TENNESSEE AIR POLLUTION CONTROL BOARD
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37243-1531

Permit to Construct or Modify an Air Contaminant Source Issued Pursuant to Tennessee Air Quality Act

Date Issued: **June 6, 2000**

Permit Number: **952233**

Date Expires: **December 31, 2005**

Issued To:
Saturn Corporation

Installation Address:
Highway 31 South
Spring Hill

Installation Description:
Automotive Manufacturing Facility
Listing of Sources in Table 1 - Emission Sources

Emission Source Reference No.
60-0132

PSD (BACT) for New and Modified Emissions Sources – Plantwide Applicability Limits

The holder of this permit shall comply with the conditions contained in this permit as well as all applicable provisions of the Tennessee Air Pollution Control Regulations.

CONDITIONS:

1. The application that was utilized in the preparation of this permit is dated October 26, 1999 and signed by Tom Denning, Vice President of Manufacturing of the permitted facility. If this person terminates his employment or is reassigned different duties such that he is no longer the responsible person to represent and bind the facility in environmental permitting affairs, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification shall be in writing and submitted within thirty (30) days of the change. The notification shall include the name and title of the new person assigned by the source owner or operator to represent and bind the facility in environmental permitting affairs. All representations, agreement to terms and conditions and covenants made by the former responsible person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the facility until such time that a revision to this permit is obtained that would change said representations, agreements and covenants.

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TECHNICAL SECRETARY

No Authority is Granted by this Permit to Operate, Construct, or Maintain any Installation in Violation of any Law, Statute, Code, Ordinance, Rule, or Regulation of the State of Tennessee or any of its Political Subdivisions.

NON TRANSFERABLE

POST AT INSTALLATION ADDRESS

CONTENTS

EMISSION SOURCES

The Saturn facility includes the following emission sources:

Table 1

ESRN NO.	EMISSION SOURCE DESCRIPTION	STATUS	BUSINESS UNIT
12	Pattern Making for Lost Foam Casting	1	Powertrain
13	Iron Melting	1	Powertrain
14/26	Aluminum Melter/Holder Furnaces, Melting, Holding, and Pouring	1	Powertrain
18	Iron Casting Finishing and Shot Blasting	1	Powertrain
19	Aluminum Die Casting	1	Powertrain
20	Aluminum Lost Foam Sand System	1	Powertrain
21	Iron Lost Foam Sand System and Pouring	1	Powertrain
22	Sand Storage Silos	1	Powertrain
24	Aluminum Head and Block Mold Shakeout	1	Powertrain
25	Iron Mold Shakeout	1	Powertrain
28	Lost Foam Heat Treating	1	Powertrain
30	Parts Cleaning	1	Powertrain
31	Heat Treat Shot Peening	1	Powertrain
51	Aluminum Head and Block Mold Cooling	1	Powertrain
52	Iron Mold Cooling	1	Powertrain
53	Aluminum Head and Block Line Plastic Shot Blasting	1	Powertrain
54	Maintenance and Tool Room Welding, Steam Cleaning Booth	1	Powertrain
55	Engine & Transmission Machining	1	Powertrain
57	Endo Gas Generators for Heat-Treating Gears & Shafts	1	Powertrain
58	10 Ten Heat Treat/Oil Quench Furnaces for Gears & Shafts	1	Powertrain
60	On-Line Robotic RTV Application	1	Powertrain
61	Off-Line Robotic RTV Application	1	Powertrain
64	Maintenance Grinding	1	Powertrain
99	(2) Natural Gas Fired Boilers	1	Powertrain
11	New Powertrain Machining Line	3	Powertrain
03	New Engine Assembly Line	3	Powertrain
06	Body Fabrication	1	Body Systems
32	Space Frame and Sheet Metal E-Coat System	2	Body Systems
33	Major Panel Topcoat Operations	2	Body Systems
36	Major Panel Prime System	2	Body Systems
37/39	Fascia/ Reprocess Topcoat (Basecoat & Clearcoat)	2	Body Systems
67/38	Fascia/ Service Parts Prime	1	Body Systems
35/40	Space Frame Underbody PVC/Seam Seal Application/Blackout	2	Body Systems
41	Miscellaneous Operations	2	Body Systems
65	Fascia Adhesion Promoter Spray Booth	1	Body Systems
98	Hot Water Heaters	1	Body Systems
08	Panel Coat (Adhesive)	1	Vehicle Systems
09	Instrument Panel Foaming	1	Vehicle Systems
45	Etch/Prime Black Glass Application	1	Vehicle Systems

Status Designations:
1 – Existing emissions unit as described in the application dated October 26, 1999.
2 – Existing emissions unit modified as described in the application dated October 26, 1999.
3 – New emissions unit as described in the application dated October 26, 1999.

Table 1 (continued)

ESRN NO.	EMISSION SOURCE DESCRIPTION	STATUS	BUSINESS UNIT
49	Car Start, Roll Test, Toe-Set and Repair Operations	1	Vehicle Systems
50	Combined Final Assembly Repair	1	Vehicle Systems
66	Door Seal Adhesive Operation	1	Vehicle Systems
10	New Final Assembly Line	3	Vehicle Systems
01	Site-Wide Products of Combustion	3	N/A

Status Designations:
1 – Existing emissions unit as described in the application dated October 26, 1999.
2 – Existing emissions unit modified as described in the application dated October 26, 1999.
3 – New emissions unit as described in the application dated October 26, 1999.

Information Relied Upon:

Saturn PSD – PAL Application dated October 26, 1999 and Air Quality Modeling Analysis dated January 18, 2000.

SECTION A

PREVENTION OF SIGNIFICANT DETERIORATION

A.

A.1. New and Modified Sources

A.1.1. The Saturn facility in Spring Hill Tennessee includes the following new and modified emission sources identified in Table 1:

A.1.1.1. New Emission Sources – ESRN 11, ESRN 03, ESRN 10, and ESRN 01

A.1.1.2. Modified Emission Sources – ESRN 32, ESRN 33, ESRN 36, ESRN 37/39, ESRN 35/40, and ESRN 41

A.1.2. The plantwide applicability limits (PALs) specified in Section B of this permit are based on the emissions unit's technical specifications and control technologies in the application dated October 26, 1999 for this permit.

A.1.3. For each emission source identified in A.1.1**,** Saturn shall perform an initial one-time demonstration that the source and control technology are in place and operating consistent with the application. The demonstration shall be:

A.1.3.1. Completed within 180 days of start-up of the new or modified source or on a schedule approved by TDEC.

