010	Oven 5	40.15	None		
	S-1015	Oven 10	40.15	S-1015	Truck topcoat oven	6.59
Sealant	S-4007	Sealing 1	0.0135	None		
	S-4012	Sealing 4	0.0135	None		
	S-3025	Sealing 2	0.0135	S-3025	Sealants, Bead Sealer	5.4
	S-1803	Sealing 5	0.0135	S-1803	Wand, Sealants	2.76
	S-4008	Sealing 3	0.0745	None		
	S-4013	Sealing 6	0.0745	None		
Thermal Oxidizer 1	A-3008	Regenerative Thermal Oxidizer #1	0.16	A-3008	Primer Surfacer Booth Thermal Heat Recovery/Thermal Oxidizer	0.37
Thermal Oxidizer 2	A-1008	Regenerative Thermal Oxidizer #2	0.16	A-1008	NPS Primer Booth Thermal Oxidizer	0.16
Total			**601.01**			**628.58**

Table 2 summarizes combustion emissions from ovens and abatement devices at the North Paint.

Table 2: North Paint Shop Combustion Emissions			
Pollutant	Coating Ovens (TPY)	Thermal oxidizers (TPY)	Total (TPY)
NOx	21.94[1]	11.95	33.89
CO	25.81	47.79	73.60
POC	1.69	0.32	2.01
$PM_{10}/PM_{2.5}$	2.34	0.45	2.79
SO_2	0.18	0.04	0.22

It can be seen from Tables 1 and 2 that the combined POC emissions from painting and combustion sources at the North Paint Shop are 603.02 TPY (601.01 + 2.01).

Table 3 summarizes sources whose POC emissions will be abated, and the underlying assumptions that were used to estimate the emissions. POC emissions from the primer, basecoat, and clearcoat spray booths and their associated oven emissions are inclusive of fugitive emissions. The fugitives are the emissions not captured and/or routed to the thermal oxidizers A-1008 and A-3008 for

[1] NOx emission factor for ovens = 0.07 lb/MMBTU/oven; RACT NOx emission factor for Thermal Oxidizer #1 & #2 = 0.2 lb/MMBTU/Thermal Oxidizer.

abatement. 70% of the unabated emissions associated with coating usage occur in the spray booths and 30% of the unabated emissions associated with coating usage occur in the ovens. 70% of these unabated emissions within the booth and ovens are captured and sent to the thermal oxidizers for abatement i.e., 30% are fugitive emissions; and 95% of the emissions sent to the thermal oxidizers are abated i.e., 5% are fugitive emissions. The following sample calculation is provided to help explain how the POC emissions were estimated.

For example, in 2013 Tesla used three types of primers (guide coats) in the following quantities to manufacture 23,004 cars: 9,236 gallons/year of Gray prime, 119 gallons/year of Red prime, and 2,629 gallons/year of White prime. Because same type of coatings will be used, the above coating usages were scaled up as shown below to estimate POC emissions when Tesla produces 520,000 vehicles in 2018:

Gray prime = (520,000 ÷ 23,004) x 9,236 = 208,778 gallons/year;
Red prime = (520,000 ÷ 23,004) x 119 = 2,690 gallons/year; and
White prime = (520,000 ÷ 23,004) x 2,629 = 59,428 gallons/year.

The VOC content (in lb/gallon) of Gray prime, Red prime, and White prime are 3.59, 3.92, and 3.72, respectively. Therefore, the total unabated VOC (~POC) emissions at S-1008 and S-3008 are 491 TPY [(208,778 x 3.59 + 2,690 x 3.92 + 59,248 x 3.72) ÷ 2,000]. The calculations assume 70% of the emissions (344 TPY = 491 x 0.70) occur in the spray booths and the remaining 30% of the emissions (147 TPY = 491 x 0.30) occur in the ovens (S-1009 and S-3009) associated with the spray booths. Assuming 70% spray booth capture efficiency, POC emissions escaping capture (fugitive) in the spray booth is 103.2 TPY (344 – 344 x 0.70), and POC emissions routed to the thermal oxidizer for abatement is 240.8 TPY (344 – 103.2). Assuming 95% thermal oxidizer destruction efficiency, POC emissions escaping destruction (fugitive) is 12.04 TPY (240.8 x 0.05). It can be seen from above that of the 344 TPY of POC emissions occurring in the booth, 228.76 TPY of them are captured and destructed and 115.24 TPY are fugitive emissions. Therefore, the POC emissions from S-1008 and S-3008 are 57.62 TPY/spray booth (115.24 ÷ 2) as shown in Table 1[2].

As discussed in the above paragraph, 30% of POC emissions (147 TPY) from vehicles coated in the spray booths (S-1008 and S-3008) occur in their associated ovens (S-1009 and S-3009). Assuming 70% oven capture efficiency, POC emissions escaping capture (fugitive) in the oven is 44.10 TPY (147 – 147 x 0.70), and POC emissions routed to the thermal oxidizer for abatement is 102.90 TPY (147 – 44.10). Assuming 95% thermal oxidizer destruction efficiency, POC emissions escaping destruction (fugitive) is 5.15 TPY (102.90 x 0.05). It can be seen from above that of the 147 TPY of POC emissions occurring in the oven, 97.75 TPY of them are captured and destructed and 49.25 TPY are fugitive emissions.

The sealant operation comes after the E-Coat oven & dry sanding booth and before the primer ovens (S-1009 and S-3009). Phase 1 and Phase 2 will each have three sealant areas i.e., six sealant areas in all. The three sealant areas in each Phase will consist of hem flange sealing, manual sealing, and underbody sealing. Each vehicle will spend about 77 seconds in each stage, and the majority of POC emissions associated with sealants will be emitted in the primer ovens. As proposed, Tesla will use 1.98 gallons of sealant per car, and the VOC content of the sealant is 0.288 lbs/gallon. Therefore, the unabated POC emissions from the sealant operation routed to the primer ovens is 148.26 TPY (1.98 x 0.288 x 520,000 ÷ 2,000). Assuming 70% oven capture efficiency, POC emissions from the sealant operation escaping capture (fugitive) in the primer ovens is 44.48 TPY (148.26 – 148.26 x 0.70), and

[2] Due to rounding errors, POC emissions for S-1008 and S-3008 summarized in Table 1 (57.52 TPY/booth) and provided in the example (57.62 TPY/booth) will not exactly match.

POC emissions routed to the thermal oxidizer abating the primer ovens for abatement is 103.78 TPY (148.26 – 44.48). Assuming 95% thermal oxidizer destruction efficiency, POC emissions escaping destruction (fugitive) is 5.19 TPY (103.78 x 0.05). It can be seen from above that of the 148.26 TPY of POC emissions routed from the sealing stations to the primer ovens, 98.59 TPY are captured and destructed and 49.67 TPY are fugitive emissions.

Therefore, the POC emissions from the primer (49.25 TPY) and sealant (49.67 TPY) from S-1009 and S-3009 are 49.46 TPY/oven (49.25 + 49.67 = 98.92 ÷ 2) as shown in Table 1[3].

Table 3:
POC abatement status for sources in Phases 1 & 2

Source #	Source Description	POC Abated?	POC abated by	POC booth & oven capture efficiency (%)	Abatement device POC destruction efficiency (% by wt.)	Overall efficiency (%)
4004	Pretreatment	No	NA			
4005	E-coat	No	NA			
Phase 1						
4006	E-coat oven 1	Yes	A-3008	85%	95%	80.75%
3018	Dry sanding booth 1	No	NA			
4007	Robotic sealing 1	No	NA			
3025	Manual sealing 2	No	NA			
4008	Robotic sealing 3	No	NA			
3008	Robotic primer spray booth 1	Yes	Zeolite Wheel & A-3008	70%	95%	66.5%
3009	Primer spray booth oven 2	Yes	A-3008	70%	95%	66.5%
3020	Wet sanding booth 1	No	NA			
4009	Wet sanding booth oven 3	No	NA			
3014	Robotic basecoat spray booth 2	Yes	Zeolite Wheel & A-3008	70%	95%	66.5%
3015	Basecoat spray booth oven 4	Yes	Zeolite Wheel & A-3008	70%	95%	66.5%
3016	Robotic clearcoat spray booth 3	Yes	Zeolite Wheel & A-3008	70%	95%	66.5%
4010	Clearcoat spray booth oven 5	Yes	A-3008	70%	95%	66.5%
Phase 2						
4011	E-coat oven 6	Yes	A-1008	85%	95%	80.75%
1003	Dry sanding booth 2	No	NA			
4012	Robotic sealing 4	No	NA			
1803	Manual sealing 5	No	NA			
4013	Robotic sealing 6	No	NA			
1008	Robotic primer spray booth 4	Yes	Zeolite Wheel & A-1008	70%	95%	66.5%
1009	Primer spray booth oven 7	Yes	A-1008	70%	95%	66.5%
1011	Wet sanding booth 2	No	NA			
1013	Wet sanding booth oven 8	No	NA			
1014	Robotic basecoat spray booth 5	Yes	Zeolite Wheel & A-1008	70%	95%	66.5%
3017	Basecoat spray booth oven 9	Yes	Zeolite Wheel & A-1008	70%	95%	66.5%
014	Robotic clearcoat spray booth 6	Yes	Zeolite	70%	95%	66.5%

[3] Due to rounding errors, POC emissions for S-1009 and S-3009 summarized in Table 1 (49.47 TPY/oven) and provided in the example (49.46 TPY/oven) will not exactly match.

Table 3: POC abatement status for sources in Phases 1 & 2						
Source #	Source Description	POC Abated?	POC abated by	POC booth & oven capture efficiency (%)	Abatement device POC destruction efficiency (% by wt.)	Overall efficiency (%)
			Wheel & A-1008			
1015	Clearcoat spray booth oven 10	Yes	A-1008	70%	95%	66.5%
NA	Final inspection area	No	NA			

Table 4 summarizes sources whose PM_{10} emissions will be abated, and the underlying assumptions that were used to estimate the emissions. PM_{10} emissions from the primer, basecoat, and clearcoat spray booths are inclusive of fugitive emissions. The fugitive emissions are not captured and/or routed to E-Scrubs A-10083, A-10146, A-30083, A-30145, A-30165, and 30166 for abatement. 30% of the unabated overspray emissions associated with coating usage occur in the spray booths; 100% of the unabated emissions within the spray booths are sent to the E-Scrubs for abatement (0% are fugitive emissions); and 98% of the emissions sent to the E-Scrubs are abated (2% are fugitive emissions). The following sample calculation is provided to help explain how the PM_{10} emissions were estimated for the primer spray booths S-1008 and S-3008.

As previously discussed, Tesla will use 208,778 gallons/year of Gray prime, 2,690 gallons/year of Red prime, and 59,428 gallons/year of White prime coatings when producing 520,000 cars. The density (lb/gal) and solids content (lb solid/lb coating) of the above coatings are 9.72 and 0.63 (Gray prime), 8.98 and 0.564 (Red prime), and 10.58 and 0.648 (White prime). Assuming 30% overspray[4] (coating solids that were sprayed onto the vehicle being coated but did not adhere to the car), the total unabated PM_{10} emissions from S-1008 and S-3008 is 255 TPY [(208,778 x 9.72 x 0.63 + 2,690 x 8.98 x 0.564 + 59,428 x 10.58 x 0.648) ÷ 2,000] x 0.30. The calculations assume 100% of the overspray emissions from within the spray booths S-1008 and S-3008 will be captured and routed to E-scrubbers A-30168 and A-30165, respectively that have a PM_{10} removal efficiency of 98%. Therefore, the PM_{10} emissions from S-1008 and S-3008 are 2.55 TPY/spray booth (255 x 0.02 ÷ 2) as shown in Table 5.

Table 4: PM_{10} abatement status for sources in Phases 1 & 2						
Source #	Source Description	PM_{10} Abated?	PM_{10} abated by	Transfer efficiency (%)	PM_{10} booth capture efficiency (%)	PM_{10} E-Scrub filter efficiency (%)
4004	Pretreatment	No	NA			
4005	E-coat	No	NA			
Phase 1						
4006	E-coat oven 1	No	NA			
3018	Dry sanding booth 1	No	NA			
4007	Robotic sealing 1	No	NA			
3025	Manual sealing 2	No	NA			
4008	Robotic sealing 3	No	NA			
3008	Robotic primer spray booth 1	Yes	E-Scrub	70%	100%	98%

[4] 70% transfer efficiency

Table 4: PM_{10} abatement status for sources in Phases 1 & 2						
Source #	Source Description	PM_{10} Abated?	PM_{10} abated by	Transfer efficiency (%)	PM_{10} booth capture efficiency (%)	PM_{10} E-Scrub filter efficiency (%)
			A-30083			
3009	Primer spray booth oven 2	No	NA			
3020	Wet sanding booth 1	No	NA			
4009	Wet sanding booth oven 3	No	NA			
3014	Robotic basecoat spray booth 2	Yes	E-Scrub A-30145	70%	100%	98%
3015	Basecoat spray booth oven 4	No	NA			
3016	Robotic clearcoat spray booth 3	Yes	E-Scrub A-30165	70%	100%	98%
4010	Clearcoat spray booth oven 5	No	NA			
Phase 2						
4011	E-coat oven 6	No	NA			
1003	Dry sanding booth 2	No	NA			
4012	Robotic sealing 4	No	NA			
1803	Manual sealing 5	No	NA			
4013	Robotic sealing 6	No	NA			
1008	Robotic primer spray booth 4	Yes	E-Scrub A-10083	70%	100%	98%
1009	Primer spray booth oven 7	No	NA			
1011	Wet sanding booth 2	No	NA			
1013	Wet sanding booth oven 8	No	NA			
1014	Robotic basecoat spray booth 5	Yes	E-Scrub A-10146	70%	100%	98%
3017	Basecoat spray booth oven 9	No	NA			
4014	Robotic clearcoat spray booth 6	Yes	E-Scrub 30166	70%	100%	98%
1015	Clearcoat spray booth oven 10	No	NA			
NA	Final inspection area	No	NA			

Table 5 summarizes PM_{10} emissions from the North Paint Shop.

Table 5:
North Paint Shop PM_{10} emissions

Source #	Source Description	Abated PM_{10} emissions (TPY)
3018	Dry sanding booth 1	0.008
3008	Robotic primer spray booth 1	2.55
3014	Robotic basecoat spray booth 2	1.73
3016	Robotic clearcoat spray booth 3	2.92
1003	Dry sanding booth 2	0.008
1008	Robotic primer spray booth 4	2.55
1014	Robotic basecoat spray booth 5	1.73
4014	Robotic clearcoat spray booth 6	2.92
Total		**14.42**

As proposed, combined PM_{10} emissions from painting and combustion sources at the North Paint Shop are 17.21 TPY (14.42 + 2.79). Refer to Tables 2 and 5.

The increase in NOx, CO, and SO_2 emissions from the North Paint Shop are 33.89 TPY, 73.60 TPY, and 0.22 TPY, respectively. Refer to Table 2.

Attachment B contains outputs from spreadsheets documenting the supporting calculations for emissions summarized in Tables 1, 2, and 5.

TOXIC HEALTH RISK SCREEN ANALYSIS (HRSA):

A HRSA was required because annual emissions of formaldehyde (693 lbs/year), ethyl benzene (311 lbs/year), and naphthalene (8,009 lbs/year) associated with primer and topcoat coatings exceeded their corresponding chronic trigger levels for the above Toxic Air Contaminants (TACs) in Table 2-5-1 of Regulation 2, Rule 5. In addition to the above, combined annual emissions of formaldehyde (55 lbs/year) associated with natural gas combustion in the ten ovens and the two thermal oxidizers exceeded the chronic TAC trigger for the above TAC. Refer to Table 6.

The HRSA performed by the District determined the maximum cancer risk to be 4.5 in a million, acute hazard index to be 0.04 and the chronic hazard index to be 0.009. The HRSA concluded the above risk levels are considered acceptable because the controls (thermal oxidizers) on the paint lines meet TBACT.

Table 6:
TAC Emissions

TAC	Hourly TAC emissions (lb/hour)	Annual TAC emissions (lb/year)	Acute Trigger level (lb/hour)	Chronic Trigger level (lb/year)
Formaldehyde	0.0793	748	0.12	18
Ethyl benzene	0.0355	311	NA	43
Naphthalene	0.9	8,009	NA	3.2

Attachment C contains a copy of the District's HRSA results.

CUMULATIVE INCREASE:

Table 7 summarizes the cumulative increase in emissions associated with the proposed modifications to the North Paint Shop.

Table 7: Cumulative Increase

Pollutant	Emission increases permitted at Tesla since April 5, 1991 (TPY)	Emission Increase associated with Application 26812 (TPY)	Post-Project Cumulative Increase (TPY)*
PM_{10}	5.621	17.21	22.831
POC	2.933	603.02	605.953
NOx	1.690	33.89	35.58
SO_2	0.010	0.22	0.23
CO	1.420	73.60	75.02

*Post-Project Cumulative Increase (TPY)
= Emission increases permitted at Tesla since April 5, 1991 (TPY) + Emission Increase associated with Application 26812 (TPY)

BACT:

Per Regulation 2-2-301, BACT is only triggered when emissions from a new source or modified source has the potential to emit 10 pounds or more per highest day. Table 8 summarizes daily emissions from new/modified sources at the North Paint Shop.

Table 8:
Daily Emissions (pounds per day)

Process Area	Proposed Source ID	Proposed Source Description	PM10	POC	NOx	SO2	CO
Pretreatment	S-4004	Pretreatment Tank System	0	0.33	0	0	0
E-coat	S-4005	E-Coat Dip Tank System	0	0.22	0	0	0
Body Painting	Primer Booths (Sources 1 and 4)						
	S-3008	Spray booth 1	13.97	315.17	0	0	0
	S-1008	Spray booth 4	13.97	315.17	0	0	0
	Basecoat Booths (Sources 2 and 5)						
	S-3014	Spray booth 2	9.5	201.15	0	0	0
	S-1014	Spray booth 5	9.5	201.15	0	0	0
	Clear Coat Booths (Sources 3 and 6)						
	S-3016	Spray booth 3	15.97	513.36	0	0	0
	4014	Spray booth 6	15.97	513.36	0	0	0
	EC Ovens (Sources 1 and 6); 15.2 MMBTU/hour/oven						
	S-4006	Oven 1	2.72	40.6	25.53	0.21	30.03
	S-4011	Oven 6	2.72	40.6	25.53	0.21	30.03
	Primer Ovens (Sources 2 and 7); 15.1 MMBTU/hour/oven						
	S-3009	Oven 2	2.7	273.02	25.36	0.21	29.83
	S-1009	Oven 7	2.7	273.02	25.36	0.21	29.83
	Wet Sanding Ovens (Sources 3 and 8); 12.8 MMBTU/hour/oven						
	S-4009	Oven 3	2.29	1.66	21.50	0.18	25.29
	S-1013	Oven 8	2.29	1.66	21.50	0.18	25.29
	Basecoat Ovens (Sources 4 and 9); 3.0 MMBTU/hour/oven						
	S-3015	Oven 4	0.53	86.79	4.96	0.04	5.83
	S-3017	Oven 9	0.53	86.79	4.96	0.04	5.83
	Clear Coat Ovens (Sources 5 and 10); 16.9 MMBTU/hour/oven						
	S-4010	Oven 5	3.02	222.19	28.39	0.24	33.4
	S-1015	Oven 10	3.02	222.19	28.39	0.24	33.4
Sealant	S-4007	Sealing 1	0	0.074	0	0	0
	S-4012	Sealing 4	0	0.074	0	0	0
	S-3025	Sealing 2	0	0.074	0	0	0
	S-1803	Sealing 5	0	0.074	0	0	0
	S-4008	Sealing 3	0	0.408	0	0	0
	S-4013	Sealing 6	0	0.408	0	0	0

Note:

1. PM10 emissions from spray booths are abated by the E-Scrub. PM10 emissions from the remaining sources are not abated.
2. POC emissions from spray booths and ovens are abated by the thermal oxidizers (A-1008 & A-3008). POC emissions from the remaining sources are not abated.
3. NOx, CO, and SO2 emissions from ovens are not abated.
4. Daily emissions from ovens were estimated using the maximum firing rate (in MMBTU/hour) vs. annual fuel usage (Therms/year).