A.1.3.2. Conducted pursuant to applicable performance tests specified in Section C.1 of this permit or otherwise approved by TDEC.

A.1.4. The level of performance and emissions unit control technologies in the application dated October 26, 1999 and identified in Tables 2, 3, 4, and 5 of this permit are inherent in the PALs specified in Section B of this permit. Saturn must continue to use the control technology described in the application, or alternative control technology (including pollution prevention and alternative configurations) agreed to by TDEC. Compliance for each emissions unit is determined solely by the PALs specified in Section B of this permit. Provided compliance with the PALs specified in Section B is demonstrated, Saturn is in compliance with all Tennessee and Federal minor and major new source review requirements for emission sources covered by this permit.

A.1.5. This permit supersedes all operating and construction permits previously issued by TDEC for the emission sources covered by this permit. Upon issuance, this permit shall serve as the facility's construction permit and as a temporary operating permit until the receipt of a major source (Title V) operating permit, provided the major source operating permit, recording the requirements of this permit, is applied for as specified in condition B.11.1.1 of this permit.

A.2. Supplemental Requirements

A.2.1. For any emissions source identified in A.1.1 requiring an increase in the discharge height of the exhaust stack serving the source, Saturn shall make such changes prior to commencing operation after construction or modification.

A.2.1.1. Based on the ambient air quality impacts analysis dated January 18, 2000, the discharge heights of the following Body Systems stacks (associated with emissions units to be modified) must be raised at least by an additional 22 feet:

A.2.1.1.1. BSFB1, BSFC1, BSMPB1, BSMPB2, BSMPC1, BSMPC2, BSMPP1, and BSRPC1

A.2.2. For any existing emissions source identified in Table 1 requiring an increase in the discharge height of the exhaust stack serving the source, Saturn shall submit a proposed schedule for the stack height increases to TDEC within 180 days of the effective date of this permit.

A.2.2.1. Based on the ambient air quality impacts analysis dated January 18, 2000, the discharge heights of the following Powertrain stacks (associated with existing emissions units) must be raised at least by an additional 11 feet:

A.2.2.1.1. PT-136, PT-139, PT-144, PT-145, PT-146, and PT-155

A.2.2.2. Based on the ambient air quality impacts analysis dated January 2000, the discharge height of stack PT-147 in Powertrain (associated with an existing emissions unit) must be raised at least by an additional 65 feet.

A.2.3. Saturn may, at any time, re-evaluate the need to raise the exhaust discharge height of any emission sources identified in Table 1 based on the availability of new information that may affect modeled impacts.

A.2.3.1. The re-evaluation shall include an ambient air quality impacts analysis that demonstrates compliance with applicable PSD increments, and National Ambient Air Quality Standards (NAAQS), and addresses impacts, if any to Air Quality Related Values (AQRVs) of the nearest Class I areas by using the parameters resulting from the proposed alternative discharge configuration.

A.2.4. Commencement of Construction

A.2.4.1. If Saturn does not begin construction of at least one project described in the October 26, 1999 application within 18 months from the effective date of this permit, this construction permit is no longer valid. Projects identified in the October 26, 1999 application are no longer authorized to proceed, except in accordance with the provisions of B.10, if construction activities on these projects are discontinued for a period of 18 months or more, or if construction of these projects is not completed within 18 months of the completion date (July 30, 2004) specified on the construction permit application (letter dated April 7, 2000).

SECTION B

PLANTWIDE APPLICABILITY LIMITS

B.

B.1. Volatile Organic Compounds (VOC)

B.1.1. VOC emissions shall not exceed the plantwide applicability limit (PAL) that corresponds to the production levels identified below:

Production Rate[a] (vehicles/year)	Allowable VOC Emissions[b] (tons/year)
up to 300,000	1134
300,000 to 400,000	1319
400,000 to 500,000	1502
greater than 500,000	1563

[a] Production measured as finished vehicles exiting the final assembly operation.

[b] Allowable emissions as expressed on a rolling 12-month total basis.

B.1.2. Compliance with the VOC PAL shall be based on a rolling 12-month total VOC emission rate and shall be determined within 30 days of the end of each calendar month.

B.1.3. The monthly site VOC emission rate is the sum of the actual monthly VOC emission rates from the emissions units identified in Table 2.

B.1.4. Individual monthly VOC emission rates shall be compiled for each source identified in Table 2 using the methodology described in Table 2.

B.1.5. VOC emissions from the Saturn integrated automobile manufacturing facility shall be limited to 198.5 tons/month.

B.1.6. Compliance with the VOC limit specified in Condition B.1.5 shall be determined within 30 days of the end of each calendar month .

B.2. Particulate Matter less than 10 Microns (PM)

B.2.1. PM emissions shall not exceed the PAL of 205 tons per year.

B.2.2. Compliance with the PM PAL shall be based on a rolling 12-month total PM emission rate and shall be determined within 30 days of the end of each calendar month.

B.2.3. The monthly site PM emission rate is the sum of the actual monthly PM emission rates from the emissions sources identified in Table 3.

B.2.4. Individual monthly PM emission rates shall be compiled for each source identified in Table 3 using the methodology described in Table 3.

B.3. Oxides of Nitrogen (NO_x)

B.3.1. NO_x emissions shall not exceed the PAL of 190 tons per year.

B.3.2. Compliance with the NO_x PAL shall be based on a rolling 12-month total NO_x emission rate and shall be determined within 30 days of the end of each calendar month.

B.3.3. The monthly site NO_x emission rate is the sum of the actual monthly NO_x emission rates from the emissions sources identified in Table 4.

B.3.4. Individual monthly NO_x emission rates shall be compiled for each source identified in Table 4 using the methodology described in Table 4.

B.4. Sulfur Dioxide (SO_2)

B.4.1. SO_2 emissions shall not exceed the PAL of 39 tons per year.

B.4.2. Compliance with the SO_2 PAL shall be based on a rolling 12-month total SO_2 emission rate and shall be determined within 30 days of the end of each calendar month.

B.4.3. The monthly site SO_2 emission rate is the sum of the actual monthly SO_2 emission rates from the emissions sources identified in Table 4.

B.4.4. Individual monthly SO_2 emission rates shall be compiled for each source identified in Table 4 using the methodology described in Table 4.

B.5. Carbon Monoxide (CO)

B.5.1. CO emissions shall not exceed the PAL of 220 tons per year.

B.5.2. Compliance with the CO PAL shall be based on a rolling 12-month total CO emission rate and shall be determined within 30 days of the end of each calendar month.

B.5.3. The monthly site CO emission rate is the sum of the actual monthly CO emission rates from the emissions sources identified in Table 5.

B.5.4. Individual monthly CO emission rates shall be compiled for each source identified in Table 5 using the methodology described in Table 5.

B.6. Compliance with all PAL ton per year limits shall be determined for each pollutant on a monthly basis by adding the current month's actual emission rate to the actual emission rates calculated for the preceding 11 months.

B.7. Natural gas shall be the only fuel burned in stationary emissions sources.

B.8. The PAL for each regulated pollutant shall be periodically reviewed and adjusted, if warranted, under the following circumstances:

B.8.1. Within 180 days after achieving a 12-month total vehicle production level of 595,350 vehicles, TDEC will revise the permit to reset the PALs specified in Sections B.1.1, B.2.1, B.3.1, B.4.1, and B.5.1 of this permit to levels consistent with the actual facility emission levels achieved during the same 12-month period, provided that the reset levels: do not exceed the PALs specified in Sections B.1.1, B.2.1, B.3.1, B.4.1, and B.5.1 of this permit (except in accordance with B.8.6); include an operating margin equivalent to the major modification threshold for each pollutant as identified in Table 6; and are based on the annual emissions identified for ESRN 01(Site-wide Products of Combustion) in the application dated October 1999. The effective date of the reset PALs will be 45 days after issuance of the revised permit. Upon the effective date of the revised permit under B.8.1, the PALs specified in Sections B.1.1, B.2.1, B.3.1, B.4.1, and B.5.1 of this permit will no longer apply.

B.8.2. New regulatory requirements become applicable to the facility during the term of the permit.

B.8.3. Changes in sampling, monitoring, or other similar procedures that impact reported emissions without changing actual emission rates.

B.8.4. Adjustments to reflect new applicable requirements will be made through a permit revision in the following manner:

B.8.4.1. The PAL will be adjusted as of the compliance date of the new applicable requirement.

B.8.4.2. The reduction in the PAL level will reflect the impact the new applicable requirement would have had on the emissions sources affected by the applicable requirement.

B.8.5. The initial compliance date for meeting reset PALs under B.8.1 and any adjusted PAL under B.8.4 will be the first 12 months following the effective date of the reset or adjusted PAL.

B.8.6. Saturn shall not construct new emission sources or modify existing emission sources such that any PALs identified in Section B of this permit are exceeded unless this permit is revised in accordance with Chapter 1200-3-9 (Construction and Operating Permits) of the Tennessee Air Pollution Control Regulations for the new or modified source that will require increasing a PAL.

B.9. PAL Renewal and Termination

B.9.1. The PALs expire 10 years from the effective date of this permit unless an application to renew the PALs has been filed by Saturn with TDEC 180 days prior to the ten-year anniversary date of the effective date of this permit. PALs adjusted under B.8 will remain in effect for the duration of the 10-year permit term. The terms and conditions of this permit will remain in effect until TDEC takes final action on an application for renewal.

B.9.2. At any time during the term specified in B.9.1, Saturn may request that TDEC terminate the PAL provisions of this permit and issue a revised permit pursuant to B.9.3 within 180 days of such request.

B.9.3. In the event of a termination, the PALs shall remain in effect until this permit is revised to specify unit specific control technology, emission limits and compliance determination requirements agreed upon by Saturn and TDEC. The revised permit shall be issued with "traditional" New Source Review emission limits and other conditions consistent with such requirements for similar emission sources at the time of the modification or construction of each affected Saturn source. Emission sources existing as of the effective date of this permit that have not been modified as of the termination date shall revert to any previously applicable source specific requirements.

B.9.4. In the event of the termination of any PAL in this permit, the requirements under TDEC §1200-3-9 "Construction and Operating Permits" will apply to any modification occurring after the termination.

B.10. Pre-approved New Source Review

B.10.1. For emission sources identified in Table 1, Saturn is authorized to undertake any physical change or change in the method of operation, provided that the emissions from the facility do not exceed emissions limitations in Section B of this permit and Saturn continues to use the control technology described in the application, or alternative control technology (including pollution prevention and alternative configurations) agreed to by TDEC. The level of performance and emissions unit control technologies in the application dated October 26, 1999 and identified in Tables 2, 3, 4, and 5 of this permit are inherent in the PALs specified in Section B of this permit.

B.10.2. Saturn can undertake the addition of new emission sources provided that PAL emission levels are not exceeded and the following additional conditions are met:

B.10.2.1. New emission sources with a PTE greater than the ton per year levels identified in Table 6 shall be registered with TDEC and shall apply best available control technology (BACT), proposed by Saturn and approved by TDEC. TDEC must approve or deny the BACT analysis within 45 days of the registration date. The Technical Secretary will provide public notice of such changes as part of the Title V administrative permit amendment process.

B.10.2.1.1. The registration shall include appropriate application forms, a brief process description, documentation of BACT as required and periodic monitoring parameters for any control equipment.

B.10.2.2. New emission sources with a PTE less than the ton per year levels identified in Table 6 shall be registered with TDEC and shall apply minor source best available control technology (mBACT), proposed by Saturn and approved by TDEC. TDEC must approve or deny the BACT analysis within 30 days of the registration date.

B.10.2.2.1. mBACT is defined as any combination of work practices, raw material specifications, source design characteristics, or air pollution control devices for new emissions units that are typical of the emission level achieved by well controlled new or modified sources similar in type and size to the new emissions unit.

B.10.2.2.2. The registration shall include, appropriate application forms, a brief process description, documentation of mBACT as required, and periodic monitoring parameters for any control equipment.

B.10.2.2.3. The application of mBACT shall ensure that the new source meets all applicable air quality emissions standards and other emission limits as appropriate.

B.10.3. Emissions from any new source shall not cause or contribute to an exceedance of any National Ambient Air Quality Standard (NAAQS) or Prevention of Significant Deterioration (PSD) increment.

B.11. Other Provisions

B.11.1. Title V

B.11.1.1. Saturn shall submit a revised Title V operating permit application to TDEC pursuant to §1200-3-9-.02(11) of the Tennessee Air Pollution Control Regulations within 180 days of the effective date of this permit.