It can be seen from Table 8 that the daily emissions of PM_{10} (from the spray booths with the exception of S-1014 and S-3014), POC (from all six spray booths and eight ovens with the exception of the wet sanding ovens S-1003 and S-4009), and NOx and CO (from the eight ovens with the exception of the basecoat ovens S-3015 and S-3017) exceed the 10 lb/day BACT trigger.

PM_{10}:

Abated PM_{10} emissions from the primer (S-3008 and S-1008) and clearcoat (S-3016 and 4014) spray booths are over 10 lb/day. Tesla will abate PM_{10} emissions from the above sources and the basecoat (S-3014 and S-1014) spray booths with six dedicated E-Scrubs (A-10083, A-10146, A-30083, A-30145, A-30165, and 30166). Because the coatings are electrostatically sprayed, the paints are charged and any paint that is not transferred onto the vehicle will be drawn into and be abated by the E-Scrubs. Most paint solids in the overspray will be captured by the downdraft system and gravity within the booths. Any remaining paint solids will be captured by the E-Scrubs, which work by generating an opposite charge to attract them. There is no BACT 1 for PM_{10} in District's BACT Document # 161.4.2. As proposed, the use of dry filters within the spray booths and E-Scrubs will meet BACT 2, which requires the use of properly maintained dry filters or waterwash system.

A search in US EPA's RACT/BACT/LAER Clearinghouse[5] yielded the following recent BACT-PSD determinations:

- Volkswagen Group of America (Chattanooga, TN; December 3, 2012):
  Topcoat (clearcoat and basecoat) operations → abated by Eco-Dry Scrubber, which replaced downdraft water wash system → Filterable PM outlet grain loading rate: 0.0015 gr/dscf.

- Kia Motors Manufacturing (West Point, GA; July 27, 2007):
  All Paint Spray Booths, Sanding, and Repair areas → abated by paint booth dry filters and paint booth wet scrubbers → Filterable PM outlet grain loading rate: 0.0015 gr/dscf.

PM_{10} emissions in this report were not estimated using the outlet grain loading rate. Instead, PM_{10} emissions summarized in Table 8 were estimated assuming 100% booth capture efficiency, 70% robotic spray gun transfer efficiency, and 98% booth filter efficiency. Permit conditions will subject Tesla's primer and topcoat spray booths to the BACT filterable PM outlet grain loading rate of 0.0015 gr/dscf, and will require Tesla to annually source test and verify the booth capture efficiency, robotic spray gun transfer efficiency, booth filter efficiency, and demonstrate compliance with the BACT filterable PM outlet grain loading rate.

Therefore, the test for PM_{10} BACT is met.

POC:

Abated POC emissions from the primer (S-3008 and S-1008), basecoat (S-3014 and S-1014), and clearcoat (S-3016 and 4014) spray booths; the E-coat (S-4006 and S-4011); and the primer (S-3009 and S-1009), basecoat (S-3015 and S-3017), and clearcoat (S-4010 and S-1015) ovens are over 10 lb/day. Tesla will abate POC emissions from the above sources with thermal oxidizers (A-1008 and A-3008). POC emissions summarized in Table 8 assume 70% booth and oven capture efficiency and 95% by wt. thermal oxidizer destruction efficiency. Table 12 summarizes the VOC content of the propsed coatings (primer, basecoat, and clearcoat). The coatings are all less than their corresponding Regulation 8, Rule 13 product limits of 15 lb/gallon of applied coating solids (gacs); and the overall efficiency of the abatement system is 67% (0.7 x 0.95). Therefore, BACT 1 requirements in District's BACT Document # 161.4.2 are met.

[5] Process code: 41.002

A search in US EPA's RACT/BACT/LAER Clearinghouse yielded the following recent BACT-PSD determinations:

- Volkswagen Group of America (December 3, 2012):
  Topcoat (clearcoat and basecoat) application and curing oven → abated by thermal oxidizer → 95% by wt. destruction efficiency → combined topcoat VOC limit of 5.2 lb/gacs.

- Subaru of Indiana (May 19, 2014):
  Topcoat coating line abated by Thermal oxidizer → 95% by wt. destruction efficiency and 18% capture efficiency (overall efficiency = 17.1%) → VOC limit of 10.96 lb/gallon;

- Ford Motor Company (February 26, 2014):
  Topcoat (clearcoat and basecoat) application and curing oven → spray booth abated by carbon adsorption followed by RTO and curing oven abated by RTO → 95% by wt. destruction efficiency → VOC limit for clearcoat of 11.3 lb/gacs and VOC limit for basecoat of 11.69 lb/gacs.

Though not listed on the RBLC, the Toyota plant in Blue Springs, MS (August 1, 2013) is subject to a combined VOC limit for primers and topcoats (basecoat and clearcoat) of 4.8 lb/gacs averaged on a monthly basis. Unlike other facilities, the Volkswagen plant in Chattanooga, TN does not have a separate guidecoat operation. Instead, the primer is included in the E-coat. Therefore, the Volkswagen VOC limit of 5.2 lb/gacs listed on the RBLC is not as stringent as the Toyota VOC limit. Therefore, Tesla will be subjected to the 4.8 lb/gacs VOC limit.

As proposed and per information summarized in Table 12, the average VOC content of basecoats and clearcoats that will be used at Tesla are 3.23 lb/gallon (5.74 lb/gacs) and 3.69 lb/gallon (8.13 lb/gacs), respectively. Permit conditions will require Tesla to annually source test and verify the booth and oven capture efficiency and the destruction efficiency of the thermal oxidizers to demonstrate compliance with the annual and monthly POC mass emissions limits. The permit conditions will also require Tesla to use the results from the source tests to demonstrate compliance with the combined BACT VOC limit of 4.8 lb/gacs averaged on a monthly basis through emission calculations and recordkeeping.

Therefore, the test for POC BACT is met.

NOx:

NOx emissions from the E-coat (S-4006 and S-4011), primer (S-3009 and S-1009), wet sanding (S-4009 and S-1013), and clearcoat (S-4010 and S-1015) natural gas fired ovens are over 10 lb/day and trigger BACT. Tesla has not proposed to abate NOx emissions from the ovens citing technical infeasibility. There are no BACT determinations for NOx in District's BACT Document # 161.4.3 and 161.4.4, nor are there any RBLC determinations for NOx for ovens in similar service. However, natural gas fired ovens equipped with low-NOx burners at the Volkswagen plant in Chattanooga, TN are subject to a NOx emission rate of 0.05 lb/MMBTU. The burners at Volkswagen use fresh air (lean burn environment), whereas the Tesla burners will utilize recirculated air and also operate at a higher temperature (rich burn environment). Hence, the burners at Tesla will use less natural gas compared to their counterparts at Volkswagen, and would therefore, emit lower mass emissions as a result. Because the stoichiometric air to fuel ratios for the burners at Volkswagen and Tesla are different, Tesla's vendor cannot guarantee that the NOx emission rate of 0.05 lb/MMBTU can be met. For reasons stated above, burners at Tesla will be subject to a NOx emission rate of 0.07 lb/MMBTU. NOx emissions summarized in Table 8 were estimated for the above ovens assuming an emission rate of 0.07 lb/MMBTU, and that the ovens will be equipped with low-NOx burners.

Permit conditions will require Tesla to annually source test the ovens to demonstrate compliance with the annual and monthly NOx mass emissions limits, and will require Tesla to employ good combustion practices. Tesla will also be required by the permit conditions to verify compliance with the NOx emission rates of 0.07 lb/MMBTU via annual source tests.

Therefore, the test for NOx BACT is met.

CO:

Unabated CO emissions from the E-coat (S-4006 and S-4011), primer (S-3009 and S-1009), wet sanding (S-4009 and S-1013), and clearcoat (S-4010 and S-1015) natural gas fired ovens are over 10 lb/day. Tesla has not proposed to abate CO emissions from the ovens citing technical infeasibility. There are no BACT determinations for CO in District's BACT Document # 161.4.3 and 161.4.4, nor are there any RBLC determinations for CO for ovens in similar service.CO emissions summarized in Table 8 were estimated assuming the manufacturer's guaranteed emission rate of 0.08 lb/MMBTU.

Permit conditions will require Tesla to annually source test the ovens to demonstrate compliance with the annual and monthly CO mass emissions limits, and will require Tesla to employ good combustion practices. Compliance with the CO emission rate of 0.08 lb/MMBTU will be verified via the annual source tests required by the permit conditions.

Therefore, the test for CO BACT is met.

Attachment D contains a copy of the RBLC results.

OFFSETS:

As proposed, post-project POC emissions from painting and combustion sources at the North Paint Shop are 603.05 TPY (coating related emissions from "existing" sources: 452.81 + increase in coating related emissions from "new" sources: 148.22 + increase in "combustion" emissions from new and existing sources/abatement devices: 2.02).

Pre-project POC emissions at S-1008, S-1009, S-1014, S-1015, S-1803, S-3008, S-3009, S-3014, S-3015, S-3016, S-3017, and S-3025 fully offset by NUMMI are 628.05 TPY. Therefore, the proposed modifications to the North Paint Shop will result in a net POC emissions decrease of 25.00 TPY (628.05 – 603.05).

Refer to Tables 9 through 11.

Table 9: Coating related POC emissions from "existing" sources modified by the project						
Source ID	**Existing Source Description**	**Existing POC emissions limit governed by permit condition**	**Permitted Emissions (tons/year)**	**New Source Description**	**Proposed Emissions (tons/year)**	**Net Change in Emissions (tons/year)**
S-3008	NPS prime booth	Part 1 of 14206	114.5	Spray Booth #1 (Primer)	57.52	-56.98
S-1008	Truck prime booth	Part 5 of 9163	105.9	Spray Booth #4 (Primer)	57.52	-48.38
S-3014	NPS topcoat paint booth #1	Part 1 of 14207	119.74	Spray Booth #2 (Basecoat)	36.71	-83.03
S-1014	Truck topcoat booth	Part 19 of 9164	130.76	Spray Booth #5 (Basecoat)	36.71	-94.05
S-3016	NPS Topcoat paint booth #2	Part 1 of 14207	119.74	Spray Booth #3 (Clearcoat)	93.69	-26.05
S-3009	NPS Prime oven	Part 1 of 14206	5.78	Oven #2 (Primer)	49.47	43.69
S-1009	Truck prime oven	Part 8 of 9158	5.09	Oven #7 (Primer)	49.47	44.38
S-3015	NPS topcoat paint oven #1	Part 1 of 14207	11.79	Oven #4 (Basecoat)	15.77	19.75
S-3017	NPS topcoat paint oven #2	Part 1 of 14207		Oven #9 (Basecoat)	15.77	
S-1015	Truck topcoat oven	Part 8 of 9158	6.59	Oven #10 (Clearcoat)	40.15	33.56
S-3025	Sealants, Bead Sealer	Part 1 of 22543	5.4	Sealing Station #2	0.0135	-5.39
S-1803	Wand, Sealants	Part 5 of 9175	2.76	Sealing Station #5	0.0135	-2.75
TOTAL			**628.05**		**452.81**	**-175.25**

Table 10: Coating related POC emissions from "new" sources that will be installed in the project		
Source ID	**Source Description**	**Emissions (tons/year)**
S-4004	Pretreatment Tank System	0.0601
S-4005	E-coat system	0.0409
4014	Spray Booth #6 (Clearcoat)	93.69
S-4006	Oven #1 (E-coat)	7.05
S-4011	Oven #6 (E-coat)	7.05
S-4010	Oven #5 (Clearcoat)	40.15
S-4007	Sealing Station #1	0.0135
S-4012	Sealing Station #4	0.0135
S-4008	Sealing Station #3	0.0745
S-4013	Sealing Station #6	0.0745

Table 10: Coating related POC emissions from "new" sources that will be installed in the project		
Source ID	Source Description	Emissions (tons/year)
TOTAL		148.22

Table 11 summarizes POC emissions associated with combustion of natural gas in the ovens and thermal oxidizers.

Table 11: Combustion POC emissions from "new" & "existing" sources that will be installed in the project		
Source ID	Source Description	Emissions (tons/year)
S-3009	Oven #2 (Primer)	0.19
S-1009	Oven #7 (Primer)	0.19
S-3015	Oven #4 (Basecoat)	0.05
S-3017	Oven #9 (Basecoat)	0.05
S-1015	Oven #10 (Clearcoat)	0.22
S-4010	Oven #5 (Clearcoat)	0.19
S-4006	Oven #1 (E-coat)	0.22
S-4011	Oven #6 (E-coat)	0.21
S-4009	Oven #3 (Wet Sanding Booth)	0.19
S-1013	Oven #8 (Wet Sanding Booth)	0.19
A-1008	Regenerative Thermal Oxidizer #1	0.16
A-3008	Regenerative Thermal Oxidizer #2	0.16
TOTAL		2.02

POC emissions for sources summarized in Table 9 were fully offset by NUMMI. Therefore, the POC emissions increase in 148.22 TPY from the new sources in Table 10 and the 2.02 TPY POC emissions increase from new and existing combustion sources in Table 11 will be offset by the 175.25 TPY POC emissions decrease in Table 9. Per Regulation 2-2-605.4, the proposed modifications to the North Paint Shop will result in a net decrease in POC emissions of -25.01 TPY (-175.25 + 148.22 + 2.02). Therefore, offsets for POC are not required.

It can be seen from Table 7 that the proposed modifications to the North Paint Shop will result in a NOx emissions increase of 33.89 TPY. Tesla had not offset a NOx emissions increase 1.690 TPY associated with S-3724 under Application 25969 in March 2014. Because the cumulative increase in NOx emissions is 35.58 TPY (33.89 + 1.69), Tesla will have to offset the cumulative increase in NOx emissions per Regulation 2-2-302. Offsets for 22.625 TPY of NOx will be provided at a 1:1 ratio by reducing permitted NOx limits for S-3008, S-3009, S-3015, S-3017, and A-3008 that were fully offset

by NUMMI under Application 25397 and the remainder 12.955 TPY (35.58 - 22.625) will be offset via the 25.01 TPY POC emissions decrease discussed in the preceding paragraph.

S-3008, S-3009, S-3015, S-3017, and A-3008 that are part of this permit application (# 26812) were previously reviewed under Application 25397 in 1996 when Tesla was owned by NUMMI. NUMMI fully offset 49.33 TPY of NOx emissions from the "Passenger Paint Shop Modernization" project which included the above sources/abatement device. NOx emissions from S-3008, S-3009, S-3015, & S-3017 and thermal oxidizers A-3008 & A-3009[6] that contributed to the above total were 15.63 TPY[7] and 13.99 TPY[8], respectively. Part 9 of permit condition 14205 previously limited combined annual NOx emissions from sources that were part of Application 25397 to 49.33 TPY. Over the years, some sources that were part of the above application were taken out of service and the annual NOx emissions limit was reduced to 40.54 TPY. After deducting the required offsets of 22.625 TPY[9] under this permit application (# 26812), the NOx emissions limit in Part 9 of permit condition 14205 will be reduced to 17.915 TPY (49.33 – 22.625). Henceforth, emission limits and applicable requirements in permit condition 14205 will be superseded by permit condition 26027 for S-3008, S-3009, S-3015, S-3017, and A-3008.

Tesla is a "major" facility for POC only. Tesla is not a major facility for SO2 or PM_{10} because they do not emit, nor will the District's approval of Tesla's ATC under this permit application (# 26812) allow them to emit more than 100 TPY of PM_{10} and/or SO_2. It can be seen from Table 7 that the proposed modifications to the North Paint Shop will result in a PM_{10} and SO_2 emissions increase of 17.21 TPY and 0.22 TPY, respectively. The increase in PM_{10} and SO_2 emissions do not have to be offset by Tesla per Regulation 2-2-303, and will instead be offset from the District's Small Facility Bank.

STATEMENT OF COMPLIANCE:

Sources summarized in Table 1 are subject to and are expected to comply with Regulation 8, Rule 13 "Organic Compounds: Light and Medium Duty Motor Vehicle Assembly Plants", 40 CFR 60, Subpart MM "Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations", and 40 CFR 63, Subpart IIII "National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks". Table 12 shows that the proposed coatings (the waterborne[10] basecoats, clearcoats, primers, sealants, and E-coats) are expected to comply with the product limits for the coatings in each of the rules. The Districts Compliance and Enforcement staff will verify Tesla's compliance with the above rules during their routine inspections. Also, permit conditions will require Tesla to comply with BACT by ensuring the VOC emissions from the combined primer, basecoat, and clearcoat operations does not exceed 4.8 lbs/gacs as averaged on a monthly basis.

[6] A-3009 was taken out of service by NUMMI, and was archived in the District's database before Tesla took ownership.
[7] S-3008 = 4.60 TPY, S-3009 = 4.96 TPY, and S-3015 & S-3017 = 6.07 TPY
[8] A-3008 = 6.995 TPY (13.99 ÷ 2)
[9] 22.625 TPY = (4.60 + 4.96 + 6.07 + 6.995) TPY
[10] 40 CFR 60.391 defines "waterborne" to mean a coating which contains more than 5% by wt. water in its volatile fraction. Basecoats used at Tesla contain more than 5% by wt. water.

Table 12:
Compliance with applicable emission limits/standards

[redacted]	Regulation 8-13-302		NSPS MM 40 CFR 60.392		MACT IIII 40 CFR 63.3090 (b) & (c)	
	VOC lbs/gacs	Complies with rule? (Y/N)	VOC lbs/gacs	Complies with rule? (Y/N)	EDP[12] DE > 95%: HAP lbs/gacs	Complies with rule? (Y/N)
	15.0	Y	11.68	Y	0.5	Y
	15.0	Y	11.68	Y	0.5	Y
	15.0	Y	11.68	Y	0.5	Y
	15.0	Y	11.68	Y	0.5	Y
	15.0	Y	11.68	Y	0.5	Y
	15.0	Y	11.68	Y	0.5	Y
	15.0	Y	11.68	Y	0.5	Y
	15.0	Y	11.68	Y	0.5	Y
	15.0	Y	11.68	Y	0.5	Y
	15.0	Y	11.68	Y	0.5	Y
	15.0	Y	12.27	Y	0.5	Y
	15.0	Y	12.27	Y	0.5	Y
	15.0	Y	12.27	Y	0.5	Y
	15.0	Y	12.27	Y	0.5	Y
	15.0	Y	11.68	Y	0.5	Y
	15.0	Y	11.68	Y	0.5	Y
	15.0	Y	11.68	Y	0.5	Y
	15.0	Y	11.68	Y	1%	Y

Sources summarized in Table 1 are subject to and are expected to comply with Sections 301 (Ringelmann No. 1 Limitation), 302 (20% opacity limit), 305 (Visible Particles), 310 (outlet grain loading rate limit of 0.15 gr/dscf) and 311 (Allowable Emission Rate based on Process Weight Rate) in Regulation 6, Rule 1 "Particulate Matter – General Requirements". The District's Compliance and Enforcement staff will verify Tesla's compliance with applicable requirements in Regulation 6-1 during their routine inspections.

The ten ovens in the North Paint Shop are exempt from Regulation 9, Rule 7 "Inorganic Gaseous Pollutants – Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial

[11] gacs - gallon of applied coating solids
[12] Per 40 CFR 63.3092, the limit applies only if emissions from all bake ovens used to cure electrodeposition primers (EDP) are captured and ducted to a control device having a destruction efficiency (DE) or removal efficiency of at least 95%.