B.11.2. NSPS Requirements

B.11.2.1. Saturn is subject to the requirements contained in the applicable provisions of 40 CFR Part 60, Subpart MM – Standards of Performance for Automotive and Light Duty Truck Surface Coating Operations, and compliance with these requirements is assured by compliance with the PALs specified in Section B of this permit. Saturn must keep records to demonstrate compliance with the applicable Subpart MM requirements. Saturn emissions units are subject to 40 CFR Part 60 and the associated limits include:

B.11.2.1.1. E-coat (ESRN 32): 1.33 pounds of VOC per gallon of applied solids using the applicable transfer efficiency identified in 40 CFR 60.393.

B.11.2.1.2. Major Panel Topcoat (ESRN 33): 12.26 pounds of VOC per gallon of applied solids using the applicable transfer efficiency identified in 40 CFR 60.393.

B.11.2.1.3. Major Panel Primer (ESRN 36): 11.67 pounds of VOC per gallon of applied solids using the transfer efficiency identified in 40 CFR 60.393.

B.11.3. SIP Limits

B.11.3.1. Saturn is subject to the applicable requirements in the Tennessee State Implementation Plan (SIP) and compliance with these requirements is assured by the PALs specified in Section B of this permit.

B.11.4. Federal PAL Regulations

B.11.4.1. Within 12 months of EPA approval of Tennessee's SIP revision incorporating any new federal PAL regulations and in no case later than 2 years after their promulgation, TDEC and Saturn will complete a review of the facility's title V operating permit for consistency with the applicable Tennessee or federal PAL regulations. Should TDEC find that the title V permit is inconsistent with the applicable Tennessee or federal PAL regulations, the permit will be re-opened and the PAL conditions revised, after the opportunity for public review and comment, to reflect either the Tennessee or federal PAL requirements.

SECTION C

MONITORING AND REPORTING REQUIREMENTS

C.

C.1. Performance/Emission Testing Requirements

C.1.1. Saturn shall evaluate the coating solids transfer efficiency for the following emissions units:

C.1.1.1. ESRN 33 – Major Panel Topcoat Operations

C.1.1.2. ESRN 36 – Major Panel Prime Operations

C.1.1.3. ESRN 37/39 – Fascia/Reprocess Topcoat Operations

C.1.1.4. ESRN 67/38 – Fascia/Service Parts Prime Operations

C.1.2. Saturn shall evaluate the oven solvent load (OSL) for the following emissions units:

C.1.2.1. ESRN 33 – Major Panel Topcoat Operations

C.1.2.2. ESRN 36 – Major Panel Prime Operations

C.1.2.3. ESRN 37/39 – Fascia/Reprocess Topcoat Operations

C.1.2.4. ESRN 67/38 – Fascia/Service Parts Prime Operations

C.1.3. Saturn shall evaluate the VOC destruction efficiency of the curing oven oxidizers serving the following emissions units:

C.1.3.1. ESRN 32 - Space Frame and Sheet Metal Electrocoat (E- coat) System

C.1.3.2. ESRN 33 – Major Panel Topcoat Operations

C.1.3.3. ESRN 36 – Major Panel Prime Operations

C.1.3.4. ESRN 37/39 – Fascia/Reprocess Topcoat Operations

C.1.3.5. ESRN 67/38 – Fascia/Service Parts Prime Operations

C.1.3.6. ESRN 35/40 – Underbody PVC/Seam Seal/Blackout Operations

C.1.4. Saturn shall evaluate the VOC control efficiency of the paint shop carbon adsorption unit (CAU) and the CAU desorption gas oxidizer.

C.1.5. Saturn shall use the procedures described in EPA Publication 450/3-88-018, *Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light Duty Truck Topcoat Operation (NSPS Protocol)* or equivalent methodology to conduct the tests described in C.1.1 and C.1.2 above.

C.1.6. Saturn shall use EPA Reference Method 25A; Determination of Total Gaseous Organic Concentration using a Flame Ionization Analyzer to conduct the VOC control efficiency tests described in C.1.3 and C.1.4 above.

C.2. Test Protocols

C.2.1. All required performance/emissions testing programs shall be described in a test protocol and submitted to TDEC for approval.

C.2.2. The test protocol(s) shall be submitted no later than 30 days prior to the proposed test date to allow TDEC sufficient time to review the protocol and to make arrangements to observe the test program (s).

C.3. Performance/Emission Test Methods

C.3.1. Unless specified otherwise, the emission test methods described in 40 CFR Part 60, Appendix A – Test Methods shall be the preferred methods for the conduct of any emissions testing program.

C.4. Pollution Control Devices

C.4.1. For emissions units that rely on a pollution control device or device(s) to maintain compliance with an applicable air quality requirement, Saturn shall monitor the performance of such units consistent with the pollution control device monitoring protocols required in C.5.

C.5. Pollution Control Device Monitoring Protocols

C.5.1. Saturn shall prepare and utilize monitoring protocols for each category of air pollution control device used at the facility. These protocols, at a minimum, must address the following types of air pollution control equipment and must be submitted for TDEC review prior to the issuance of the initial Title V operating permit for the facility:

C.5.1.1. Paint Shop Carbon Abatement System

C.5.1.2. Abatement System Regeneration Oxidizer

C.5.1.3. Curing Oven Recuperative Oxidizers

C.5.1.4. Waterwash Paint Overspray Controls

C.5.1.5. Dry Paint Overspray Controls

C.5.1.6. Powertrain Regenerative Thermal Oxidizers

C.5.1.7. Cartridge Collectors

C.5.1.8. High Efficiency Oil Mist Collectors

C.5.2. The protocols must address:

C.5.2.1. Parameters monitored,

C.5.2.2. Monitoring techniques,

C.5.2.3. Calibration of monitoring devices,

C.5.2.4. Monitoring frequency,

C.5.2.5. Acceptable parametric ranges,

C.5.2.6. Recordkeeping, and

C.5.2.7. Start-up, shutdown and malfunction periods.

C.5.3. Copies of pollution control device protocols shall be submitted to TDEC for review and approval with the revised facility Title V operating permit application, no later that 180 days after the effective date of this permit.

C.6. Material Usage Rates

C.6.1. For all emissions units that rely upon material usage rates to determine emission rates (excluding units subject to NSPS Protocol recordkeeping), Saturn shall monitor material usage on a monthly (or equivalent) basis. The net usage of any given material shall be used to calculate the monthly emission rate (e.g., net usage excludes off specification material, waste material, etc. that can be documented).

C.6.1.1. Actual material usage rates are to be used to calculate emissions from the following emissions units for the pollutants identified:

C.6.1.1.1. ESRN 03 - New Engine Assembly Line (VOC)

C.6.1.1.2. ESRN 12 - Pattern Making for Lost Foam Casting (VOC)

C.6.1.1.3. ESRN 30 - Parts Cleaning (VOC)

C.6.1.1.4. ESRN 60 - Existing On-Line Robotic RTV Application (VOC)

C.6.1.1.5. ESRN 61 - Existing Off-Line Robotic RTV Application (VOC)

C.6.1.1.6. ESRN 32 - Space Frame and Sheet Metal Electrocoat (E- coat) System (VOC)

C.6.1.1.7. ESRN 35/40 - Space Frame Underbody PVC/Seam Seal Application/Blackout (VOC)

C.6.1.1.8. ESRN 41 - Miscellaneous Operations (VOC)

C.6.1.1.9. ESRN 65 - Fascia Adhesion Promoter Spray Booth (VOC, PM)

C.6.1.1.10. ESRN 08 - Panel Coat (Adhesive) (VOC, PM)

C.6.1.1.11. ESRN 10 - New Final Assembly Line (VOC)

C.6.1.1.12. ESRN 45 - Existing Etch/Prime Black Glass Application (VOC)

C.6.1.1.13. ESRN 50 - Combined Final Assembly Repair (VOC, PM)

C.6.1.1.14. ESRN 66 - Door Seal Adhesive Operation (VOC)

C.6.2. For emissions units that rely upon material parameters (e.g., % solids, % VOC, etc.) to determine emission rates (excluding units subject to NSPS Protocol recordkeeping), Saturn may use material parameters provided by material suppliers (e.g., material safety data sheets, technical data sheets, etc.) as the basis for determining actual emission rates.

C.6.2.1. Actual material parameters are to be used to calculate emissions from the following emissions units for the pollutants identified:

C.6.2.1.1. ESRN 03 - New Engine Assembly Line (VOC)

C.6.2.1.2. ESRN 12 - Pattern Making for Lost Foam Casting (VOC)

C.6.2.1.3. ESRN 30 - Parts Cleaning (VOC)

C.6.2.1.4. ESRN 60 - Existing On-Line Robotic RTV Application (VOC)

C.6.2.1.5. ESRN 61 - Existing Off-Line Robotic RTV Application (VOC)

C.6.2.1.6. ESRN 33 - Major Panel Topcoat Operations (PM)

C.6.2.1.7. ESRN 36 - Major Panel Prime System (PM)

C.6.2.1.8. ESRN 37/39 - Fascia Reprocess/Topcoat (Basecoat & Clearcoat) (PM)

C.6.2.1.9. ESRN 38/67 - Fascia/Prime Service Parts Prime System (PM)

C.6.2.1.10. ESRN 35/40 - Space Frame Underbody PVC/Seam Seal Application/Blackout (VOC, PM)

C.6.2.1.11. ESRN 41 - Miscellaneous Operations (VOC)

C.6.2.1.12. ESRN 65 - Fascia Adhesion Promoter Spray Booth (VOC, PM)

C.6.2.1.13. ESRN 08 - Panel Coat (Adhesive) (VOC, PM)

C.6.2.1.14. ESRN 10 - New Final Assembly Line (VOC)

C.6.2.1.15. ESRN 45 - Existing Etch/Prime Black Glass Application (VOC)

C.6.2.1.16. ESRN 50 - Combined Final Assembly Repair (VOC, PM)

C.6.2.1.17. ESRN 66 - Door Seal Adhesive Operation (VOC)

C.6.3. For emissions units that utilize NSPS Protocol recordkeeping as part of the SATVOC paint shop recordkeeping program, Saturn shall monitor material usage rates as prescribed by the NSPS Protocol.

C.6.3.1. Actual material usage rates as prescribed by the NSPS Protocol are to be used to calculate emissions from the following emissions units for the pollutants identified:

C.6.3.1.1. ESRN 33 - Major Panel Topcoat Operations (VOC)

C.6.3.1.2. ESRN 36 - Major Panel Prime System (VOC)

C.6.3.1.3. ESRN 37/39 - Fascia Reprocess/Topcoat (Basecoat & Clearcoat) (VOC)

C.6.3.1.4. ESRN 38/67 - Fascia/Prime Service Parts Prime System (VOC)

C.6.4. For surface coatings and solvents used by emissions units utilizing NSPS Protocol recordkeeping, Saturn shall follow the material parameter requirements of the NSPS Protocol.

C.6.4.1. Actual material parameters are to be used to calculate emissions from the following emissions units for the pollutants identified:

C.6.4.1.1. ESRN 33 - Major Panel Topcoat Operations (VOC)

C.6.4.1.2. ESRN 36 - Major Panel Prime System (VOC)

C.6.4.1.3. ESRN 37/39 - Fascia Reprocess/Topcoat (Basecoat & Clearcoat) (VOC)

C.6.4.1.4. ESRN 38/67 - Fascia/Prime Service Parts Prime System (VOC)

C.7. Hours of Operation

C.7.1. For emissions units that rely on actual operating hours to calculate actual emissions, Saturn shall monitor and record actual operating hours of such equipment on a monthly basis. Operating hours shall reflect only the time periods that the equipment is producing or processing automobiles or automobile components.