Boilers, Steam Generators, and Process Heaters" per Section 110.6, which states: "The requirements of this rule shall not apply to the following: Kilns, ovens, and furnaces used for drying, baking, heat treating, cooking, calcining or vitrifying".

PSD:

The Prevention of Significant Deterioration is a federal air permitting program designed to limit the impacts of new major sources or major modifications at existing sources located in areas designated as attainment or unclassifiable for regulated air pollutants. Regulation 2-2-304 incorporates the PSD program requirements. A facility is a major source under the PSD program if it has emissions of any "regulated NSR pollutant" over the applicable major source threshold. Because existing permitted VOC emissions at Tesla are greater than 250 TPY, Tesla is a major source under the PSD program. VOC's are not regulated by the District in Regulation 2-2-304 since it is a precursor to ozone and the District is designated as a nonattainment area for the above pollutant. Similarly, the District is designated as a nonattainment area for the 24-hour $PM_{2.5}$ standards and PSD thresholds don't exist in Regulation 2-2-304 for $PM_{2.5}$.

The proposed modifications to the North Paint Shop would trigger the PSD requirements in Regulation 2-2-304 if the cumulative increase in emissions of NOx, SO_2, PM_{10}, CO, and lead from the PSD baseline date minus the contemporaneous emission reduction credits at the facility exceed PSD trigger levels summarized in Table 13. Permit conditions will prevent Tesla from using coatings that contain lead, or lead compounds. Therefore, the proposed modifications to the North Paint Shop will not result in any lead emissions.

Table 13:
PSD Project Emissions Summary

Pollutant	Emission Increases Associated with Project (TPY)	Permitted Emission Reductions for Netting (TPY)	Baseline Actual Emissions[13] (TPY)	Net Project Emissions (TPY)	PSD Trigger Levels (TPY)
POC	603.02	628.58		-25.56	40
NOx	33.89		2.79	+31.10	40
PM_{10}	17.21		2.50	+14.71	15
SO_2	0.22		0.02	0.20	40
CO	73.60		0.53	73.07	100

It can be seen from Table 13 that the emissions increases associated with the proposed modifications to the North Paint Shop are below their corresponding PSD trigger levels. Therefore, a PSD is not triggered.

Table 14 summarizes Greenhouse Gas (GHG) emission factors and the associated GHG emissions from the ten ovens and two thermal oxidizers that are part of the project.

Table 14:
Project GHG Emissions

GHG Pollutant	GHG emission factor (kg/MMBTU)	GHG emissions (tonnes/year)
CO_2	53.020	39,573
CH_4	0.001	0.75
N_2O	0.0001	0.07

[13] Refer to Table 1 in Attachment E.

GHG emissions are regulated under the PSD program as carbon dioxide equivalent emissions (CO_2e). The U.S. Environmental Protection Agency (EPA) adopted the Tailoring Rule with a GHG major source threshold of 100,000 tons/year CO_2e and a PSD significant emission level of 75,000 tons/year CO_2e. On June 23, 2014, the U.S. Supreme Court ruled on a case involving the Tailoring Rule, and found that EPA had over-stepped its authority in adopting the 100,000 tons/year CO_2e major source threshold. However, the Court upheld EPA's ability to regulate GHG emissions from a source that triggers PSD for another non-GHG pollutant. It can be seen from Table 13 that the proposed project does not trigger PSD for any non-GHG pollutants. Therefore, PSD (if applicable) would not be required for GHGs under the U.S. Supreme Court ruling.

Regulation 2-2-405:

Requirements for publication and public comment of preliminary permit decisions are specified in District Regulation 2-2-405. Regulation 2-2-405 does not apply because: (1) Tesla is not a new major facility, (2) the proposed modifications to the North Paint Shop is not a major modification of an existing major facility as defined in Regulation 2-2-221, (3) the proposed modifications to the North Paint Shop does not require a PSD analysis, and (4) the proposed modifications to the North Paint Shop are not subject to the MACT Requirement as defined in Regulation 2-2-317.

It is can be seen from Table 13 that the project's net emissions (i.e., emission increases from new, modified sources minus permitted emission reductions from existing project sources) do not exceed any of the emissions thresholds that would constitute a major modification under Regulation 2-2-221. Regulation 2-2-405 does not apply.

As part of its review, the District had requested Tesla to clarify whether the proposed modifications to the North Paint Shop is a "major modification" of a major facility as defined in Regulation 2-2-221 and would therefore, trigger the "Publication and Public Comment" requirements in Regulation 2-2-405 as a result.

Attachment E contains Tesla's response to the District's inquiry regarding Regulation 2-2-221 and 2-2-405.

California Environmental Quality Act (CEQA):

The City of Fremont is the CEQA Lead Agency for the project and has determined that the proposed project is ministerially exempt from CEQA pursuant to CEQA Guidelines Section 15268 (Ministerial Projects) given that the Paint Line Modification would occur within an existing building previously approved for vehicle painting in May 1996.

The City of Fremont approved a Zoning Administrator Permit Amendment in May 1996 to allow construction of an approximately 430,000-square-foot vehicle paint building. The project was proposed in two phases; the first phase proposed approximately 270,000 square feet and the second phase proposed an additional 160,000 square feet. In addition, the City of Fremont adopted an Addendum to EIR-89-13 in compliance with CEQA, which identified no potentially significant environmental impacts with the proposed project.

As no discretionary approval is required for the Paint Line Modification project, the City of Fremont will be issuing a building permit to Tesla, which qualifies for a Ministerial Exemption.

The Air District has determined that the issuance of an Authority to Construct in Permit Application No. 26812 is also exempt from CEQA because the permitting of the project does not authorize expansion of the existing use of the North Paint Shop. (CEQA § 21084; Guidelines § 15301) and Air District Regulation 2-1-312.7.

In addition, Tesla has submitted in its permit application CEQA-related information (CEQA Appendix H "Environmental Information Form") in accordance with Regulation 2-1-312.

Attachment F contains a copy of an e-mail from the City of Fremont to the Air District, and a copy of the Appendix H that Tesla submitted to the Air District in its permit application.

PERMIT CONDITIONS:

(PC 26027)

PROJECT SOURCES

S-1003 Dry Sanding Booth #2
Emissions directly exhaust to the atmosphere unabated.

S-1008 Spray Booth #4 (Primer)
Emissions abated by E-Scrub (A-10083) and thermal oxidizer (A-1008).

S-1009 Oven #7 (Primer);
Maximum Hourly Firing Rate: 15.09 MMBTU/hour
Emissions abated by thermal oxidizer (A-1008).

S-1013 Oven #8 (Wet Sanding Booth);
Maximum Hourly Firing Rate: 12.8 MMBTU/hour
Emissions directly exhaust to the atmosphere unabated.

S-1014 Spray Booth #5 (Basecoat)
Emissions abated by E-Scrub (A-10146) and thermal oxidizer (A-1008).

S-1015 Oven #10 (Clearcoat);
Maximum Hourly Firing Rate: 16.9 MMBTU/hour
Emissions abated by thermal oxidizer (A-1008).

S-1803 Sealing Station #5
Emissions directly exhaust to the atmosphere unabated.

S-3008 Spray Booth #1 (Primer)
Emissions abated by E-Scrub (A-30083) and thermal oxidizer (A-3008).

S-3009 Oven #2 (Primer);
Maximum Hourly Firing Rate: 15.09 MMBTU/hour
Emissions abated by thermal oxidizer (A-3008).

S-3014 Spray Booth #2 (Basecoat)
Emissions abated by E-Scrub (A-30145) and thermal oxidizer (A-3008).

S-3015 Oven #4 (Basecoat);
Maximum Hourly Firing Rate: 2.95 MMBTU/hour
Emissions abated by thermal oxidizer (A-3008).

S-3016 Spray Booth #3 (Clearcoat)
Emissions abated by E-Scrub (A-30165) and thermal oxidizer (A-3008).

S-3017 Oven #9 (Basecoat);
Maximum Hourly Firing Rate: 2.95 MMBTU/hour
Emissions abated by thermal oxidizer (A-1008).

S-3018 Dry Sanding Booth #1
Emissions directly exhaust to the atmosphere unabated.

S-3025 Sealing Station #2
Emissions directly exhaust to the atmosphere unabated.

S-4004 Pretreatment Tank System
Emissions directly exhaust to the atmosphere unabated.

S-4005 E-Coat System
Emissions directly exhaust to the atmosphere unabated.

S-4006 Oven #1 (E-Coat);
Maximum Hourly Firing Rate: 15.19 MMBTU/hour
Emissions abated by thermal oxidizer (A-3008).

S-4007 Sealing Station #1
Emissions directly exhaust to the atmosphere unabated.

S-4008 Sealing Station #3
Emissions directly exhaust to the atmosphere unabated.

S-4009 Oven #3 (Wet Sanding Booth);
Maximum Hourly Firing Rate: 12.8 MMBTU/hour
Emissions directly exhaust to the atmosphere unabated.

S-4010 Oven #5 (Clearcoat);
Maximum Hourly Firing Rate: 16.9 MMBTU/hour
Emissions abated by thermal oxidizer (A-3008).

S-4011 Oven #6 (E-Coat);
Maximum Hourly Firing Rate: 15.19 MMBTU/hour
Emissions abated by thermal oxidizer (A-1008).

S-4012 Sealing Station #4
Emissions directly exhaust to the atmosphere unabated.

S-4013 Sealing Station #6
Emissions directly exhaust to the atmosphere unabated.

4014 Spray Booth #6 (Clearcoat)
Emissions abated by E-Scrub (30166) and thermal oxidizer (A-1008).

A-3008 Regenerative Thermal Oxidizer #1;
Maximum Hourly Firing Rate: 6.82 MMBTU/hour

A-1008 Regenerative Thermal Oxidizer #2;
Maximum Hourly Firing Rate: 6.82 MMBTU/hour

PROJECT SCOPE

Tesla will relocate the following existing sources/abatement device from the South Paint Shop to the North Paint Shop:
S-1003, S-1008, S-1013, S-1014, S-1009, S-1015, S-1803, and A-1008.

Tesla will continue to operate the following existing sources at the North Paint Shop:
S-3008, S-3014, S-3016, S-3009, S-3015, S-3017, S-3018, and S-3025.

Tesla will construct the following new sources/abatement device at the North Paint Shop:
S-4004, S-4005, 4014, S-4006, S-4011, S-4010, S-4007, S-4009, S-4012, S-4008, S-4013, and A-3008.

Tesla will relocate the following existing sources from the Plastics Shop to the South Paint Shop:
S-57, S-58, S-59, and S-65.

Tesla will continue to operate the following existing sources at the South Paint Shop: S-1001 and S-1002.

START-UP OVERLAP

There will be an overlap of operation between sources at the South Paint Shop and the North Paint Shop, which are the

subject of this application. During the start-up operations, vehicles will be processed at new/existing/relocated sources in the South Paint Shop and the North Paint Shop. This will be done until all unforeseen problems associated with a project of this size can be resolved. This will allow Tesla to prove the operation and reliability of the new equipment and sources, without any interruptions in production. During this one-year period (as specified in the proposed permit conditions), excluding non-production trials, any vehicle produced in the North Paint Shop will not be produced in the South Paint Shop. Therefore, commercial production in the South Paint Shop will be replaced on a one to one basis, resulting in a net decrease in emissions from S-1003, S-1008, S-1013, S-1014, S-1009, S-1015, S-1803, and A-1008 in the South Paint Shop, until full conversion of vehicle production in the North Paint Shop is accomplished. At that point the existing sources at the South Paint Shop that are being replaced will be permanently shutdown.

MONTHLY LIMITS

For the purpose of determining compliance with emissions and/or usage limits, a year is defined as a twelve-month consecutive period; a month is defined as a calendar month.

The purpose of defining limits for calendar month and model year, is to allow Tesla operational flexibility in the event of increased production following a plant shutdown. Each model year, Tesla must make a set number of vehicles to meet consumer demands. At certain times during the calendar year, they could stop production for a variety of reasons including but not limited to model changes, holidays, equipment failure, or natural disasters. The consequent loss of production volume, must be overcome by increasing the production rate in subsequent month(s).

Tesla has requested that their monthly limits be flexible to properly accommodate production down-time and increased production. Tesla defines a year as the time it takes them to produce a vehicle model in a consecutive twelve-month period. Monthly limits, derived by dividing the annual limits by 8 months instead of 12 months, will result in monthly limits that will accommodate sporadic production increases. For example, if Tesla were to shut down the plant for one month due to a model change, there would be essentially no coating usage or emissions. Tesla could easily exceed an average monthly limit (derived by dividing the annual limits by 12 months) during the

month(s) following a shut down when Tesla increases production hours to make-up for the lack of production. By allowing Tesla a monthly limit derived by dividing the annual limit by 8 months, the temporary production rate increase would then be less likely to exceed the derived monthly limit(s), without exceeding the annual limits.

Sources S-1003, S-1008, S-1013, S-1014, S-1009, S-1015, S-1803, S-3008, S-3014, S-3016, S-3009, S-3015, S-3017, S-3018, S-3025, S-4004, S-4005, 4014, S-4006, S-4011, S-4010, S-4007, S-4009, S-4012, S-4008, and S-4013 shall be subject to the following permit conditions:

A.1 Conditions Common to All Sources Listed Above of the North Paint Shop:

1. Tesla shall conduct District approved source testing:
   (i) Initially, within 60 days of the date that passenger vehicle production reaches 25 units per hour, but no later than 180 days after start-up; and
   (ii) Annually thereafter, per Conditions 1a, 1b, 1c, 1d, 1e, and 1f. A status report on source testing progress shall be provided to the Division Director of the District's Engineering Division and the Compliance & Enforcement Division once every 30 days after start-up until all the source tests have been completed. The District's Source Test Section Manager shall be notified prior to performing any source tests required by this permit condition. Tesla shall also provide raw data gathered from source tests upon request. (Basis: Regulation 2-1-403)

   a. Source test to verify the transfer efficiencies of the coating applicator systems by the methods detailed in the EPA's Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Primer-Surfacer and Topcoat Operations (dated September 2008).

   b. Source test to determine the capture and control efficiency of POC and PM10 emissions to the abatement equipment (as applicable) 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 Thermal Oxidizers (A-1008 and A-3008).

c. Source test to determine emissions of NOx and CO associated with combustion of natural gas from the ovens (S-4006, S-3009, S-4010, S-4011, S-1009, S-1015, S-3015, S-3017, S-4009 and S-1013) and thermal oxidizers (A-1008 & A-3008). The owner/operator shall estimate SO2 emissions associated with combustion of natural gas from the above sources using District approved emission calculation methodology by assuming 100% conversion of fuel sulfur to SO2.

d. The owner/operator shall determine the overall efficiency of the emission control system abating sources that are part of this permit condition as follows:

(i) Capture efficiency shall be determined as specified in 40 CFR 51, Appendix M, Test Methods 204 – 204F, as applicable.

(ii) Control device destruction efficiency shall be determined as specified in the BAAQMD Manual of Procedures, Volume IV, ST-7 or EPA Method 25 or 25A.

(iii) For the determination of control device destruction efficiency, any non-precursor organic compound defined in Regulation 1-234 including acetone shall be included as a volatile organic compound.

(iv) The overall efficiency of the emission control system, expressed as a percentage, shall be calculated according to the following equation:

OE = [CE x DE]/100

Where:
OE = Overall efficiency
CE = Capture efficiency
DE = Control device destruction efficiency

(v) EPA Test Method 17 or other test methods approved by the District Source Test Manager shall be used to determine the control efficiency of the dry filters of the Primer Surfacer (spray primer) Booths S-3008 & S-1008, the Topcoat (base coat) Booths S-3014 & S-1014, and the Topcoat (clear coat) Booths S-3016 & 4014.

(vi) Test methods approved by the District Source Test Manager shall be used to determine the outlet grain loading rate of filterable PM10 exhausting out of Primer Booths S-3008 & S-1008 abated by E-scrub A-30083 & A-10083, respectively, the Basecoat Booths S-3014 & S-1014 abated by E-scrub A-30145 & A-10146, respectively, and the Clearcoat Booths S-3016 & 4014 abated by A-30165 & 30166, respectively.

(vii) Information gathered from the above steps shall be used in concert with the source throughput information, if applicable, in order to verify compliance with the mass emission limits outlined in parts A.2.2 (POC), A.2.5 (PM10), A.2.6 (NOx), A.2.7 (CO), and A.2.8 (SO2).

(viii) Within 60 days of the above described source testing, a report documenting results shall be provided to the District's Source Test Section Manager. This 60-day period may be extended to 90 days, if Tesla 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 emissions greater than emission limits for coating line (booth(s) and oven(s) combined)], Tesla shall report

such violation to the Division Director of the District's Engineering Division and the Compliance & Enforcement Division and substantiate their findings.

e. Source testing required in this permit can be used to verify applicable requirements of the following rules for sources at the North Paint Shop:

(i) District Regulation 8, Rule 13, "Light and Medium Duty Motor Vehicle Assembly Plants"; and

(ii) 40 CFR 60, Subpart MM "Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations"; and

(iii) 40 CFR 63, Subpart IIII "National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks".

2. At least 30 days before start-up, Tesla shall notify the District of any changes that were not originally applied for in the permit application (# 26812) and for which an Authority to Construct was not issued, such as new sources or abatement equipment, make and/or model changes, throughput changes, exhaust flow rate changes, substitution of solvent based coatings for water based coatings. Tesla shall submit a permit application to the District for any changes that the District determines to be modifications to the permit, and shall not operate such sources until it receives the District's formal approval in writing. (Basis: Regulation 2-1-403)

3. Unless approved in writing by the APCO, Tesla shall shutdown the following sources at the South Paint Shop and move them to the North Paint Shop within one year of start-up of this Authority to Construct (# 26812):

S-1008 Truck Prime Booth
(Referred to as Spray Booth #4: Primer at North Paint Shop)

S-1014 Truck Topcoat Booth
(Referred to as Spray Booth #5: Basecoat at North Paint Shop)

S-1009 Truck Prime Oven
(Referred to as Oven #7: Primer at North Paint Shop)

S-1015 Truck Topcoat Oven
(Referred to as Oven #10: Clearcoat at North Paint Shop)

S-1803 Truck Sealer Deck
(Referred to as Sealant Station #5 at North Paint Shop)

A-1008 Primer Surface Thermal Heat Recovery/Thermal Oxidizer
(Referred to as Regenerative Thermal Oxidizer #2 at North Paint Shop)

(Basis: Regulation 2-1-403)

4. During the start-up period, vehicles may be processed through either the South Paint Shop or North Paint Shop, as long as the total number of vehicles produced at both paint shops combined does not exceed 25 vehicles per hour.
(Basis: Regulation 2-1-403)

A.2. Conditions and Emission Limits Common to All Sources at the North Paint Shop:

1. All conditions shall be in effect at all times during equipment operation, including period of equipment start-up, unless otherwise indicated.