C.7.1.1. Actual operating hours are to be used to calculate emissions from the following emissions units for the pollutants identified:

C.7.1.1.1. ESRN 11 – New Machining Operations (PM)

C.7.1.1.2. ESRN 13 – Iron Melting (PM)

C.7.1.1.3. ESRN 14/26 – Aluminum Melter/Holder Furnace, Melting, Holding, and Pouring (PM)

C.7.1.1.4. ESRN 18 – Iron Casting Finishing and Shot Blasting (PM)

C.7.1.1.5. ESRN 19 – Aluminum Die Casting (PM)

C.7.1.1.6. ESRN 20 – Aluminum Lost Foam Sand System (PM)

C.7.1.1.7. ESRN 21 – Iron Lost Foam Sand System and Pouring (PM)

C.7.1.1.8. ESRN 22 – Sand Storage Silos (PM)

C.7.1.1.9. ESRN 24 – Aluminum Head and Block Mold Shakeout (PM)

C.7.1.1.10. ESRN 25 – Iron Mold Shakeout (PM)

C.7.1.1.11. ESRN 31 – Heat Treat Shot Peening (PM)

C.7.1.1.12. ESRN 51 – Aluminum Head and Block Mold Cooling (PM)

C.7.1.1.13. ESRN 52 – Iron Mold Cooling (PM)

C.7.1.1.14. ESRN 53 – Aluminum Head and Block Line Plastic Shot Blasting (PM)

C.7.1.1.15. ESRN 54 – Maintenance and Tool Room Welding, Steam Cleaning Booth (PM)

C.7.1.1.16. ESRN 55 – Engine and Transmission Machining (PM)

C.7.1.1.17. ESRN 64 – Maintenance Grinding (PM)

C.7.1.1.18. ESRN 58 – 10 Heat Treat/Oil Quench Furnaces for Gears and Shafts (CO)

C.8. Production Rates

C.8.1. For emissions units whose actual emissions are calculated using process specific production rates, Saturn shall monitor and record actual production of such equipment on a monthly basis in units compatible with the applicable emission factor. Production rates shall reflect gross production rates unless specified otherwise.

C.8.1.1. Actual production rates are to be used to calculate emissions from the following emissions units for the pollutants identified:

C.8.1.1.1. ESRN 10 – New Final Assembly Line (CO)

C.8.1.1.2. ESRN 13 – Iron Melting (VOC)

C.8.1.1.3. ESRN 14/26 – Aluminum Melter/Holder Furnaces, Melting, Holding, and Pouring(VOC)

C.8.1.1.4. ESRN 20 – Aluminum Lost Foam Sand System (VOC)

C.8.1.1.5. ESRN 21 – Iron Lost Foam Sand System and Pouring (VOC)

C.8.1.1.6. ESRN 24 – Aluminum Head and Block Mold Shakeout (VOC)

C.8.1.1.7. ESRN 25 – Iron Mold Shakeout (VOC)

C.8.1.1.8. ESRN 45 – Existing Car Start, Roll Test, Toe Set, and Repair Operations (CO)

C.8.1.1.9. ESRN 51 – Aluminum Head and Block Mold Cooling (VOC)

C.8.1.1.10. ESRN 52 – Iron Mold Cooling (VOC)

C.9. Fuel Usage Rates

C.9.1. For product of combustion emissions, Saturn shall monitor and record natural gas usage by business unit on a monthly basis.

C.9.1.1. For the purpose of this permit, Saturn business units are defined as Body Systems (body panels, body fabrication, and paint shop operations), Vehicle Systems (vehicle interior systems and final assembly operations), and Powertrain.

C.9.2. Saturn shall estimate monthly natural gas usage for the paint shop thermal oxidizers using the percentage of the total facility heat load attributed to the oxidizers.

C.9.3. Saturn shall estimate monthly natural gas usage for the aluminum melting furnaces and regenerative thermal oxidizers in Powertrain using the percentage of the total facility heat load attributed to the furnaces and oxidizers respectively.

C.9.4. Gross business unit natural gas usage will be adjusted by subtracting thermal oxidizer and aluminum melting furnace natural gas usage from the total business unit natural gas usage.

SECTION D

SUPPLEMENTARY CONDITIONS

D.

D.1. Toxicity Assessment

D.1.1. Within 2 years of the date of issuance of this permit, Saturn shall develop a plan to assess the emissions of toxic, volatile pollutants from the facility.

D.1.2. The plan shall include approaches for identifying select compounds, identifying their toxicity characteristics, quantifying their emissions, and minimizing the impact of such compounds due to Saturn operations.

D.1.3. Aspects of the assessment plan that are mutually agreed upon by Saturn and TDEC will be implemented by Saturn within 12 months of the renewal date of the facility's Title V operating permit.

D.2. Saturn shall be deemed in compliance with this requirement so long as the assessment is completed. The results of the assessment shall not be used as a measure of compliance.

SECTION E

OPACITY LIMITS

Visible emissions from the sources at this facility shall not exceed the opacity limits stated in the table below. Visible emissions shall be determined by EPA Method 9, as published in the Federal Register, Volume 39, Number 219 on November 12, 1974 (6 minute average). The facility shall demonstrate compliance with the opacity requirements by using the "Opacity Matrix Decision Tree for Visible Emission Evaluation Method 9" dated June 18, 1996 or by an opacity compliance demonstration protocol prepared by Saturn and approved by TDEC. Any opacity compliance protocol proposed by Saturn shall be submitted to TDEC for review and approval with the revised title V operating permit application pursuant to B.11.1.1.

ESRN NO.	EMISSIONS UNIT DESCRIPTION	OPACITY LIMIT	BUSINESS UNIT
12	Pattern Making for Lost Foam Casting [b]	10%	Powertrain
13	Iron Melting	10%	Powertrain
14/26	Aluminum Melter/Holder Furnaces, Melting, [illegible]	10%	Powertrain
18	Iron Casting Finishing and Shot Blasting	10%	Powertrain
19	Aluminum Die Casting	10%	Powertrain
20	Aluminum Lost Foam Sand System	10%	Powertrain
21	Iron Lost Foam Sand System and Pouring	10%	Powertrain
22	Sand Storage Silos	10%	Powertrain
24	Aluminum Head and Block Mold Shakeout	10%	Powertrain
25	Iron Mold Shakeout	10%	Powertrain
28	Lost Foam Heat Treating	10%	Powertrain
30	Parts Cleaning [b]	10%	Powertrain
31	Heat Treat Shot Peening	10%	Powertrain
51	Aluminum Head and Block Mold Cooling	10%	Powertrain
52	Iron Mold Cooling	10%	Powertrain
53	Aluminum Head and Block Line Plastic Shot [illegible]	10%	Powertrain
54	Maintenance and Tool Room Welding, Steam [illegible]	10%	Powertrain
55	Engine & Transmission Machining	20%	Powertrain
57	Endo Gas Generators for Heat-Treating Gears & [illegible]	10%	Powertrain
58	10 Ten Heat Treat/Oil Quench Furnaces for [illegible]	20%	Powertrain
60	On-Line Robotic RTV Application [b]	20%	Powertrain
61	Off-Line Robotic RTV Application [b]	10%	Powertrain
64	Maintenance Grinding	10%	Powertrain
99	(2) Natural Gas Fired Boilers	10%	Powertrain
11	New Powertrain Machining Line	10%	Powertrain
03	New Engine Assembly Line [b]	10%	Powertrain
06	Body Fabrication	10%	Body Systems
32	Space Frame and Sheet Metal E-Coat System	20%	Body Systems
33	Major Panel Topcoat Operations	20%	Body Systems
36	Major Panel Prime System	20%	Body Systems
37/39	Fascia/ Reprocess Topcoat (Basecoat & [illegible]	20%	Body Systems
67/38	Fascia/ Service Parts Prime	20%	Body Systems
35/40	Space Frame Underbody PVC/Seam Seal [illegible]	20%	Body Systems
41	Miscellaneous Operations [b]	20%	Body Systems
65	Fascia Adhesion Promoter Spray Booth	20%	Body Systems
98	Hot Water Heaters	20%	Body Systems
08	Panel Coat (Adhesive)	20%	Vehicle Systems
09	Instrument Panel Foaming [b]	10%	Vehicle Systems
45	Etch/Prime Black Glass Application [b]	20%	Vehicle Systems