For the purposes of determining compliance with emissions and/or usage limits, a year is defined as a twelve-month consecutive period; a month is

defined as a calendar month. (Basis: Regulation 2-1-403)

2. Total emissions of organic compounds from the North Paint Shop sources, calculated on the basis of coating, sealant, and solvent usage and including any reductions due to abatement, shall not exceed **603.02 tons per year (TPY) of Precursor Organic Compounds (POC).** The POC emissions listed above is inclusive of emissions associated with the painting process and combustion emissions (601.01 TPY + 2.01 TPY). (Basis: Cumulative Increase)

3. The combined total natural gas usage for all North Paint Shop combustion sources shall not exceed 7.46 Million (MM) Therms per year. Records of natural gas usage, including records provided by the utility company, shall be maintained for five years from the date of entry and shall be maintained available for District personnel upon request. Tesla shall only use a District-approved gas meter.
(Basis: Cumulative Increase)

4. Only natural gas, propane, butane, and LPG shall be used as fuel for all North Paint Shop combustion sources by employing good combustion practices.
(Basis: Cumulative Increase)

5. The total **Particulate Matter less than 10 microns (PM10)** emissions from spray booths (S-3008, S-3014, S-3016, S-1008, S-1014, and 4014) and the combustion sources (S-4006, S-3009, S-4009, S-3015, S-4010, S-4011, S-1009, S-1013, S-3017, S-1015, A-1008, and A-3008) at the North Paint Shop shall not exceed 17.16 TPY. The PM10 emissions listed above is inclusive of emissions associated with the painting process and combustion emissions (14.38 TPY + 2.78 TPY). (Basis: Cumulative Increase)

6. The total **Oxides of Nitrogen (NOx)** emissions from the combustion sources (S-4006, S-3009, S-4009, S-3015, S-4010, S-4011, S-1009, S-1013, S-3017, S-1015, A-1008, and A-3008) at the North Paint Shop shall not exceed 33.89 TPY. (Basis: Cumulative Increase)

7. The total **Carbon Monoxide (CO)** emissions from the combustion sources (S-4006, S-3009, S-4009, S-3015, S-4010, S-4011, S-1009, S-1013, S-3017, S-1015, A-1008, and A-3008) at the North Paint Shop shall not exceed 73.61 TPY. (Basis: Cumulative Increase)

8. The total **Sulfur Dioxide (SO2)** emissions from the combustion sources (S-4006, S-3009, S-4009, S-3015, S-4010, S-4011, S-1009, S-1013, S-3017, S-1015, A-1008, and A-3008) at the North Paint Shop shall not exceed 0.22 TPY. (Basis: Cumulative Increase)

9. The operator of this source shall maintain the following data:

   a) Usage records of each coating shall be kept on a monthly basis.

   b) Amount of clean-up solvent used shall be kept on a monthly basis.

   c) To determine compliance, monthly compliance reports showing coating and clean-up usage and calculated emissions shall be submitted to the Division Director of the District's Engineering Division and the Compliance & Enforcement Division. The format and content of the compliance reports must be submitted to the District for prior approval. If an exceedance is calculated, Tesla shall submit a written report to the District with this monthly report in order to demonstrate that

North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.2.

Records shall be available for District inspection for a period of at least five (5) years following the date on which such data or reports are recorded or made. (Basis: Recordkeeping)

10. In order to demonstrate compliance with Condition Numbers 6 and 7, Tesla shall calculate on a quarterly basis the NOx and CO mass emission rates, using natural gas usage records and District approved NOx and CO emission factors. The NOx and CO emission factors for S-4006, S-3009, S-4009, S-3015, S-4010, S-4011, S-1009, S-1013, S-3017, S-1015, A-1008, and A-3008 shall be based on the results of the source tests, required by the District in the conditions for the Authority to Construct for the North Paint Shop. (Basis: Regulation 2-1-403)

11. To allow for future operational flexibility without falling into the category of a “major modification” as defined in Regulation 2, Rule 2, changes to limits on material usage and/or VOC contents and relocation of coatings between sources at the North Paint Shop are allowed, provided all of the following criteria are met:

    a. Changes do not result in overall emissions exceeding the limits specified in Condition A.2.2 (POC), A.2.5 (PM10), A.2.6 (NOx), A.2.7 (CO), and A.2.8 (SO2).

    b. The use of these materials does not increase toxic emissions above any risk screening trigger level of Table 2-5-1 in Regulation 2-5.

(Basis: Regulation 2-1-403, Cumulative Increase, Toxics)

12. Should POC, PM10, NOx, CO, and/or SO2 emissions exceed their respective emission limits in Condition A.2.2 (POC), A.2.5 (PM10), A.2.6 (NOx), A.2.7 (CO), and A.2.8 (SO2), the owner/operator shall submit a change of permit conditions application for amendment of the limit upon District approval. Such application shall include a demonstration that the sources meet BACT requirements and that emissions remain below PSD and CEQA significance thresholds. The owner/operator shall also provide emission reduction credits (ERCs) as needed to offset the higher emission limits. ERCs will be calculated as part of the permit application process.
[Basis: Cumulative Increase, BACT, Offsets]

13. None of the coatings shall contain any lead, or lead compounds.
(Basis: Regulation 2-1-403, Regulation 2, Rule 5)

14. All waste coatings and VOC containing materials shall be captured and stored in closed containers and disposed of in an acceptable manner in compliance with all applicable District and federal regulations.
(Basis: Regulation 2-1-403)

15. The owner/operator shall comply with all applicable provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60, Subparts A and MM, and 40 CFR 63, Subpart IIII.
(Basis: Regulation 2-1-403)

16. The owner/operator shall determine the VOC content of any coating or material as applied and as received using District approved test methods and/or federal Reference Test Method 24. The VOC content of any coating may alternatively be determined from manufacturer’s formulation data.
(Basis: Regulation 2-1-403)

17. The owner/operator shall complete and maintain all required emission calculations in a format acceptable to the APCO by the end of each calendar month. Within

30 days of the end of each calendar month, the owner/operator shall sum the monthly totals for the last consecutive 12-month period to determine compliance with the annual limits. The owner/operator shall report to the BAAQMD and the EPA any non-compliance in accordance with Standard Condition I.F of the Major Facility Review permit, and shall make all attempts to come back into compliance. 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: Regulation 2-1-403)

18. The owner/operator shall maintain a current listing from the manufacturer of the chemical composition of each coating and material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both. The data shall be kept on file for a period of at least five years and shall be made available to the APCO upon request.
(Basis: Recordkeeping)

19. The owner/operator shall keep production, usage, VOCs, solids content, and emission calculation records on a monthly basis for each coating or material used. The records shall be kept in a format acceptable to the APCO, and as a minimum, shall indicate the following:
a. The number of production days per month.
b. The monthly usage rate of each material or coating (in gallons).
c. For each coating or material: Monthly records showing:
   i. The pounds of VOCs per gallon as applied.
The VOC content should include acetone if required by Regulation 8, Rule 13.
   ii. The solids volume fraction.
d. The calculated average monthly VOC emission rate in pounds per gallon of applied coating solids.
e. Calculated VOC emission rates in pounds per day (based upon a monthly proration) and tons per year based upon a 12-month rolling time period.
   The VOC emission rates calculated should include acetone if required by Regulation 8, Rule 13.

The owner/operator shall maintain such records for a period of at least five years and shall make them available to the APCO upon request. (Basis: Recordkeeping)

A.3. Conditions Pertaining to 40 CFR 63, Subpart IIII "National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks" Requirements:

1. The owner/operator shall limit combined organic HAP emissions to the atmosphere from primer-surfacer, topcoat, final repair, glass bonding primer, and glass bonding adhesive operations plus all coatings and thinners, except for deadener materials and for adhesive and sealer materials that are not components of glass bonding systems, used in coating operations added to the affected source pursuant to 40 CFR 63.3082(c) to no more than 0.060 kg/liter (0.50 lb/gal) of applied coating solids used during each month, determined according to the requirements in 40 CFR 63.3171.

2. The owner/operator shall limit average organic HAP emissions from all adhesive and sealer materials other than materials used as components of glass bonding systems to no more than 0.010 kg/kg (lb/lb) of adhesive and sealer material used during each month.

3. The owner/operator shall develop and implement a work practice plan to minimize the organic HAP emissions from the storage, mixing and conveying of coatings, thinners, and cleaning materials used in, and waste materials generated by all coating operations. The work practice plan shall specify practices and procedures to ensure that, at a minimum, the following elements are implemented consistent with the requirements of 40 CFR 63.3094:

   The owner/operator shall comply with the applicable work practice plans at all times.

   a. All organic-HAP-containing coatings, thinners, cleaning materials, and waste materials must be stored in closed containers.

   b. The risk of spills of organic-HAP containing coatings, thinners, cleaning materials, and waste materials must be minimized.

c. Organic-HAP-containing coatings, thinners, cleaning materials, and waste materials must be conveyed from one location to another in closed containers or pipes.

d. Mixing vessels, other than day tanks equipped with continuous agitation systems, which contain organic-HAP-containing coatings and other materials must be closed except when adding to, removing, or mixing the contents.

e. Emissions of organic HAP must be minimized during cleaning of storage, mixing, and conveying equipment.

f. Organic HAP emissions from cleaning and from purging of equipment associated with all coating operations must be minimized by a plan addressing:
   i. Vehicle body wipe pursuant to 40 CFR 63.3094(c)(1)(i) and/or applicable requirement;

   ii. Coating line purging pursuant to 40 CFR 63.3094(c)(1)(ii) and/or applicable requirement;

   iii. Coating system flushing pursuant to 40 CFR 63.3094(c)(1)(iii) and/or applicable requirement;

   iv. Cleaning of spray booth grates pursuant to 40 CFR 63.3094(c)(1)(iv) and/or applicable requirement;

   v. Cleaning of spray booth walls pursuant to 40 CFR 63.3094(c)(1)(v) and/or applicable requirement;

   vi. Cleaning of spray booth equipment pursuant to 40 CFR 63.3094(c)(1)(vi) and/or applicable requirement;

   vii. Cleaning of external spray booth areas pursuant to 40 CFR 63.3094(c)(1)(vii) and/or applicable requirement;

   viii. Additional housekeeping measures pursuant to 40 CFR 63.3094(c)(1)(viii) and/or applicable requirement.

   The owner/operator may choose to comply with an alternative to the work practice standard, after receiving prior approval from the USEPA in accordance with 40 CFR 63.6(g).

   Copies of the current work practice plan and any earlier plan developed within the past 5 years shall be made

available for inspection to the APCO upon request.
(Basis: 40 CFR, Part 63, Subpart IIII; 40 CFR 63.3094)

4. For any coating operation(s) for which HAP emission reductions due to the use of add-on control equipment are relied upon to demonstrate compliance with emission limits, the owner/operator shall meet the operating limits specified in Table 1 of 40 CFR 63, Subpart IIII as identified below. The operating limits in Table 1 apply to the emission capture and add-on control systems on the coating operations. The owner/operator must establish the operating limits during the performance test according to the requirements in 40 CFR 63.3167. The operating limits shall be met at all times after they are established, except for periods of startup, shutdown and malfunction.
(Basis: 40 CFR, Part 63, Subpart IIII; 40 CFR 63.3093, 40 CFR 63.3100(b) and (d) and Table 1)

Add-On Control Device	Operating Limit
Thermal Oxidizer	The average combustion temperature in any 3-hour period must not fall below the combustion temperature limit established according to 40 CFR 63.3167(a).
Concentrators, Including Zeolite Wheels and Rotary Carbon Adsorbers	The average desorption gas inlet temperature in any 3-hour period must not fall below the limit established according to 40 CFR 63.3167(e).
Emission Capture System that is a Permanent Total Enclosure (PTE), Except for Downdraft Spray Booths, Flash-Off Areas, or Bake Ovens Associated with Downdraft Spray Booths	The direction of the air flow at all times must be into the enclosure; and either: The average facial velocity of air through all natural draft openings in the enclosure must be at least 200 feet per minute; or, The pressure drop across the enclosure must be at least 0.007 inch water, as established in Method 204 of Appendix M to 40 CFR 51.
Emission Capture System that is not a PTE, Except for Downdraft Spray Booths, Flash-Off Areas, or Bake Ovens Associated with Downdraft Spray Booths	The average gas volumetric flow rate or duct static pressure in each duct between a capture device and add-on control device inlet in any 3-hour period must not fall below the average volumetric flow rate or duct static pressure limit established for that capture device according to 40 CFR 63.3167(f).

5. The owner/operator shall develop and implement a written startup, shutdown and malfunction plan (SSMP) in accordance with 40 CFR 63.6(e)(3). This plan must address the startup, shutdown and corrective actions in the event of a malfunction of any emission capture system or add-on control device upon which compliance with any of the emission limits depends. The SSMP must also address any coating operation equipment that may cause increased emissions or that would affect capture efficiency if the process equipment malfunctions, such as conveyors that move parts among enclosures.
(Basis: 40 CFR, Part 63, Subpart IIII; 40 CFR 63.3100(f))

6. The owner/operator shall operate and maintain coating operations including any emission capture system or add-on control device upon which compliance with any of the emission limits depends according to the provisions in 40 CFR 63.6(e)(1)(i).
(Basis: 40 CFR, Part 63, Subpart IIII; 40 CFR 63.3100(d))

7. The owner/operator shall maintain a log detailing the operation and maintenance of any emission capture system, add-on control device, or continuous parameter monitor upon which compliance with any of the emission limits depends. The log shall cover the period between the compliance date specified in 40 CFR 63.3083 and the date when the initial emission capture system and add-on control device performance tests have been completed, as specified in 40 CFR 63.3160.
(Basis: (40 CFR, Part 63, Subpart IIII; 40 CFR 63.3100(e))

8. The owner/operator shall perform the applicable performance tests and compliance demonstrations in accordance with 40 CFR 63.3150-3152, 40 CFR 63.3160-3161, 40 CFR 63.3163-3168, 40 CFR 63.3170-3171, and 40 CFR 63.3173.
(Basis: 40 CFR, Part 63, Subpart IIII)

9. The owner/operator shall determine the mass fraction of each organic HAP for each material used according to the procedures established under 40 CFR 63.3151(a)(1) through (5). The owner/operator may use USEPA Method ALT-017 as an alternative for any material used, after demonstrating to the APCO that its use as an alternative test methodology for that material, has been approved by the USEPA pursuant to the requirements of 40 CFR 63.3151(a)(3) and 40 CFR 63.7.
(Basis: 40 CFR, Part 63, Subpart IIII; 40 CFR 63.7, 40 CFR 63.3151)

10. The owner/operator shall compile all required records and complete all required calculations in a format acceptable to the Division Director of the District's Engineering Division and the Compliance & Enforcement Division and shall make them available by the end of the calendar month.
(Basis: Regulation 2-1-403)

11. The owner/operator shall conduct an initial compliance demonstration for the initial compliance period described in 40 CFR 63.3150-3151, 40 CFR 63.3160-3161, or 40 CFR 63.3170-

3171. The initial compliance period begins on the applicable compliance date specified in 40 CFR 63.3083 and ends on the last day of the month following the compliance date. If the initial date occurs on any day other than the first day of a month, then the initial compliance period extends through the end of that month plus the next month. **(Basis: 40 CFR, Part 63, Subpart IIII; 40 CFR 63.3150, 40 CFR 63.3160, 40 CFR 63.3170, 40 CFR 63.3083(a) and (b))**

12. The owner/operator shall install, operate and maintain each Continuous Parameter Monitoring System (CPMS) according to the requirements of 40 CFR 63.3168(a). If the capture system contains a bypass line, the owner/operator shall comply with the requirements of 40 CFR 63.3168(b). **(Basis: 40 CFR, Part 63, Subpart IIII; 40 CFR 63.3168)**

13. The owner/operator shall keep all records as required by 40 CFR 63.3130 in the format and timeframes outlined in 40 CFR 63.3131. **(Basis: 40 CFR, Part 63, Subpart IIII; 40 CFR 63.3152(c), 40 CFR 63.3163(j))**

14. The owner/operator shall maintain, at a minimum, the following records as of the applicable compliance date, for each compliance period:

a. A copy of each notification and report that is submitted to comply with 40 CFR, Part 63, Subpart IIII and the documentation supporting each notification and report. **(Basis: 40 CFR, Part 63, Subpart IIII; 40 CFR 63.3130(a))**

b. A current copy of information provided by materials suppliers or manufactures, such as manufacturer's formulation data, or test data used to determine the mass fraction of organic HAP for each coating, thinner and cleaning material, the density for each coating and thinner, and the volume fraction of coating solids for each coating. **(Basis: 40 CFR, Part 63, Subpart IIII; 40 CFR 63.3130(b))**

c. For each coating or thinner used, the volume used in each month, the mass fraction organic HAP content, the density, and the volume fraction of solids. **(Basis: (40 CFR, Part 63, Subpart IIII; 40 CFR 63.3130(c))**

d. Calculations of the organic HAP emission rate in pounds per gallon of applied coating solids. These calculations and records must include all raw data, algorithms, and intermediate calculations. If the ‘‘Protocol for

Determining Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations,'' EPA–450/3–88–018 (Docket ID No. OAR–2002–0093 and Docket ID No. A–2001–22), is used, all data input to this protocol must be recorded. If these data are maintained as electronic files, the electronic files, as well as any paper copies must be maintained.
(Basis: 40 CFR, Part 63, Subpart IIII; 40 CFR 63.3130(c), 40 CFR 63.3163, 40 CFR 63.3173)

e. The name, volume, mass fraction organic HAP content and density of each cleaning material used.
(Basis: 40 CFR, Part 63, Subpart IIII; 40 CFR 63.3130(d) - (f))

f. Any records pertaining to deviations; startup, shutdown or malfunctions; emission capture systems; performance testing; capture and control efficiency determinations; transfer efficiency determinations; work practice plans; and design and operation of control and monitoring systems for any emission capture system or add-on control device upon which compliance with any of the emission limits depends, pursuant to 40 CFR 63.3130(g) through (o).
(Basis: 40 CFR, Part 63, Subpart IIII; 40 CFR 63.3130(g) – (o))

g. Records pertaining to the design and operation of control and monitoring systems for any emission capture system or add-on control device upon which compliance with any of the emission limits depends must be maintained on-site for the life of the equipment in a location readily available to plant operators and District inspectors.
(Basis: 40 CFR, Part 63, Subpart IIII; 40 CFR 63.3130(o))

15. For coating operations using add-on controls, the owner/operator shall demonstrate continuous compliance with the operating limits specified in Table 1 of 40 CFR, Part 63, Subpart IIII for any emission capture system or add-on control device upon which compliance with any of the emission limits depends pursuant to 40 CFR 63.3163 and 40 CFR 63.3173 using the method(s) described below:
(Basis: 40 CFR, Part 63, Subpart IIII; 40 CFR 63.3163, 40 CFR 63.3173 and Table 1)

Add-On Control Device	Operating Limit	Continuous Compliance Demonstration Method

Add-On Control Device	Operating Limit	Continuous Compliance Demonstration Method
Thermal Oxidizer	The average combustion temperature in any 3-hour period must not fall below the combustion temperature limit established according to 40 CFR 63.3167(a).	a. Collect the combustion temperature data according to 40 CFR 63.3168(c); b. Reduce the data to 3-hour block averages; and c. Maintain the 3-hour average combustion temperature at or above temperature limit.
Concentrators, Including Zeolite Wheels and Rotary Carbon Adsorbers	The average desorption gas inlet temperature in any 3-hour period must not fall below the limit established according to 40 CFR 63.3167(e).	a. Collect the temperature data according to 40 CFR 63.3168(f); b. Reduce the data to 3-hour block averages; and c. Maintain the 3-hour average temperature at or above the temperature limit.
Emission Capture System that is a Permanent Total Enclosure (PTE), Except for Downdraft Spray Booths, Flash-Off Areas, or Bake Ovens Associated with Downdraft Spray Booths	The direction of the air flow at all times must be into the enclosure; and either: The average facial velocity of air through all natural draft openings in the enclosure must be at least 200 feet per minute; or, The pressure drop across the enclosure must be at least 0.007 inch water, as established in Method 204 of Appendix M to 40 CFR 51.	a. Collect the direction of air flow, and either the facial velocity of air through all natural draft openings according to 40 CFR 63.3168(g)(1) or the pressure drop across the enclosure according to 40 CFR 63.3168(g)(2); and b. Maintain the facial velocity of air flow through all natural draft openings or the pressure drop at or above the facial velocity limit or pressure drop limit, and maintaining the direction of air flow into the enclosure at all times.
Emission Capture System that is not a PTE, Except for Downdraft Spray Booths, Flash-Off Areas, or Bake Ovens Associated with Downdraft Spray Booths	The average gas volumetric flow rate or duct static pressure in each duct between a capture device and add-on control device inlet in any 3-hour period must not fall below the average volumetric flow rate or duct static pressure limit established for that capture device according to 40 CFR 63.3167(f).	a. Collecting the gas volumetric flow rate or duct static pressure for each capture device according to 40 CFR 63.3168(g); b. Reducing the data to 3-hour block averages; and c. Maintaining the 3-hour average gas volumetric flow rate or duct static pressure for each capture device at or above the gas volumetric flow rate or duct static pressure limit.

B. Conditions for S-4004 Pretreatment Tank System

1. In no event shall the annual emissions from S-4004 exceed **0.0601 tons per year or 15 pounds per month of Precursor Organic Compounds (POC),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.5. (Basis: Cumulative Increase)

C. Conditions for
S-4005 E-Coat System
S-4006 Oven #1 (E-Coat); Maximum Hourly Firing Rate: 15.19 MMBTU/hour
S-4011 Oven #6 (E-Coat); Maximum Hourly Firing Rate: 15.19 MMBTU/hour

1. In no event shall the annual emissions from S-4005 exceed **0.0409 tons per year or 10.23 pounds per month of Precursor Organic Compounds (POC),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.2.

   The owner/operator shall operate the electrocoat dip tank such that adequate positive flow of air into the electrocoat dip tank occurs whenever S-4005 is in operation. Adequate positive flow of air into the dip tank shall be demonstrated according to a method acceptable to the District's Source Test Section. In addition, the owner/operator shall keep all access doors and windows on the electrocoat dip tank closed whenever the S-4005 is in operation.

The owner/operator shall ensure the VOC mass emissions limit in pounds per gallon of applied coating solids (gacs) at S-4005 does not exceed 1.42 lb/gacs. The owner/operator shall continuously monitor the concentration of the emulsion feed and paste feed in water to ensure the VOC mass emissions limit is not exceeded.

The owner/operator shall ensure all HAP emissions from S-4006 and S-4011 are captured and ducted to thermal oxidizers A-3008 and A-1008, which have a destruction or removal efficiency of at least 95%.

(Basis: Regulation 2-1-403, Cumulative Increase, 60.392 (a)(1)(i), 63.3092(b))

2. The usage of E-Coat Resin and E-Coat Paste used in S-4005 shall not exceed 663,242 gallons and 67,891 gallons, respectively in any consecutive 12-month period, unless the owner/operator of this source can demonstrate to the satisfaction of the APCO that a change in E-Coat resin and/or paste used will not result in emissions exceeding those stipulated in Condition #1.

   One or more of these coatings usages may increase above the specified usage limits provided there is a corresponding usage decrease for one or more of the other coatings, which is based on controlled emissions, so that total emissions do not exceed the limit, specified in Condition No. 1. The operator of this source shall provide the Division Director of the District's Engineering Division and the Compliance & Enforcement Division documentation to demonstrate compliance with Condition No. 1 within 30 days of the exceedance of any of the coating limits.
   (Basis: Cumulative Increase)

3. The natural gas heater boxes for the Ovens #1 and #6 (S-4006 and S-4011) shall utilize low-NOx burners or equivalent. In no event shall the combined annual emissions from S-4006 and S-4011 exceed **14.53 tons per year or 3,633 pounds per**

month of Precursor Organic Compounds (POC), unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.2. The POC emissions listed above is inclusive of emissions associated with the painting process and combustion emissions (based on 14.10 TPY + 0.43 TPY). Compliance with this mass emissions limit shall be verified via source testing required by part A.1.
(Basis: Cumulative Increase)

4. The owner/operator shall ensure POC emissions from the Ovens #1 and #6 (S-4006 and S-4011) are abated at all times of operation by the properly installed and properly maintained regenerative thermal oxidizers A-3008 (abating S-4006) and A-1008 (abating S-4011).
(Basis: Regulation 2-1-403)

5. The mass emission calculations for the Ovens #1 and #6 (S-4006 and S-4011) are based on an overall efficiency of the emission control system of 80.75% (oven capture efficiency of 85% x regenerative thermal oxidizer destruction efficiency of 95% by wt.)
(Basis: Cumulative Increase, Regulation 2-1-403)

6. The combustion chamber of the regenerative thermal oxidizers A-3008 (abating S-4006) and A-1008 (abating S-4011) shall be equipped with District approved continuous temperature measuring and recording instrumentation. The temperature measuring and recording instrumentation shall be installed, calibrated and maintained according to accepted practice and the manufacture's specifications.

   The temperature chart (or digital) recorder periods of in-operation greater than 24 hours

shall be reported to the District's Compliance and Enforcement Division within the following working day by telephone and within three days in writing, followed by the notification of resumption of operation. Until the temperature chart (or digital) recorder is in correct operation, the temperature shall be manually recorded every two hours. Adequate proof of expeditious repair shall be furnished to the APCO for downtime in excess of fifteen consecutive days.
(Basis: Regulation 2-6-503)

7. The regenerative thermal oxidizers A-3008 (abating S-4006) and A-1008 (abating S-4011) shall be source tested annually, unless a different schedule is approved. After prior notification to and approval from the District's Source Test Section 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 A-1008 and A-3008. Records of the source test results and a maintenance schedule shall be kept. All records shall be kept and made available for District inspection for a period of five years following the date a record was made.
(Basis: Regulation 2-1-403)

8. Within 60 days of the above described source testing, a report documenting results shall be provided to the District. This 60 day period may be extended to 90 days, if Tesla 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, Tesla shall report such violation to the permit engineer and the Division Director of the District's Engineering Division and the Compliance & Enforcement Division.
(Basis: Regulation 2-1-301, 2-6-503)

9. In no event shall the annual emissions from Ovens #1 and #6 S-4006 and S-4011) exceed **0.59 tons per year or 148 pounds per month of Particulate Matter less than 10 microns (PM10),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.5. The PM10 emissions listed above is inclusive of emissions associated with the painting process and combustion emissions (based on 0.00 TPY + 0.59 TPY). Compliance with this mass emissions limit shall be verified via source testing required by part A.1.
(Basis: Cumulative Increase)

10. In no event shall the annual emissions from Ovens #1 and #6 (S-4006 and S-4011) exceed **5.49 tons per year or 1,373 pounds per month of Oxides of Nitrogen (NOx),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.6. The NOx emissions listed above is inclusive of emissions associated with the painting process and combustion emissions (based on 0.00 TPY + 5.49 TPY) and was calculated based on a NOx emission factor of 0.05 lb/MMBTU. Compliance with this mass emissions limit and the NOx emission factor shall be verified via source testing required by part A.1.
(Basis: Cumulative Increase, BACT)

11. In no event shall the annual emissions from Ovens #1 and #6 S-4006 and S-4011) exceed **6.46 tons per year or 1,615 pounds per month of Carbon Monoxide (CO),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions

limit specified in Condition A.2.7. The CO emissions listed above is inclusive of emissions associated with the painting process and combustion emissions (based on 0.00 TPY + 6.46 TPY). Compliance with this mass emissions limit shall be verified via source testing required by part A.1. (Basis: Cumulative Increase)

12. In no event shall the annual emissions from Ovens #1 and #6 (S-4006 and S-4011) exceed **0.04 tons per year or 10 pounds per month of Sulfur Dioxide (SO2),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.8. The SO2 emissions listed above is inclusive of emissions associated with the painting process and combustion emissions (based on 0.00 TPY + 0.04 TPY). Compliance with this mass emissions limit shall be verified using District approved emission calculation methodology specified in part A.1. (Basis: Cumulative Increase)

13. The owner/operator shall ensure annual natural gas usage at S-4006 and S-4011 does not exceed 798,233 Therms/year (Annual Average Firing Rate: 9.11 MMBTU/hour) and 770,566 Therms/year (Annual Average Firing Rate: 8.80 MMBTU/hour), respectively.
(Basis: Cumulative Increase)

D. Conditions for Sealant Stations

S-4007 Sealing Station #1
S-3025 Sealing Station #2
S-4008 Sealing Station #3
S-4012 Sealing Station #4
S-1803 Sealing Station #5
S-4013 Sealing Station #6

1. In no event shall the annual emissions from S-4007, S-3025, S-4008, S-4012, S-1803, and S-4013 exceed **0.203 tons per year or 50.75 pounds per month of Precursor Organic Compounds (POC),**

unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.2.

The owner/operator shall ensure S-4007, S-3025, S-4008, S-4012, S-1803, and S-4013 comply with the HAP mass emissions limit in Condition A.3.

(Basis: Regulation 2-1-403, Cumulative Increase, 60.392 (a)(2), 63.3090(b))

2. The combined usage of sealants at S-4007, S-3025, S-4008, S-4012, S-1803, and S-4013 shall not exceed 1,029,600 gallons in any consecutive 12-month period, unless the owner/operator of this source can demonstrate to the satisfaction of the APCO that a change in sealants used will not result in emissions exceeding those stipulated in Condition #1.

   One or more of these sealant usages may increase above the specified usage limits provided there is a corresponding usage decrease for one or more of the other sealants, which is based on uncontrolled emissions, so that total emissions do not exceed the limit, specified in Condition No. 1. The operator of this source shall provide the Division Director of the District's Engineering Division and the Compliance & Enforcement Division documentation to demonstrate compliance with Condition No. 1 within 30 days of the exceedance of any of the coating limits.
   (Basis: Cumulative Increase)

E. Conditions for

S-3008 Spray Booth #1 (Primer)
S-3009 Oven #2 (Primer); Maximum Hourly Firing Rate: 15.09 MMBTU/hour
S-1008 Spray Booth #4 (Primer)

S-1009 Oven #7 (Primer); Maximum Hourly Firing Rate: 15.09 MMBTU/hour

1. In no event shall the combined annual emissions from S-3008, S-3009, S-1008, and S-1009 exceed **214.35 tons per year or 26.79 tons per month of Precursor Organic Compounds (POC),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.2. Compliance with this mass emissions limit shall be verified via source testing required by part A.1.

   The owner/operator shall ensure VOC emissions from the combined primer, basecoat, and clearcoat operations at S-1008, S-1014, S-3008, S-3014, S-3016 and 4014 does not exceed 4.8 pounds per gallon of applied coating solids as averaged on a monthly basis. Compliance with this limit shall be verified via emission calculations and recordkeeping required by part A.2.19.

   The owner/operator shall ensure S-3008 and S-1008 comply with the HAP mass emissions limit in Condition A.3.

   (Basis: Regulation 2-1-403, Cumulative Increase, BACT, 60.392 (a)(2), 63.3090(b))

2. The coatings used at S-3008 and S-1008 shall not exceed 270,895 gallons in any consecutive 12-month period, unless the owner/operator of this source can demonstrate to the satisfaction of the APCO that a change in coatings used will not result in emissions exceeding those stipulated in Condition #1.

   One or more of these coatings usages may increase above the specified usage limits provided there is a corresponding usage decrease for one or more of the other coatings, which is based on controlled

emissions, so that total emissions do not exceed the limit, specified in Condition No. 1. The operator of this source shall provide the Division Director of the District's Engineering Division and the Compliance & Enforcement Division documentation to demonstrate compliance with Condition No. 1 within 30 days of the exceedance of any of the coating limits.
(Basis: Cumulative Increase)

3. The natural gas heater boxes for the Ovens #2 and #7 (S-3009 and S-1009) shall utilize low-NOx burners or equivalent. In no event shall the annual emissions from S-3009 and S-1009 exceed **99.31 tons per year or 12.41 tons per month of Precursor Organic Compounds (POC),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.2. The POC emissions listed above is inclusive of emissions associated with the painting & sealant process and combustion emissions (based on 98.93 TPY + 0.38 TPY). Compliance with this mass emissions limit shall be verified via source testing required by part A.1.
(Basis: Cumulative Increase)

4. The owner/operator shall ensure POC emissions from the Spray Booths #1 and #4 (S-3008 and S-1008) and the Ovens #2 and #7 (S-3009 and S-1009) are abated at all times of operation by the properly installed and properly maintained regenerative thermal oxidizers A-3008 (abating S-3008 & S-3009) and A-1008 (abating S-1008 & S-1009).
(Basis: Regulation 2-1-403)

5. The mass emission calculations for the Spray Booths #1 and #4 (S-3008 and S-1008) and the Ovens #2 and #7 (S-3009 and S-1009) are based on an overall efficiency of the emission control system of 66.5% (booth & oven capture efficiency of 70% x regenerative thermal oxidizer destruction efficiency of 95% by wt.) The calculations also assume emissions from the sealant operations that

are unabated are emitted in the Primer Ovens. (Basis: Cumulative Increase, Regulation 2-1-403)

6. The combustion chamber of the regenerative thermal oxidizers A-3008 (abating S-3008 & S-3009) and A-1008 (abating S-1008 & S-1009) shall be equipped with District approved continuous temperature measuring and recording instrumentation. The temperature measuring and recording instrumentation shall be installed, calibrated and maintained according to accepted practice and the manufacture's specifications.

   The temperature chart (or digital) recorder periods of in-operation greater than 24 hours shall be reported to the District's Compliance and Enforcement Division within the following working day by telephone and within three days in writing, followed by the notification of resumption of operation. Until the temperature chart (or digital) recorder is in correct operation, the temperature shall be manually recorded every two hours. Adequate proof of expeditious repair shall be furnished to the APCO for downtime in excess of fifteen consecutive days. (Basis: Regulation 2-6-503)

7. The regenerative thermal oxidizers A-3008 (abating S-3008 & S-3009) and A-1008 (abating S-1008 & S-1009) shall be source tested annually, unless a different schedule is approved. After prior notification to and approval from the District's Source Test Section 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 A-1008 and A-3008. Records of the source test results and a maintenance schedule shall be kept. All records shall be kept and made available for District inspection for a period of five years following the date a record was made.
   (Basis: Regulation 2-1-403)

8. Within 60 days of the above described source testing, a report documenting results shall be provided to the District. This 60 day period may be extended to 90 days, if Tesla 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, Tesla shall report such violation to the permit engineer and the Division Director of the District's Engineering Division and the Compliance & Enforcement Division.
(Basis: Regulation 2-1-301, 2-6-503)

9. In no event shall the annual emissions from Spray Booths #1 and #4 (S-3008 and S-1008) and the Ovens #2 and #7 (S-3009 and S-1009) exceed **5.62 tons per year or 1,405 pounds per month of Particulate Matter less than 10 microns (PM10),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.5. The PM10 emissions listed above is inclusive of emissions associated with the painting process and combustion emissions (based on 5.10 TPY + 0.52 TPY). Compliance with this mass emissions limit shall be verified via source testing required by part A.1. (Basis: Cumulative Increase)

10. The owner/operator shall ensure PM10 emissions from the Spray Booths #1 and #4 (S-3008 and S-1008) are abated at all times of operation by the properly installed and properly maintained E-Scrub Systems A-30083 and A-10083, respectively. The owner/operator shall ensure the outlet grain loading rate of filterable PM10 emissions exhausting out of A-30083 and A-10083 is at/below 0.0015gr/dscf. Compliance with this outlet grain loading limit shall be verified via source testing required by part A.1.
(Basis: Regulation 2-1-403, BACT)

11. The mass emission PM10 calculations for the Spray Booths #1 and #4 (S-3008 and S-1008) are based on

a transfer efficiency of 70%, a booth capture efficiency of 100%, and E-Scrub System control efficiency of 98%.
(Basis: Cumulative Increase, Regulation 2-1-403)

12. In no event shall the annual emissions from Ovens #2 and #7 (S-3009 and S-1009) exceed **4.90 tons per year or 1,225 pounds per month of Oxides of Nitrogen (NOx),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.6. The NOx emissions listed above is inclusive of emissions associated with the painting process and combustion emissions (based on 0.00 TPY + 4.90 TPY) and was calculated based on a NOx emission factor of 0.05 lb/MMBTU. Compliance with this mass emissions limit and the NOx emission factor shall be verified via source testing required by part A.1.
(Basis: Cumulative Increase, BACT)

13. In no event shall the annual emissions from Ovens #2 and #7 (S-3009 and S-1009) exceed **5.78 tons per year or 1,445 pounds per month of Carbon Monoxide (CO),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.7. The CO emissions listed above is inclusive of emissions associated with the painting process and combustion emissions (based on 0.00 TPY + 5.78 TPY). Compliance with this mass emissions limit shall be verified via source testing required by part A.1. (Basis: Cumulative Increase)

14. In no event shall the annual emissions from Ovens #2 and #7 (S-3009 and S-1009) exceed **0.04 tons per year or 10 pounds per month of Sulfur Dioxide (SO2),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that

the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.8. The SO2 emissions listed above is inclusive of emissions associated with the painting process and combustion emissions (based on 0.00 TPY + 0.04 TPY). Compliance with this mass emissions limit shall be verified using District approved emission calculation methodology specified in part A.1. (Basis: Cumulative Increase)

15. The owner/operator shall ensure annual natural gas usage at S-3009 and S-1009 does not exceed 700,930 Therms/oven/year (Annual Average Firing Rate: 8.00 MMBTU/oven/hour). (Basis: Cumulative Increase)

F. Conditions for S-3014 Spray Booth #2 (Basecoat) S-3015 Oven #4 (Basecoat); Maximum Hourly Firing Rate: 2.95 MMBTU/hour S-1014 Spray Booth #5 (Basecoat) S-3017 Oven #9 (Basecoat); Maximum Hourly Firing Rate: 2.95 MMBTU/hour

1. In no event shall the combined annual emissions from S-3014, S-3015, S-1014, and S-3017 exceed **105.06 tons per year or 13.13 tons per month of Precursor Organic Compounds (POC),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.2. Compliance with this mass emissions limit shall be verified via source testing required by part A.1.

   The owner/operator shall ensure VOC emissions from the combined primer, basecoat, and clearcoat operations at S-1008, S-1014, S-3008, S-3014, S-3016 and 4014 does not exceed 4.8 pounds per gallon of applied coating solids as averaged on a monthly basis. Compliance with this limit shall be

verified via emission calculations and recordkeeping required by part A.2.19.

The owner/operator shall ensure S-3014 and S-1014 comply with the HAP mass emissions limit in Condition A.3.

(Basis: Regulation 2-1-403, Cumulative Increase, BACT, 60.392 (b), 63.3090(b))

2. The coatings used at S-3014 and S-1014 shall not exceed 591,612 gallons in any consecutive 12-month period, unless the owner/operator of this source can demonstrate to the satisfaction of the APCO that a change in coatings used will not result in emissions exceeding those stipulated in Condition #1.

   One or more of these coatings usages may increase above the specified usage limits provided there is a corresponding usage decrease for one or more of the other coatings, which is based on controlled emissions, so that total emissions do not exceed the limit, specified in Condition No. 1. The operator of this source shall provide the Division Director of the District's Engineering Division and the Compliance & Enforcement Division documentation to demonstrate compliance with Condition No. 1 within 30 days of the exceedance of any of the coating limits.
   (Basis: Cumulative Increase)

3. The natural gas heater boxes for the Ovens #4 and #9 (S-3015 and S-3017) shall utilize low-NOx burners or equivalent. In no event shall the annual emissions from S-3015 and S-3017 exceed **31.64 tons per year or 3.96 tons per month of Precursor Organic Compounds (POC),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.2. The POC emissions listed above is inclusive

of emissions associated with the painting process and combustion emissions (based on 31.54 TPY + 0.10 TPY). Compliance with this mass emissions limit shall be verified via source testing required by part A.1. (Basis: Cumulative Increase)

4. The owner/operator shall ensure POC emissions from the Basecoat Booths and Basecoat Ovens are abated at all times of operation by the properly installed and properly maintained regenerative thermal oxidizers A-3008 (abating S-3014 & S-3015) and A-1008 (abating S-1014 & S-3017). (Basis: Regulation 2-1-403)

5. The mass emission calculations for the Spray Booths #2 and #5 (S-3014 and S-1014) and Ovens #4 and #9 (S-3015 and S-3017) are based on an overall efficiency of the emission control system of 66.5% (booth & oven capture efficiency of 70% x regenerative thermal oxidizer destruction efficiency of 95% by wt.).
(Basis: Cumulative Increase, Regulation 2-1-403)

6. The combustion chamber of the regenerative thermal oxidizers A-3008 (abating S-3014 & S-3015) and A-1008 (abating S-1014 & S-3017) shall be equipped with District approved continuous temperature measuring and recording instrumentation. The temperature measuring and recording instrumentation shall be installed, calibrated and maintained according to accepted practice and the manufacture's specifications.