Opacity Limits Applicable to Saturn Emissions Units (continued)

ESRN NO.	EMISSIONS UNIT DESCRIPTION	OPACITY LIMIT	BUSINESS UNIT
49	Car Start, Roll Test, Toe-Set and Repair	20%	Vehicle Systems
50	Combined Final Assembly Repair	20%	Vehicle Systems
66	Door Seal Adhesive Operation [b]	20%	Vehicle Systems
10	New Final Assembly Line	20%	Vehicle Systems
01	Site-Wide Products of Combustion	20%	N/A

[b] This unit does not emit TSP or PM.

Table 2
Summary of VOC Emissions Sources, Control Technology Requirements,
And Proposed Emission Rate Calculation Methods

ESRN NO.	EMISSION SOURCE DESCRIPTION	AIR POLLUTION CONTROL DEVICE DESCRIPTION	PROPOSED CALCULATION METHOD
01	Site-Wide Products of Combustion	Use of Natural Gas, Good combustion control	Monthly production related natural gas consumption records and use of appropriate AP-42 or site specific emission factors.
03	New Engine Assembly Line	No Control	Monthly material usage records and VOC content of materials
11	New Machining Operations	N/A	N/A
12	Pattern Making for Lost Foam Casting	No Control	Monthly material usage records and VOC content of materials
13	Iron Melting	No Control	Monthly production records and factors derived from source specific testing
14/26	Aluminum Melter/Holder Furnaces, Melting, Holding, and Pouring	No Control	Monthly production records and factors derived from source specific testing
18	Iron Casting Finishing and Shot Blasting	N/A	N/A
19	Aluminum Die Casting	N/A	N/A
20	Aluminum Lost Foam Sand System	No Control	Monthly production records and factors derived from source specific testing
21	Iron Lost Foam Sand System and Pouring	No Control	Monthly production records and factors derived from source specific testing
22	Sand Storage Silos	N/A	N/A
24	Aluminum Head and Block Mold Shakeout	Regenerative Thermal Oxidizer	Monthly production records and factors derived from source specific testing
25	Iron Mold Shakeout	Regenerative Thermal Oxidizer	Monthly production records and factors derived from source specific testing
28	Lost Foam Heat Treating	N/A	N/A
30	Parts Cleaning	No Control	Monthly material usage records and VOC content of materials
31	Heat Treat Shot Peening	N/A	N/A
51	Aluminum Head and Block Mold Cooling	No Control	Monthly production records and factors derived from source specific testing
52	Iron Mold Cooling	No Control	Monthly production records and factors derived from source specific testing
53	Aluminum Head and Block Line Plastic Shot Blasting	N/A	N/A
54	Maintenance and Tool Room Welding, Steam Cleaning Booth	N/A	N/A
55	Existing Engine & Transmission Machining	N/A	N/A
57	Endo Gas Generators for Heat-Treating Gears & Shafts	N/A	N/A
58	10 Ten Heat Treat/Oil Quench Furnaces for Gears & Shafts	N/A	N/A
60	Existing On-Line Robotic RTV Application	No Control	Monthly material usage records and VOC content of materials
61	Existing Off-Line Robotic RTV Application	No Control	Monthly material usage records and VOC content of materials
64	Maintenance Grinding	N/A	N/A
99	(2) Natural Gas Fired Boilers	N/A	N/A

Notes:
(1) Emission factors specified above may be modified only by conducting a site-specific emission-testing program for the subject emission source(s).
(2) N/A means that the referenced emission source is not known to emit the subject pollutant.

Table 2 (cont.)
Summary of VOC Emissions Sources, Control Technology Requirements,
And Proposed Emission Rate Calculation
Methods

ESRN NO.	EMISSION SOURCE DESCRIPTION	AIR POLLUTION CONTROL DEVICE DESCRIPTION	PROPOSED CALCULATION METHOD
32	Space Frame and Sheet Metal E-Coat System	Curing Oven Exhaust: Recuperative Thermal Oxidizer	Monthly material usage records in accordance with the NSPS Protocol recordkeeping requirements and use of SATVOC to calculate monthly mass emission rates
33	Major Panel Topcoat Operations	Curing Oven Exhaust: Recuperative Thermal Oxidizer Clearcoat Spray Zones: Carbon Abatement System Basecoat Heated Flash Zones: Carbon Abatement System	Monthly material usage records in accordance with the NSPS Protocol recordkeeping requirements and use of SATVOC to calculate monthly mass emission rates
36	Major Panel Prime System	Curing Oven Exhaust: Recuperative Thermal Oxidizer	Monthly material usage records in accordance with the NSPS Protocol recordkeeping requirements and use of SATVOC to calculate monthly mass emission rates
37/39	Fascia Reprocess/Topcoat (Basecoat & Clearcoat)	Curing Oven Exhaust: Recuperative Thermal Oxidizer Clearcoat Spray Zones: Carbon Abatement System Basecoat Heated Flash Zones: Carbon Abatement System	Monthly material usage records in accordance with the NSPS Protocol recordkeeping requirements and use of SATVOC to calculate monthly mass emission rates
38/67	Fascia/Prime Service Parts Prime System	Curing Oven Exhaust: Recuperative Thermal Oxidizer	Monthly material usage records in accordance with the NSPS Protocol recordkeeping requirements and use of SATVOC to calculate monthly mass emission rates
35/40	Space Frame Underbody PVC/Seam Seal Application/Blackout and Oven	Curing Oven Exhaust: Recuperative Thermal Oxidizer	Monthly material usage records and VOC content of materials
41	Miscellaneous Operations	Purge Solvent Recovery System	Monthly material usage records and VOC content of materials
65	Fascia Adhesion Promoter Spray Booth	No control	Monthly material usage records and VOC content of materials
98	Hot Water Heaters	N/A	N/A
08	Panel Coat (Adhesive)	No Control	Monthly material usage records and VOC content of materials
10	New Final Assembly Line	No Control	Monthly material usage records and VOC content of materials
45	Existing Etch/Prime Black Glass Application	No Control	Monthly material usage records and VOC content of materials
49	Existing Car Start, Roll Test, Toe-Set and Repair	N/A	N/A
50	Combined Final Assembly Repair	No Control	Monthly material usage records and VOC content of materials
66	Door Seal Adhesive Operation	No Control	Monthly material usage records and VOC content of materials