   The temperature chart (or digital) recorder periods of in-operation greater than 24 hours shall be reported to the District’s Compliance and Enforcement Division within the following working day by telephone and within three days in writing, followed by the notification of resumption of operation. Until the temperature chart (or digital) recorder is in correct operation, the temperature shall be manually recorded every two hours. Adequate proof of expeditious repair shall be furnished to the APCO for downtime in excess of fifteen consecutive days. (Basis: Regulation 2-6-503)

7. The regenerative thermal oxidizers A-3008 (abating S-3014 & S-3015) and A-1008 (abating S-1014 & S-3017) shall be source tested annually, unless a different schedule is approved. After prior notification to and approval from the District's Source Test Section 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 A-1008 and A-3008. Records of the source test results and a maintenance schedule shall be kept. All records shall be kept and made available for District inspection for a period of five years following the date a record was made.
(Basis: Regulation 2-1-403)

8. Within 60 days of the above described source testing, a report documenting results shall be provided to the District. This 60 day period may be extended to 90 days, if Tesla 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, Tesla shall report such violation to the permit engineer and the Division Director of the District's Engineering Division and the Compliance & Enforcement Division.
(Basis: Regulation 2-1-301, 2-6-503)

9. In no event shall the annual emissions from Spray Booths #2 and #5 (S-3014 and S-1014) and the Ovens #4 and #9 (S-3015 and S-3017) exceed **3.6 tons per year or 900 pounds per month of Particulate Matter less than 10 microns (PM10),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.5. The PM10 emissions listed above is inclusive of emissions associated with the painting process and combustion emissions (based

on 3.46 TPY + 0.14 TPY). Compliance with this mass emissions limit shall be verified via source testing required by part A.1. (Basis: Cumulative Increase)

10. The owner/operator shall ensure PM10 emissions from the Spray Booths #2 and #5 (S-3014 and S-1014) are abated at all times of operation by the properly installed and properly maintained E-Scrub Systems A-30145 and A-10146, respectively. The owner/operator shall ensure the outlet grain loading rate of filterable PM10 emissions exhausting out of A-30145 and A-10146 is at/below 0.0015 gr/dscf. Compliance with this outlet grain loading limit shall be verified via source testing required by part A.1.
(Basis: Regulation 2-1-403, BACT)

11. The mass emission PM10 calculations for the Spray Booths #2 and #5 (S-3014 and S-1014)are based on a transfer efficiency of 70%, a booth capture efficiency of 100%, and E-Scrub System control efficiency of 98%.
(Basis: Cumulative Increase, Regulation 2-1-403)

12. In no event shall the annual emissions from Ovens #4 and #9 (S-3015 and S-3017) exceed **1.32 tons per year or 330 pounds per month of Oxides of Nitrogen (NOx),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.6. The NOx emissions listed above is inclusive of emissions associated with the painting process and combustion emissions (based on 0.00 TPY + 1.32 TPY). Compliance with this mass emissions limit shall be verified via source testing required by part A.1.
(Basis: Cumulative Increase)

13. In no event shall the annual emissions from Ovens #4 and #9 (S-3015 and S-3017) exceed **1.56 tons per year or 390 pounds per month of Carbon Monoxide (CO),** unless Tesla notifies the District within 30

calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.7. The CO emissions listed above is inclusive of emissions associated with the painting process and combustion emissions (based on 0.00 TPY + 1.56 TPY). Compliance with this mass emissions limit shall be verified via source testing required by part A.1. (Basis: Cumulative Increase)

14. In no event shall the annual emissions from Ovens #4 and #9 (S-3015 and S-3017) exceed **0.02 tons per year or 10 pounds per month of Sulfur Dioxide (SO2),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.8. The SO2 emissions listed above is inclusive of emissions associated with the painting process and combustion emissions (based on 0.00 TPY + 0.02 TPY). Compliance with this mass emissions limit shall be verified using District approved emission calculation methodology specified in part A.1. (Basis: Cumulative Increase)

15. The owner/operator shall ensure annual natural gas usage at S-3015 and S-3017 does not exceed 188,309 Therms/oven/year (Annual Average Firing Rate: 2.15 MMBTU/oven/hour).
(Basis: Cumulative Increase)

G. Conditions for

S-3016 Spray Booth #3 (Clearcoat)

S-4010 Oven #5 (Clearcoat); Maximum Hourly Firing Rate: 16.9 MMBTU/hour
S-4014 Spray Booth #6 (Clearcoat)
S-1015 Oven #10 (Clearcoat); Maximum Hourly Firing Rate: 16.9 MMBTU/hour

1. In no event shall the combined annual emissions from S-3016, S-4010, 4014, and S-1015 exceed **268.09 tons per year or 33.51 tons per month of Precursor Organic Compounds (POC),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.2. Compliance with this mass emissions limit shall be verified via source testing required by part A.1.

   The owner/operator shall ensure VOC emissions from the combined primer, basecoat, and clearcoat operations at S-1008, S-1014, S-3008, S-3014, S-3016 and 4014 does not exceed 4.8 pounds per gallon of applied coating solids as averaged on a monthly basis. Compliance with this limit shall be verified via emission calculations and recordkeeping required by part A.2.19.

   The owner/operator shall ensure S-3016 and 4014 comply with the HAP mass emissions limit in Condition A.3.

   (Basis: Regulation 2-1-403, Cumulative Increase, BACT, 60.392 (c), 63.3090(b))

2. The coatings used at S-3016 and 4014 shall not exceed 428,722 gallons in any consecutive 12-month period, unless the owner/operator of this source can demonstrate to the satisfaction of the APCO that a change in coatings used will not result in emissions exceeding those stipulated in Condition #1.

One or more of these coatings usages may increase above the specified usage limits provided there is a corresponding usage decrease for one or more of the other coatings, which is based on controlled emissions, so that total emissions do not exceed the limit, specified in Condition No. 1. The operator of this source shall provide the Division Director of the District's Engineering Division and the Compliance & Enforcement Division documentation to demonstrate compliance with Condition No. 1 within 30 days of the exceedance of any of the coating limits.
(Basis: Cumulative Increase)

3. The natural gas heater boxes for the Ovens #10 and #5 (S-1015 and S-4010) shall utilize low-NOx burners or equivalent. In no event shall the annual emissions from S-4010 and S-1015 exceed **80.71 tons per year or 10.09 tons per month of Precursor Organic Compounds (POC),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.2. The POC emissions listed above is inclusive of emissions associated with the painting process and combustion emissions (based on 80.30 TPY + 0.41 TPY). Compliance with this mass emissions limit shall be verified via source testing required by part A.1. (Basis: Cumulative Increase)

4. The owner/operator shall ensure POC emissions from the Spray Booths #3 and #6 (S-3016 and 4014) and Ovens #5 and #10 (S-4010 and S-1015) are abated at all times of operation by the properly installed and properly maintained regenerative thermal oxidizers A-1008 (abating S-3016 & S-4010) and A-3008 (abating 4014 & S-1015).
(Basis: Regulation 2-1-403)

5. The mass emission calculations for the Spray Booths #3 and #6 (S-3016 and 4014) and Ovens #5 and #10 (S-4010 and S-1015)Ovens are based on an overall efficiency of the emission control system of 66.5% (booth & oven capture efficiency of 70% x

regenerative thermal oxidizer destruction efficiency of 95% by wt.).
(Basis: Cumulative Increase, Regulation 2-1-403)

6. The combustion chamber of the regenerative thermal oxidizers A-3008 (abating S-3016 & S-4010) and A-1008 (abating 4014 & S-1015) shall be equipped with District approved continuous temperature measuring and recording instrumentation. The temperature measuring and recording instrumentation shall be installed, calibrated and maintained according to accepted practice and the manufacture's specifications.

   The temperature chart (or digital) recorder periods of in-operation greater than 24 hours shall be reported to the District's Compliance and Enforcement Division within the following working day by telephone and within three days in writing, followed by the notification of resumption of operation. Until the temperature chart (or digital) recorder is in correct operation, the temperature shall be manually recorded every two hours. Adequate proof of expeditious repair shall be furnished to the APCO for downtime in excess of fifteen consecutive days. (Basis: Regulation 2-6-503)

7. The regenerative thermal oxidizers A-3008 (abating S-3016 & S-4010) and A-1008 (abating 4014 & S-1015) shall be source tested annually, unless a different schedule is approved. After prior notification to and approval from the District's Source Test Section 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 A-1008 and A-3008. Records of the source test results and a maintenance schedule shall be kept. All records shall be kept and made available for District inspection for a period of five years following the date a record was made.
   (Basis: Regulation 2-1-403)

8. Within 60 days of the above described source testing, a report documenting results shall be provided to the District. This 60 day period may be extended to 90 days, if Tesla 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, Tesla shall report such violation to the permit engineer and the Division Director of the District's Engineering Division and the Compliance & Enforcement Division.
(Basis: Regulation 2-1-301, 2-6-503)

9. In no event shall the annual emissions from Spray Booths #3 and #6 (S-3016 and 4014) and Ovens #5 and #10 (S-4010 and S-1015) exceed **6.4 tons per year or 1,600 pounds per month of Particulate Matter less than 10 microns (PM10),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.5. The PM10 emissions listed above is inclusive of emissions associated with the painting process and combustion emissions (based on 5.83 TPY + 0.57 TPY). Compliance with this mass emissions limit shall be verified via source testing required by part A.1. (Basis: Cumulative Increase)

10. The owner/operator shall ensure PM10 emissions from the Spray Booths #3 and #6 (S-3016 and 4014) are abated at all times of operation by the properly installed and properly maintained E-Scrub Systems A-30165 and 30166, respectively. The owner/operator shall ensure the outlet grain loading rate of filterable PM10 emissions exhausting out of A-30165 and 30166 is at/below 0.0015 gr/dscf. Compliance with this outlet grain loading limit shall be verified via source testing required by part A.1.
(Basis: Regulation 2-1-403, BACT)

11. The mass emission PM10 calculations for the Spray Booths #3 and #6 (S-3016 and 4014) are based on a transfer efficiency of 70%, a booth capture efficiency of 100%, and E-Scrub System control efficiency of 98%.
(Basis: Cumulative Increase, Regulation 2-1-403)

12. In no event shall the annual emissions from Ovens #5 and #10 (S-4010 and S-1015) exceed **5.33 tons per year or 1,333 pounds per month of Oxides of Nitrogen (NOx),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.6. The NOx emissions listed above is inclusive of emissions associated with the painting process and combustion emissions (based on 0.00 TPY + 5.33 TPY) and was calculated based on a NOx emission factor of 0.05 lb/MMBTU. Compliance with this mass emissions limit and the NOx emission factor shall be verified via source testing required by part A.1.
(Basis: Cumulative Increase, BACT)

13. In no event shall the annual emissions from Ovens #5 and #10 (S-4010 and S-1015) exceed **6.27 tons per year or 1,568 pounds per month of Carbon Monoxide (CO),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.7. The CO emissions listed above is inclusive of emissions associated with the painting process and combustion emissions (based on 0.00 TPY + 6.27 TPY). Compliance with this mass emissions limit shall be verified via source testing required by part A.1.
(Basis: Cumulative Increase)

14. In no event shall the annual emissions from Ovens #5 and #10 (S-4010 and S-1015) exceed **0.04 tons per year or 10 pounds per month of Sulfur Dioxide**

(SO2), unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.8. The SO2 emissions listed above is inclusive of emissions associated with the painting process and combustion emissions (based on 0.00 TPY + 0.04 TPY). Compliance with thismass emissions limit shall be verified using District approved emission calculation methodology specified in part A.1. (Basis: Cumulative Increase)

15. The owner/operator shall ensure annual natural gas usage at S-4010 and S-1015 does not exceed 719,344 Therms/year (Annual Average Firing Rate: 8.21 MMBTU/hour) and 803,467 Therms/year (Annual Average Firing Rate: 9.17 MMBTU/hour), respectively. (Basis: Cumulative Increase)

H. Conditions for S-3018 Dry Sanding Booth #1 S-1003 Dry Sanding Booth #2

1. In no event shall the combined annual emissions from S-3018 and S-1003 exceed **36.41 pounds per year or 4.55 pounds per month of Particulate Matter less than 10 microns (PM10),** unless Tesla notifies the District within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.5. (Basis: Cumulative Increase)

I. Conditions for S-4009 Oven #3 (Wet Sanding Booth); Maximum Hourly Firing Rate: 12.8 MMBTU/hour S-1013 Oven #8 (Wet Sanding Booth); Maximum Hourly Firing Rate: 12.8 MMBTU/hour

1. In no event shall the combined annual combustion emissions from S-4009 and S-1013 exceed the following emission limits:

Precursor Organic Compounds (POC)
0.38 tons per year or 95 pound per month;

Particulate Matter less than 10 microns (PM10)
0.52 tons per year or 130 pounds per month;

Oxides of Nitrogen (NOx)
4.9 tons per year or 1,225 pounds per month

Carbon Monoxide (CO)
5.76 tons per year or 1,440 pounds per month

Sulfur Dioxide (SO2)
0.04 tons per year or 10 pounds per month

In the event the above emission limits are exceeded, Tesla shall notify the District within 30 calendar days of any exceedance and submit a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.2, A.2.5 through A.2.8. NOx emissions were calculated based on a NOx emission factor of 0.05 lb/MMBTU. Compliance with mass emissions limits for all the above pollutants (except SO2) and the NOx emission factor shall be verified via source testing required by part A.1. Compliance with SO2 mass emissions limit shall be verified using District approved emission calculation methodology specified in part A.1.
(Basis: Cumulative Increase, BACT)

2. The owner/operator shall ensure annual natural gas usage at S-4009 and S-1013 does not exceed 699,435 Therms/oven/year (Annual Average Firing Rate: 7.98 MMBTU/oven/hour).
(Basis: Cumulative Increase)

J. Conditions for

A-3008 Regenerative Thermal Oxidizer #1; Maximum Hourly Firing Rate: 6.82 MMBTU/hour
A-1008 Regenerative Thermal Oxidizer #2; Maximum Hourly Firing Rate: 6.82 MMBTU/hour

1. In no event shall the combined annual combustion emissions from A-1008 and A-3008 exceed the following emission limits:

   Precursor Organic Compounds (POC)
   0.32 tons per year or 80 pound per month;

   Particulate Matter less than 10 microns (PM10)
   0.44 tons per year or 110 pounds per month;

   Oxides of Nitrogen (NOx)
   11.94 tons per year or 1.49 tons per month

   Carbon Monoxide (CO)
   47.79 tons per year or 5.97 tons per month

   Sulfur Dioxide (SO2)
   0.04 tons per year or 10 pounds per month

   In the event the above emission limits are exceeded, Tesla shall notify the District within 30 calendar days of any exceedance and submit a written report with the scheduled, monthly report to demonstrate that the overall North Paint Shop sources will not exceed the overall emissions limit specified in Condition A.2.2, A.2.5 through A.2.8. (Basis: Cumulative Increase)

2. The owner/operator shall ensure that the supplemental fuel used at A-1008 and A-3008 is PUC quality natural gas (Basis: Cumulative Increase)

3. The owner/operator shall not emit more than 50 ppmvd NOx @ 15% O2 (0.20 lbs/MMBtu) from A-1008 and A-3008 (Basis: RACT, Source Test Method 13A)

4. The owner/operator shall not emit more than 350 ppmvd CO @ 15% O2 (0.80 lbs/MMBtu) from A-1008 and A-3008 (Basis: RACT, Source Test Method 6)

5. The owner/operator shall maintain a minimum operating temperature of 1400 degrees F at A-1008 and A-3008 at all times when one or more sources abated by the thermal oxidizers are in operation. (Basis: BACT)

6. The owner/operator shall report any non-compliance with Part 5 of this permit condition to the Director of the Compliance & Enforcement Division at the time that it is discovered. The submittal shall detail the corrective action taken and shall include the data showing the exceedance as well at the time of occurrence.
   (Basis: Cumulative Increase, Regulation 2, Rule 5)

7. Within 60 days of starting up A-1008 and A-3008 and annually thereafter, the owner/operator shall conduct District approved source tests to determine initial compliance with the RACT limits in parts 3 and 4 of this permit condition. The owner/operator shall submit the source test results to the District's Source Test Section for review and approval within 60 days of performing the source test.
   (Basis: RACT, Cumulative Increase)

8. The owner/operator shall obtain approval of all source test procedures from the Manager of the District's Source Test Section prior to conducting any tests to demonstrate compliance with the limits in parts 3 and 4 of this permit condition. The owner/operator shall comply with all applicable testing requirements as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the Manager of the District's Source Test Section, in writing, of the source test protocols and projected test dates at least 7 days prior to testing.
   (Basis: RACT, Cumulative Increase)

9. The respective minimum temperature and abatement efficiency requirements for Thermal Oxidizers (A-1008 and A-3008) located at Tesla shall not apply during an "Allowable Temperature Excursion" below the minimum temperature requirement, provided that the controller set temperature is at or above the minimum temperature requirement. An Allowable Temperature Excursion is one of the following:

   a. A temperature excursion not exceeding 20 degrees F; or

b. A temperature excursion period or periods aggregating less than or equal to 15 minutes in any hour; or

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

i. There are no more than 2 excursions per facility (Plant No. 20459) per calendar day;

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

iii. There are no more than 5 excursions per facility (Plant No. 20459) per calendar month.

(Basis: Regulation 2-6-503)

10. Tesla shall keep sufficient records to demonstrate that they meet all qualifying criteria for Allowable Temperature Excursions, including but not limited to the following:

a. Starting date and time, and the duration of each Allowable Temperature Excursion;

b. Minimum temperature during each Allowable Temperature Excursion;

c. Number of Allowable Temperature Excursions (> 15 minutes) per abatement device per calendar month;

d. Total number of Allowable Temperature Excursions (> 15 minutes) for the entire facility per calendar month.

A summary of these records shall be included in Tesla's monthly report to the District.
(Basis: Regulation 2-6-503)

11. The District reserves the right to revise or revoke conditions 9 and 10 in the future if source operations change significantly such that the basis for granting this condition is no longer valid. (Basis: Regulation 2-1-403)

12. The owner/operator shall monitor and record the temperature of the thermal oxidizers on a continuous (measurements made at equally spaced intervals, not to exceed 15 minutes per interval) basis in a manner and with instrumentation acceptable to the District's Source Test Section. All temperature data shall be kept on file for a period of at least five years and shall be made available to the APCO upon request.
(Basis: Regulation 2-6-503)

13. For each thermal oxidizer in operation during production (coating vehicles, etc.), the owner/operator shall conduct bypass monitoring for each bypass line such that the valve or closure method cannot be opened without creating an alarm condition for which a record shall be made. The owner/operator shall maintain records of the bypass line(s) that was open and the length of time the bypass was open shall be kept on file for at least five years and shall be made available to the APCO upon request.
(Basis: Regulation 2-6-503)

14. The owner/operator shall keep records of maintenance inspections which include the dates, results of the inspections and the dates and reasons for repairs if made. The following items shall be inspected at the thermal oxidizers in order to demonstrate compliance with the applicable VOC emission limits:
    a. Validation of thermocouple accuracy or recalibration of each temperature thermocouple a minimum of once every 12 months. The thermocouple can be replaced in lieu of validation.

b. Perform a heat exchange/heat transfer media inspection a minimum of once every 12 months.

c. Perform an inspection of the valve seals condition and verify valve timing/synchronization a minimum of once every 12 months.

(Basis: Recordkeeping)

15. The owner/operator shall ensure annual natural gas usage at A-1008 and A-3008 does not exceed 597,432 Therms/thermal oxidizer/year.
(Basis: Cumulative Increase)

RECOMMENDATION:

Issue Tesla Authorities to Construct for the following equipment:

S-1003 Dry Sanding Booth #2
Emissions directly exhaust to the atmosphere unabated.

S-1008 Spray Booth #4 (Primer)
PM_{10} emissions abated by E-Scrub (A-10083)
POC emissions abated by thermal oxidizer (A-1008).

S-1009 Oven #7 (Primer);
Maximum Hourly Firing Rate: 15.09 MMBTU/hour
POC emissions abated by thermal oxidizer (A-1008).

S-1013 Oven #8 (Wet Sanding Booth);
Maximum Hourly Firing Rate: 12.8 MMBTU/hour
Emissions directly exhaust to the atmosphere unabated.

S-1014 Spray Booth #5 (Basecoat)
PM_{10} emissions abated by E-Scrub (A-10146)
POC emissions abated by thermal oxidizer (A-1008).

S-1015 Oven #10 (Clearcoat);
Maximum Hourly Firing Rate: 16.9 MMBTU/hour
POC emissions abated by thermal oxidizer (A-1008).

S-1803 Sealing Station #5
Emissions directly exhaust to the atmosphere unabated.

S-3008 Spray Booth #1 (Primer)

PM_{10} emissions abated by E-Scrub (A-30083)
POC emissions abated by thermal oxidizer (A-3008).

S-3009 Oven #2 (Primer);
Maximum Hourly Firing Rate: 15.09 MMBTU/hour
POC emissions abated by thermal oxidizer (A-3008).

S-3014 Spray Booth #2 (Basecoat)
PM_{10} emissions abated by E-Scrub (A-30145)
POC emissions abated by thermal oxidizer (A-3008).

S-3015 Oven #4 (Basecoat);
Maximum Hourly Firing Rate: 2.95 MMBTU/hour
POC emissions abated by thermal oxidizer (A-3008).

S-3016 Spray Booth #3 (Clearcoat)
PM_{10} emissions abated by E-Scrub (A-30165)
POC emissions abated by thermal oxidizer (A-3008).

S-3017 Oven #9 (Basecoat);
Maximum Hourly Firing Rate: 2.95 MMBTU/hour
POC emissions abated by thermal oxidizer (A-1008).

S-3018 Dry Sanding Booth #1
Emissions directly exhaust to the atmosphere unabated.

S-3025 Sealing Station #2
Emissions directly exhaust to the atmosphere unabated.

S-4004 Pretreatment Tank System
Emissions directly exhaust to the atmosphere unabated.

S-4005 E-Coat System
Emissions directly exhaust to the atmosphere unabated.

S-4006 Oven #1 (E-Coat);
Maximum Hourly Firing Rate: 15.19 MMBTU/hour
POC emissions abated by thermal oxidizer (A-3008).

S-4007 Sealing Station #1
Emissions directly exhaust to the atmosphere unabated.

S-4008 Sealing Station #3
Emissions directly exhaust to the atmosphere unabated.

S-4009 Oven #3 (Wet Sanding Booth);
Maximum Hourly Firing Rate: 12.8 MMBTU/hour
Emissions directly exhaust to the atmosphere unabated.

S-4010 Oven #5 (Clearcoat);
Maximum Hourly Firing Rate: 16.9 MMBTU/hour
POC emissions abated by thermal oxidizer (A-3008).

S-4011 Oven #6 (E-Coat);
Maximum Hourly Firing Rate: 15.19 MMBTU/hour
POC emissions abated by thermal oxidizer (A-1008).

S-4012 Sealing Station #4
Emissions directly exhaust to the atmosphere unabated.

S-4013 Sealing Station #6
Emissions directly exhaust to the atmosphere unabated.

4014 Spray Booth #6 (Clearcoat)
PM_{10} emissions abated by E-Scrub (30166)
POC emissions abated by thermal oxidizer (A-1008).

A-3008 Regenerative Thermal Oxidizer #1
Maximum Hourly Firing Rate: 6.82 MMBTU/hour
POC destruction efficiency: 95% by wt.
Abates POC emissions from S-3008, S-3009, S-3014, S-3015, S-3016, S-4006, & S-4010.

A-1008 Regenerative Thermal Oxidizer #2;
Maximum Hourly Firing Rate: 6.82 MMBTU/hour
POC destruction efficiency: 95% by wt.
Abates POC emissions from S-1008, S-1009, S-1014, S-1015, S-3017, S-4011, & 4014.

A-30083 E-Scrub
PM_{10} filter efficiency: 98%; outlet grain loading rate: 0.0015 gr/dscf
Abates PM_{10} emissions from S-3008

A-30145 E-Scrub
PM_{10} filter efficiency: 98%; outlet grain loading rate: 0.0015 gr/dscf
Abates PM_{10} emissions from S-3014

A-30165 E-Scrub
PM_{10} filter efficiency: 98%; outlet grain loading rate: 0.0015 gr/dscf
Abates PM_{10} emissions from S-3016

A-10083 E-Scrub
PM_{10} filter efficiency: 98%; outlet grain loading rate: 0.0015 gr/dscf
Abates PM_{10} emissions from S-1008

A-10146 E-Scrub
PM_{10} filter efficiency: 98%; outlet grain loading rate: 0.0015 gr/dscf
Abates PM_{10} emissions from S-1014

A-30166 E-Scrub
PM_{10} filter efficiency: 98%; outlet grain loading rate: 0.0015 gr/dscf
Abates PM_{10} emissions from 4014.

ENGINEERING EVALUATION
TESLA MOTORS, INC.; PLANT 20459
APPLICATION 24131

1.0 BACKGROUND

Tesla Motors, Inc. (Tesla) submitted this application for an Authority to Construct and/or Permit to Operate the following new source at their Fremont facility:

S3701 Powertrain Manufacturing and Assembly Operations

Besides permitting S3701, Tesla has requested the following permit condition change:

- **Modify permit condition #14210, part 1, to lower POC emissions limit applicable to S30960, General Cleaning and Paint Cleaning, from 321.03 tons per year (tpy) to 316.06 tpy. This will result in lowering total allowable POC emissions from S3701 by 4.97 tpy. The decrease in allowable POC emissions from S30960 will be used to offset the proposed increase from S3701.**

A description of the operation of S3701 is as follows:

l) Batteries are received from supplier and inspected for defects. Defective batteries returned to supplier.
m) Batteries are placed into powertrain assemblage train (plastic shell) and an epoxy coating is used to secure the batteries in the shell.
n) Epoxy is inspected before sending to curing station.
o) Epoxy cured in curing station.
p) Shell removed from curing station and taken to acrylic application station.
q) Acrylic applied to powertrain assemblage at application station.
r) Acrylic inspected to ensure unit will meet quality standards.
s) Powertrain assemblage sent to acrylic curing station.
t) Acrylic cured at station.
u) Electrical connections attached to assemblage.
v) Assemblage stored for installation into designated vehicle.

2.0 EMISSION CALCULATIONS

POC emissions:

- **Acrylic 1, Part A:**
  - Specific gravity = 0.97
  - VOC content (from MSDS) = 1.98%

Acrylic 1, Part A 4 VOC content = (specific gravity) * (density of water) * (wt% VOC)
= (0.97) * (8.33 lbs/gallon) * (0.0198)
= 0.16 lbs VOC/gallon

Acrylic 1, Part A POC emissions = (Quantity used) * (VOC content)

(15,700 gallons/year) * (0.16 lbs/gallon) * (ton/2,000 lbs) = **1.26 tpy**

- **Model S Epoxy 9:**
  - Density (from Product Data Sheet) = 1.07 g/ml
  - VOC content (from Product Data Sheet) = 4.61%

Model S Epoxy 9 VOC content = (density) * (wt% VOC)
= (0.0461) * (1.07 g/ml) * (lb/454 g) * (3785 ml/gal)
= 0.41 lbs VOC/gallon

Model S Epoxy 9 POC emissions = (Quantity used) * (VOC content)

(13,265 gallons/year) * (0.41 lbs/gallon) * (ton/2,000 lbs) = **2.72 tpy**

- **Acrylic 1, Part B:**
  - Specific gravity = 1.36
  - VOC content (from MSDS) = 1.90%

Acrylic 1, Part B VOC content = (specific gravity) * (density of water) * (wt% VOC)
= (1.36) * (8.33 lbs/gallon) * (0.019)
= 0.21 lbs VOC/gallon

Acrylic 1, Part B POC emissions = (Quantity used) * (VOC content)

(3,800 gallons/year) * (0.21 lbs/gallon) * (ton/2,000 lbs) = **0.40 tpy**

- **IPA:**
  (180 gallons/year) * (6.55 lbs/gallon) * (ton/2000 lbs) = **0.59 tpy**

Total POC emissions from S3701:

Acrylic 1, Part A:	1.26 tpy
Model S Epoxy 9:	2.72 tpy
Acrylic 1, Part B:	0.40 tpy
IPA:	0.59 tpy

Total POC emissions: **4.97 tpy**

Since S3701 will be operated 250 days per year, the average daily POC emissions from S3701 are:

POC = (4.97 tons/yr) / 250 calendar days/yr = 0.02 tons/day or **40 lbs/day**

NPOC emissions:

(370 gallons acetone/yr) * (6.59 lbs/gallon) * (ton/2,000 lbs) = **1.219 tpy**

Since S3701 will be operated 250 days per year, the average daily NPOC emissions from S3701 are:

NPOC = (1.219 tons/yr) / 250 calendar days/yr = 0.0048 tons/day or **9.6 lbs/day**

Proposed POC emissions from S3701 are 4.97 tpy. As stated earlier in the Background section, lowering POC emissions by the same amount from S30960 will offset the 4.97 tpy POC emissions increase from S3701. Hence, net facility-wide POC emission increase will be zero.

2.1 Plant Cumulative Increase:

The cumulative emission increase is ZERO for all the criteria pollutants because annual emissions for this plant are not increasing due to this application.

2.2 Toxics

Acrylic 1, Part B and IPA are the only powertrain materials containing toxic air contaminants (TAC) identified in Table 2-5-1 of the District Regulation 2, Rule 5.

TAC emissions from S3701 are shown below.

TAC	Hourly emissions (lbs/hr)	Acute TAC trigger level (lbs/hr)	Exceeds Acute TTL?	Annual emissions (lbs/yr)	Chronic TAC trigger level (lbs/yr)	Exceeds Chronic TTL?
Toluene	0.002	8.2E+01	No	8	1.2E+04	No
IPA	0.30	7.1E+00	No	1,180	2.7E+05	No

All toxic compound emissions are below their respective chronic and acute trigger levels; therefore, a health risk screening analysis pursuant to Regulation 2, Rule 1, and Section 316 is not required.

The toxic air contaminant emissions were calculated as follows:

Toluene emissions:

Annual emissions:

(Maximum potential POC emissions) (wt% toluene) = (0.40 tons/yr) (0.01) (2000 lbs/ton)
= 8 lbs/yr

Hourly emissions:

Annual Emissions (lbs/yr) / (250 days/yr) (16 hrs/day)
= (8 lbs/yr) / (4000 hrs/yr) = 0.002 lbs/hr

IPA emissions:

Annual emissions: 1,180 lbs/yr as calculated above in Section 2.0.

Hourly emissions:

Annual Emissions (lbs/yr) / (250 days/yr) (16 hrs/day)
= (1,180 lbs/yr) / (4000 hrs/yr) = 0.30 lbs/hr

2.3 Best Available Control Technology

In accordance with Regulation 2, Rule 2, Section 301, BACT is triggered for any new or modified source with the potential to emit 10 pounds or more per highest day of POC, NPOC, NOx, CO, SO_2 or PM_{10}. Based on the emission calculations above, Tesla is subject to BACT for POC emissions of 40 lbs/day.

The District does not have any specific BACT requirements for this kind of source category but requirements for Wipe Cleaning Operation presented in the BACT Workbook on page 179B.1, dated 2/04/93 can be used for S3701. BACT2 for POC is to minimize use of solvents; and use of controlled flow solvent dispenser (e.g., squeeze bottle); and all cloths/papers and solvents not in active use kept in closed containers. Tesla is expected to comply with BACT2 requirements by utilizing good operating practices. BACT1 is cleaning in a hood, booth, or room vented to a Carbon Adsorber or Afterburner with capture/destruction efficiency ≥90%.

S3701 occupies a 2,000 ft^2 area. OSHA ventilation requirement, 1910.94 Table G-10 applicable to the coating equipment used in powertrain operations, is a cross draft flow rate of 100 ft/minute. This will result in the total volume of air requiring abatement as 200,000 ft^3.

(2,000 ft^2) * (100 ft/min) = 200,000 f^3/min

The cost-effectiveness threshold for POC compounds is $17,500 of total annualized cost per ton of abated emissions, as specified in the BAAQMD BACT/TBACT Workbook. Annualized costs are determined using U.S. EPA's Con-Co$t spreadsheets. Please see Appendix A for Con-Co$t spreadsheets.

(i) Cost-effectiveness calculations for BACT

POC emissions

Reduction (tpy) = Emissions w/o Abatement device - Emissions with Abatement device
= 4.97 tpy – (4.97 tpy) (0.10)

= **4.473 tpy**

Note: Emission calculations above assume an overall POC capture and abatement efficiency of at least 90%.

The following table shows the cost of abating POC emissions using EPA Con-Co$t spreadsheet.

Option	Equipment	Annualized Cost ($)	Cost per ton POC ($)	Abatement Cost Greater than $17,500/ton
1	200,000 cfm Thermal Oxidizer	2,465,057	551,097	Yes
2	200,000 cfm Carbon Concentrator 25,000 cfm Thermal Oxidizer Total	410,000 383,235 793,242	 177,340	 Yes
3	200,000 cfm RTO	1,789,042	399,965	Yes
4	200,000 cfm Carbon Concentrator 25,000 cfm RTO Total	410,007 327,794 737,801	 164,945	 Yes
5	200,000 cfm Catalytic Thermal Oxidizer	1,793,740	401,015	Yes
6	200,000 cfm Carbon Concentrator 25,000 cfm Catalytic Thermal Oxidizer Total	410,007 278,752 688,759	 153,981	 Yes

The costs of these abatement devices exceed $17,500/ton and therefore it is not cost effective to implement abatement (BACT1) for POC emissions at S3701. Therefore, BACT is determined to be compliance with Regulation 8, Rule 4 (General Solvent and Surfacing Coating Operations).

2.4 Offsets

Offsets must be provided for any new or modified source at a facility that emits more than 10 tons/yr of POC or NOx. The District may provide offsets from the Small Facility Banking Account for a facility with emissions between 10 and 35 tons/yr of POC or NOx, provided that the facility has no available offsets. Since there is no increase in emissions at this plant as mentioned in Section 2 above, offsets are not required for this application.

As mentioned above in Background and Emissions Summary sections, lowering POC emissions by the same amount from S30960, General Cleaning and Paint Cleaning will offset 4.97 tpy POC

emissions increase from S3701. S30960 has been fully offset (Application 25397). Per Regulation 2-2-605.4, the baseline throughput and emission rates are based upon the levels allowed by the permit condition 14210. Application 25397 is the application that established the current emission cap in condition 14210 for this source. S30960 has always been operated in compliance with coating VOC content limit that meets the current District Regulation 8-13. Therefore, no RACT adjustment is required.

3.0 STATEMENT OF COMPLIANCE

S3701 is subject to and in compliance with District Regulation 8, Rule 4 (General Solvent and Surface Coating Operations) requirements including Section 8-4-302 as VOC emissions will not exceed 5 tons in any calendar year.

District Regulation 8, Rule 13 (Light and Medium Duty Motor Vehicle Assembly Plants) does not apply to S3701.

40 CFR Part 63, Subpart IIII, National Emissions Standards for Hazardous Air Pollutants: Surface Coating of Automobile and Light Duty Trucks, does not apply to S3701.

The application is considered to be ministerial under the District's CEQA 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 as outlined in the District Permit Handbook Chapter 6.3.

Notwithstanding ministerial classification, Regulation 2-1-312 provides eleven types of categorically exempt permits. Category 11 (Section 2-1-312.11.2) states:

> *A proposed new source or stationary source for which full offsets are provided in accordance with Regulation 2, Rule 2, and for which there will be no other significant environmental effect;*

The project is fully offset and is not expected to result in significant impacts on non-air environmental media. The BAAQMD form "Appendix H" and supplemental project information provided by Tesla, demonstrates that the proposed Powertrain Manufacturing and Assembly Operations meet the criteria for exemption under 2-1-312.11.2.

The facility is over 1,000 feet from the nearest school and is therefore not subject to the public notification requirements of Regulation 2-1-412.

PSD, NSPS, and NESHAPS do not apply.

4.0 PERMIT CONDITIONS

Conditions for S3701, Powertrain Manufacturing and Assembly Operations

1. The owner/operator of S3701 shall not exceed the following material usage limits in any consecutive twelve-month period:

a. Acrylic 1, Part A = 15,700 gallons
b. Model S Epoxy 9 = 13,265 gallons
c. Acrylic 1, Part B = 3,800 gallons
d. Isopropyl Alcohol = 180 gallons
e. Acetone = 370 gallons

[Basis: Cumulative Increase]

2. The owner/operator may use materials other than the materials specified in Part 1, and/or usages in excess of those specified in Part 1, may be used at S3701, provided that the owner/operator can demonstrate that the following are satisfied:

    a. Total precursor organic compound (POC) emissions from S3701 do not exceed 4.97 tons in any consecutive twelve-month period.
    b. Total non-precursor organic compound (NPOC) emissions from S3701 do not exceed 1.22 tons in any consecutive twelve-month period.
    c. The usage of these materials does not increase toxic emissions above any trigger level listed in Table 2-5-1 in District Regulation 2-5.

    [Basis: Cumulative Increase, Regulation 8-4-302.1]

3. To determine compliance with Parts 1 and 2 of the condition, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above conditions, including, but not necessarily limited to the following information:

    a. Type and monthly usage of all POC containing materials used at S3701;
    b. Type and monthly usage of all NPOC materials used at S3701;
    c. If a material other than those specified in Part 1 is used or a material specified in Part 1 is used in excess of the limit in Part 1, POC and toxic component contents of each material used; and mass emission calculations to demonstrate compliance with Part 2, on a monthly basis;
    d. 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 the District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District regulation.
    [Basis: Cumulative Increase]

4. The owner/operator of S3701 shall minimize POC and NPOC emissions using the following best management practices:

    a. Closed containers for the storage or disposal of any applicator or materials used for coating applications, solvent preparation or cleanup activities.
    b. Shall close containers for any solvent or coating when not in use.
    c. Shall use flow dispenser bottles or applicators for solvents and coating where practical.

    [Basis: BACT]

Modifications to Permit Condition # 14210

```
COND#  14210   -------------------------------------

     For
         S30960, GENERAL CLEANING AND PAINT CLEANING:

     1.  The owner/operator shall make sure that total annual emissions from
     S30960 General Cleaning do not exceed 316.06 tons per year or 40.13 tons
     per month of POC, unless the
     owner/operator notifies the Director of Enforcement within 30 calendar
     days of such an exceedance and submits a written report with the
     scheduled, monthly report to demonstrate that the overall North Passenger
     Paint Shop sources will not exceed the overall emissions limit specified
     in Part 5 of Condition 14205. (basis:Cumulative Increase)

     2.  The owner/operator shall make sure that clean-up solvent be collected
     and recovered at 65% or greater (overall), as
     demonstrated by comparing gross solvent usage records to throughput of
     solvent recovery tank and/or disposal records.  Monthly excursions below
     the percent recovery limit are allowed as long as the annual POC emission
     limit in Part 1 is not exceeded.
     (basis: BACT)

     3.  The owner/operator shall ensure that purged paint and solvent  be
     recovered in an enclosed collection system and shipped to a
     solvent recycler or proper disposal site.  (basis:BACT)
```

5.0 RECOMMENDATION

Staff recommends the following:

1. Waive Authority to Construct and issue Tesla a Permit to Operate for the following new source:

   S3701 Powertrain Manufacturing and Assembly Operations

2. Approve the following permit condition change applicable to S30960, General Cleaning and Paint Cleaning:

   - **Modify permit condition #14210, part 1, to lower POC emissions from S30960, General Cleaning and Paint Cleaning, from 321.03 tons per year to 316.06 tons per year.**

By: _____ _____

Sanjeev Kamboj Date
Senior Air Quality Engineer

TESLA MOTORS, INC.; PLANT 20459
APPLICATION 25204

1.0 BACKGROUND

Tesla Motors, Inc. (Tesla) submitted this application for an Authority to Construct and/or Permit to Operate the following new source at their Fremont facility:

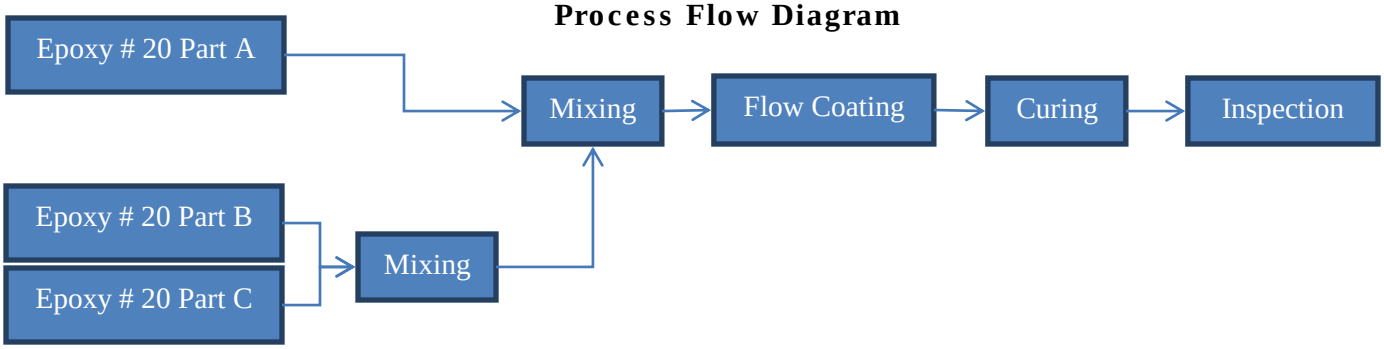
S3716 Powertrain Motor Line Coating and Assembly Operations abated by A3716, Airflow Systems F240 Carbon Adsorption Unit

Besides permitting S3716, Tesla has requested the following permit condition change:

- **Modify permit condition #14210, part 1, to lower POC emissions limit applicable to S30960, General Cleaning and Paint Cleaning, from 316.06 tons per year (tpy) to 310.76 tpy. This will result in lowering total allowable POC emissions from S30960 by 5.30 tpy. The decrease in allowable POC emissions from S30960 will be used to offset the proposed increase from S3716.**

In this process, Powertrain components are encapsulated using a 3-part epoxy. Epoxy #20 is mixed, applied to the part and cured.

Process Flow Diagram



4.0 EMISSION CALCULATIONS

POC emissions:

- **Epoxy #20:**
  - Composite VOC content (from Technical Data Sheet) = 1.1 lbs/gallon
  - Proposed annual usage amount = 46, 200 gallons
  - 250 days per year operation of S3716

  Unabated POC emissions = (Quantity used) * (VOC content)

  (46,200 gallons/year) * (1.1 lbs/gallon) * (ton/2,000 lbs) = **25.41 tpy** (50,820 lb/yr or 139.23 lb/day)

Please note that applied materials will be combined to form an electrical insulating varnish. Therefore, to accurately assess the total VOC content of the applied materials the approved EPA alternative method ASTM D6053-96 was used by the manufacturer in lieu of Method 24. ASTM

D6053-96 can be used in lieu of Method 24 for determining VOC content for electrical insulating varnishes. The appropriate regulation can be found in the Federal Register/Vol 72, No. 19/Tuesday, January 30, 2007 page 4259. A copy of the applicable regulation is included in Appendix A of the evaluation.

Tesla will vent POC emissions from S3716 to Airflow Systems F240 carbon adsorption unit (A3716).

Total potential POC emissions, after abatement, were calculated as follows:

Captured emissions = (Device capture efficiency) * (unabated potential emissions)

Lost "captured" emissions = (1- Device capture efficiency) * (unabated potential emissions)

After abatement emissions = (Captured emissions) * (removal efficiency)

Default capture efficiency = 88% (reference NUMMI Permit Application 13654, Page 18)

Minimal destruction efficiency per District BACT guideline for Flow Coater, Dip Tank and Roller Coater (Document #: 84.2.1) = 90%

Potential unabated POC emissions = 25.41 tpy

Captured emissions = (0.88) * (25.41 tpy) = 22.36 tpy to A3716
Lost "captured" emissions = (1-0.88) * (25.41 tpy) = 3.05 tpy

After abatement emissions: (22.36 tpy) * (1-0.90) = 2.24 tpy to environment

After abatement emissions = Lost "captured" emissions + After abatement emissions
= 3.05 tpy + 2.24 tpy

Total after abatement POC emissions = **5.30 tpy** (10,600 lb/yr or 42.4 lb/day)

Proposed POC emissions from S3716 are 5.30 tpy. As stated earlier in the Background section, lowering POC emissions by the same amount from S30960 will offset the 5.30 tpy POC emissions increase from S3716. Hence, net facility-wide POC emission increase will be zero.

Carbon Breakthrough Calculation:

The maximum annual uncontrolled S3716, Powertrain Motor Line Operations, potential VOC emissions of 50,800 lbs (or 25. 41 tpy) as calculated above.

Assume 90% carbon adsorption capacity,

(5000 lbs carbon/all units) (0.90) / (50,800 lbs POC/yr) = 0.09 years = 32 days to breakthrough.

Therefore, the carbon is expected to have an effective operating life of 32 days, before it should be replaced.

It can be concluded that replacing carbon in the F240 Carbon Adsorption Unit, A3716, at least every 32 days will ensure that there are "no detectable emissions", i.e., no more than 10 ppmv of organic compound emissions, at A3716's exhaust. A requirement for testing and documenting exhaust concentrations on a weekly basis will be included in the permit condition.

2.1 Plant Cumulative Increase:

The cumulative emission increase is ZERO for all the criteria pollutants because annual emissions for this plant are not increasing due to this application.

2.4 Toxics

Mixing ratio for Epoxy #20 is: 100 Part A + 100 Part B + 0.7 Part C – by weight.

Tesla sent the constituents to McCampbell Analytical Laboratory in Pittsburgh, CA where they were mixed to make Epoxy #20. The epoxy was placed into a 40 ml Volatile Organic Analyzer (VOA) and allowed to cure, untouched, for 24 hours. Afterwards, a known amount of air space in the VOA was transferred to a clean VOA by piercing through the septa with a syringe for 8260 analysis. The analysis was for air toxics listed on the MSDS for Epoxy #20.

The analytical results were as follows (copy included in Appendix B):

- 2-Butanone (MEK) = 2,200,000 µg/m^3
- Ethyl benzene = 39,000 µg/m^3
- Styrene = 1,200,000 µg/m^3

The analytical results were used to calculate Toxic Air Contaminant (TAC) emissions:

MEK = (2,200,000 µg/m^3)(lb/454,000,000 µg)(m^3/264 gal) = 1.83 x10^{-5} lbs MEK/gallon epoxy

Ethyl benzene = (39,000 µg/m^3)(lb/454,000,000 µg)(m^3/264 gal) = 3.25 x10^{-7} lbs Ethyl benzene/gallon epoxy

Styrene = (1,200,000 µg/m^3)(lb/454,000,000 µg)(m^3/264 gal) = 1.0 x10^{-5} lbs Styrene/gallon epoxy

Annual TAC emissions = (mass/gallon)(total gallons)

MEK = (1.83 x10^{-5} lbs MEK/gallon epoxy)(46,200 gallons epoxy) = 0.85 lbs/year

Ethyl benzene = (3.25 x10^{-7} lbs Ethyl benzene/gallon epoxy)(46,200 gallons epoxy) = 0.02 lbs/year

Styrene = (1.0 x10^{-5} lbs Styrene/gallon epoxy)(46,200 gallons epoxy) = 0.46 lbs/year

TAC emissions Summary Table

TAC	Hourly emissions (lbs/hr)	Acute TAC trigger level (lbs/hr)	Exceeds Acute TTL?	Annual emissions (lbs/yr)	Chronic TAC trigger level (lbs/yr)	Exceeds Chronic TTL?
MEK	2.2E-04	2.9E+01	No	0.85	N/A	No
Styrene	1.15E-04	4.6E+01	No	0.46	3.5E+04	No
Ethyl benzene	5.0E-06	N/A	N/A	0.02	4.3E+01	No

All toxic compound emissions are below their respective chronic and acute trigger levels; therefore, a health risk screening analysis pursuant to Regulation 2, Rule 1, and Section 316 is not required.

2.5 Best Available Control Technology

In accordance with Regulation 2, Rule 2, Section 301, BACT is triggered for any new or modified source with the potential to emit 10 pounds or more per highest day of POC, NPOC, NOx, CO, SO_2 or PM_{10}. Based on the emission calculations above, Tesla is subject to BACT for POC emissions of 139.23 lbs/day.

The BACT handbook, document # 84.2.1, includes guidelines for dip/roller coaters, which are reproduced below:

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Best Available Control Technology (BACT) Guideline

Source Category

Source:	***Flow Coater, Dip Tank and Roller Coater***	Revision:	***1***
		Document #:	***84.2.1***
Class:	***Emissions ≥36 lb/day (Uncontrolled)***	Date:	***08/30/91***

Determination

POLLUTANT	BACT 1. Technologically Feasible/ Cost Effective 2. Achieved in Practice	TYPICAL TECHNOLOGY
POC	1. *Coating w/ lower VOC content than applicable BAAQMD rules, and emissions from coating area, drying area, and oven vented to control device w/ overall capture/ destruction efficiency ≥90%*[b] 2. *Coating w/ VOC content complying w/ applicable BAAQMD rules, and emissions from coating area, drying area, and oven vented to control device w/ overall capture/destruction efficiency ≥90%*[b]	1. *Collection System Vented to Carbon Adsorber or Thermal Incinerator or Catalytic Incinerator*[b] 2. *Collection System Vented to Carbon Adsorber or Thermal Incinerator or Catalytic Incinerator*[b]
NOx	1. *n/a* 2. *n/a*	1. *n/a* 2. *n/a*
SO_2	1. *n/a* 2. *n/a*	1. *n/a* 2. *n/a*
CO	1. *n/a* 2. *n/a*	1. *n/a* 2. *n/a*
PM_{10}	1. *n/a* 2. *n/a*	1. *n/a* 2. *n/a*
NPOC	1. *Coating w/ lower solvent content than applicable BAAQMD rules, and emissions from coating area, drying area, and oven vented*	1. *Collection System Vented to Carbon Adsorber*[b]

	to control device w/ overall capture/ destruction efficiency ≥90%[b] 2. *Coating w/ solvent content complying w/ applicable BAAQMD rules, and emissions from coating area, drying area, and oven vented to control device w/ overall capture/destruction efficiency ≥90%*[b]	2. *Collection System Vented to Carbon Adsorber*[b]

References

b. BAAQMD

Tesla is expected to comply with both BACT1 and BACT2 requirements as POC emissions from S3716 will be abated by A3716, F240 Carbon Adsorption Unit. A3716 will have an overall capture/destruction efficiency ≥90%. Tesla has submitted a source test report that shows capture/destruction efficiency of 96.6%. Source test was conducted by Blue sky Environmental, Inc. on November 29, 2012. Please refer to Appendix C for complete source test report. A requirement to conduct an annual source test will also be included in the S3716 permit condition.

2.4 Offsets

Offsets must be provided for any new or modified source at a facility that emits more than 10 tons/yr of POC or NOx. The District may provide offsets from the Small Facility Banking Account for a facility with emissions between 10 and 35 tons/yr of POC or NOx, provided that the facility has no available offsets. Since there is no increase in emissions at this plant as mentioned in Section 2 above, offsets are not required for this application.

As mentioned above in Background and Emissions Summary sections, lowering POC emissions by the same amount from S30960, General Cleaning and Paint Cleaning will offset 5.30 tpy POC emissions increase from S3716. S30960 has been fully offset (Application 25397). Per Regulation 2-2-605.4, the baseline throughput and emission rates are based upon the levels allowed by the permit condition 14210. Application 25397 is the application that established the current emission cap in condition 14210 for this source. S30960 has always been operated in compliance with coating VOC content limit that meets the current District Regulation 8-13. Therefore, no RACT adjustment is required.

5.0 STATEMENT OF COMPLIANCE

S3716 is subject to and in compliance with District Regulation 8, Rule 51 (Adhesive and Sealant Products) requirements including Section 8-51-305 as it will be abated by A3716, Carbon Adsorption Unit. A3716 will have an overall abatement efficiency of at least 90%.

District Regulation 8, Rule 13 (Light and Medium Duty Motor Vehicle Assembly Plants) does not apply to S3716.

40 CFR Part 63, Subpart IIII, National Emissions Standards for Hazardous Air Pollutants: Surface Coating of Automobile and Light Duty Trucks, does not apply to S3716.

The application is considered to be ministerial under the District's CEQA 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 as outlined in the District Permit Handbook Chapter 6.3.

Notwithstanding ministerial classification, Regulation 2-1-312 provides eleven types of categorically exempt permits. Category 11 (Section 2-1-312.11.2) states:

6.0 A proposed new source or stationary source for which full offsets are provided in accordance with Regulation 2, Rule 2, and for which there will be no other significant environmental effect;

7.0

8.0 The project is fully offset and is not expected to result in significant impacts on non-air environmental media. The BAAQMD form "Appendix H" and supplemental project information provided by Tesla, demonstrates that the proposed Powertrain Motor Line Coating and Assembly Operations meet the criteria for exemption under 2-1-312.11.2.

The facility is over 1,000 feet from the nearest school and is therefore not subject to the public notification requirements of Regulation 2-1-412.

PSD, NSPS, and NESHAPS do not apply.

4.0 PERMIT CONDITIONS

Conditions for S3716, Powertrain Motor Line Coating and Assembly Operations abated by A3716, Airflow Systems F240 Carbon Adsorption Unit

MATERIAL USAGE / EMISSIONS LIMITATIONS

1. The owner/operator of S3716 shall not use more than 46,200 gallons of Epoxy #20 in any consecutive twelve-month period. [Basis: Cumulative Increase, BACT]
2. The owner/operator may use materials other than the material specified in Part 1, and/or usage in excess of that specified in Part 1, may be used at S3716, provided that the owner/operator can demonstrate that the following are satisfied:
    a. Total precursor organic compound (POC) emissions from S3716 do not exceed 5.30 tons in any consecutive twelve-month period.
    b. The usage of these materials does not increase toxic emissions above any trigger level listed in Table 2-5-1 in District Regulation 2-5.

    [Basis: Cumulative Increase, BACT]
3. To determine compliance with Part 1 of this permit condition, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above conditions, including, but not necessarily limited to the following information:
    a. Type and monthly usage of all POC containing materials used at S3716;
    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 in Part 1, POC and toxic component contents of each material used; and mass emission calculations to demonstrate compliance with Part 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 the District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District regulation.

[Basis: Cumulative Increase, BACT]

EMISSION CONTROL EQUIPMENT

4. The owner/operator shall vent POC emissions from S3716 at all times to A3716, Carbon Adsorption Unit, with minimal 90% capture/destruction efficiency. [Basis: Cumulative Increase, BACT, Regulation 8-51-305]
5. The owner/operator shall replace carbon media with fresh carbon when the non-methane hydrocarbon (NMHC) concentration in the exhaust from the carbon media exceeds either of the following:
    a. 10% of the inlet steam concentration, or
    b. 10 ppmv (measured as C1)
   [Basis: Cumulative Increase, BACT]
6. In order to demonstrate compliance with Parts 4 and 5 of this permit condition, the owner/operator shall conduct a District approved source test on A3716 once per calendar year in accordance with the District's Manual of Procedures. 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, a comprehensive report of the test results shall be submitted to the Manager of the District's Source Test Section for review and disposition. [Basis: BACT]
7. The owner/operator of A3716 shall monitor NMHC concentration of the process exhaust gas at exhaust outlet for A3716 with a photo-ionization detector (PID), flame-ionization detector (FID), or other method approved in writing by the District. When using an FID to monitor A3716, readings may be taken with and without a carbon filter tip fitted on the FID probe. Concentrations measured with the carbon filter tip in place shall be considered methane and are not counted as NMHC. [Basis: Cumulative Increase, BACT]
8. The owner/operator shall record monitor readings required by Part 7 in a District-approved log at the time they are taken. The monitoring results shall be used to estimate the frequency of carbon change-out necessary to maintain compliance with Part 5, and shall be conducted on a weekly basis. The owner/operator of S3716 may propose for District review, based on actual measurements taken at the site during operation of the source, that the monitoring schedule be changed based on the decline in organic emissions and/or the demonstrated breakthrough rate of carbon. Written approval by the District's Permit Evaluation Section must be received by the owner/operator prior to a change to the monitoring schedule. [Basis: Cumulative Increase, BACT]
9. The owner/operator shall maintain following records for A3716:
    a. Monitoring readings taken per Part 7 of the permit condition
    b. Amount and dates of carbon replacement
    c. Amount and dates of carbon removal

All records shall be retained on site for five years, from the date of entry and made available for inspection by the District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District regulation.
[Basis: Cumulative Increase, BACT]

<u>Modifications to Permit Condition # 14210</u>

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COND#  14210   -------------------------------------

     For
         S30960, GENERAL CLEANING AND PAINT CLEANING:

     1.  The owner/operator shall make sure that total annual
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emissions from S30960 General Cleaning do not exceed 316.06 tons per year or 40.13 tons per month of POC, unless the owner/operator notifies the Director of Enforcement within 30 calendar days of such an exceedance and submits a written report with the scheduled, monthly report to demonstrate that the overall North Passenger Paint Shop sources will not exceed the overall emissions limit specified in Part 5 of Condition 14205. (basis: Cumulative Increase)

2. The owner/operator shall make sure that clean-up solvent be collected and recovered at 65% or greater (overall), as demonstrated by comparing gross solvent usage records to throughput of solvent recovery tank and/or disposal records. Monthly excursions below the percent recovery limit are allowed as long as the annual POC emission limit in Part 1 is not exceeded. (basis: BACT)

3. The owner/operator shall ensure that purged paint and solvent be recovered in an enclosed collection system and shipped to a solvent recycler or proper disposal site. (basis: BACT)

5.0 RECOMMENDATION

Staff recommends the following:

1. Waive Authority to Construct and issue Tesla a Permit to Operate for the following new source:

S3716 Powertrain Motor Line Coating and Assembly Operation abated by A3716, Airflow Systems F240 Carbon Adsorption Unit

2. Approve the following permit condition change applicable to S30960, General Cleaning and Paint Cleaning:

- **Modify permit condition #14210, part 1, to lower POC emissions from S30960, General Cleaning and Paint Cleaning, from 316.06 tons per year to 310.76 tons per year.**

By: _____

Sanjeev Kamboj Date
Senior Air Quality Engineer