Notes:
(1) Emission factors specified above may be modified only by conducting a site-specific emission-testing program for the subject emissions source(s).
(2) N/A means that the referenced emissions source is not known to emit the subject pollutant.

Table 3
Summary of PM Emissions Sources, Control Technology Requirements,
And Proposed Emission Rate Calculation
Methods

ESRN NO.	EMISSIONS SOURCE DESCRIPTION	AIR POLLUTION CONTROL DEVICE DESCRIPTION	PROPOSED CALCULATION METHOD
1	Site-Wide Products of Combustion	Use of Natural Gas, Good Combustion Control	Monthly production related natural gas consumption records and use of appropriate AP-42 or site specific emission factors.
3	New Engine Assembly Line	N/A	N/A
11	New Machining Operations	Wet Machining: 4-Stage High Efficiency Mist Eliminators Dry Machining: Cartridge Filtration	Hours of operation and PM emission factor (3.45 lb./hr).
12	Pattern Making for Lost Foam Casting	N/A	N/A
13	Iron Melting	Cartridge Filtration	Hours of operation and PM emission factor (4.20 lb./hr)
14/26	Aluminum Melter/Holder Furnaces, Melting, Holding, and Pouring	Cartridge Filtration	Hours of operation and PM emission factor (4.75 lb./hr)
18	Iron Casting Finishing and Shot Blasting	Cartridge Filtration	Hours of operation and PM emission factor (0.55 lb./hr)
19	Aluminum Die Casting	N/A	Hours of operation and PM emission factor (4.11 lb./hr)
20	Aluminum Lost Foam Sand System	Cartridge Filtration	Hours of operation and PM emission factor (7.80 lb./hr)
21	Iron Lost Foam Sand System and Pouring	Cartridge Filtration	Hours of operation and PM emission factor (2.45 lb./hr)
22	Sand Storage Silos	Cartridge Filtration	Hours of operation and PM emission factor (1.20 lb./hr)
24	Aluminum Head and Block Mold Shakeout	Cartridge Filtration	Hours of operation and PM emission factor (2.30 lb./hr)
25	Iron Mold Shakeout	Cartridge Filtration	Hours of operation and PM emission factor (1.17 lb./hr)
28	Lost Foam Heat Treating	No Control	Included in products of combustion
30	Parts Cleaning	No Control	Monthly material usage records and VOC content of materials
31	Heat Treat Shot Peening	Cartridge Filtration	Hours of operation and PM emission factor (0.35 lb./hr)
51	Aluminum Head and Block Mold Cooling	No Control	Hours of operation and PM emission factor (0.51 lb./hr)
52	Iron Mold Cooling	No Control	Hours of operation and PM emission factor (0.30 lb./hr)
53	Aluminum Head and Block Line Plastic Shot Blasting	Cartridge Filtration	Hours of operation and PM emission factor (2.21 lb./hr)
54	Maintenance and Tool Room Welding, Steam Cleaning Booth	N/A	Estimated Hours of operation and PM emission factor (1.40 lb./hr)
55	Existing Engine & Transmission Machining	Wet Machining: 3-Stage High Efficiency Mist Eliminators Dry Machining: Cartridge Filtration	Hours of operation and PM emission factor (5.52 lb./hr)
57	Endo Gas Generators for Heat-Treating Gears & Shafts	No control	Included in products of combustion
58	10 Ten Heat Treat/Oil Quench Furnaces for Gears & Shafts	No control	Included in products of combustion
60	Existing On-Line Robotic RTV Application	N/A	N/A
61	Existing Off-Line Robotic RTV Application	N/A	N/A
64	Maintenance Grinding	Cartridge Filtration	Estimated Hours of operation and e PM emission factor (0.60 lb./hr)
99	(2) Natural Gas Fired Boilers	No control	Included in products of combustion

Notes:
(1) Emission factors specified above may be modified only by conducting a site-specific emission-testing program for the subject emissions source(s).
(2) N/A means that the referenced emissions source is not known to emit the subject pollutant.

Table 3 (cont.)
Summary of PM Emissions Sources, Control Technology Requirements, And Proposed Emission Rate Calculation Methods

ESRN NO.	EMISSIONS SOURCE DESCRIPTION	AIR POLLUTION CONTROL DEVICE DESCRIPTION	PROPOSED CALCULATION METHOD
32	Space Frame and Sheet Metal E-Coat System	No Control	PM emissions from combustion of natural gas in oven and oven oxidizers, included in site-wide products of combustion.
33	Major Panel Topcoat Operations	Waterwash Venturi	Monthly material usage records from SATVOC in accordance with the Protocol recordkeeping requirements, calculate mass solids overspray using TE and coating solids content, apply control efficiency of waterwash and carbon system filtration (if applicable)
36	Major Panel Prime System	Waterwash Venturi	Monthly material usage records from SATVOC in accordance with the Protocol recordkeeping requirements, calculate mass solids overspray using TE and coating solids content, apply control efficiency of waterwash and carbon system filtration (if applicable)
37/39	Fascia Reprocess/Topcoat (Basecoat & Clearcoat)	Waterwash Venturi	Monthly material usage records from SATVOC in accordance with the Protocol recordkeeping requirements, calculate mass solids overspray using TE and coating solids content, apply control efficiency of waterwash and carbon system filtration (if applicable)
38/67	Fascia/Prime Service Parts Prime System	Waterwash Venturi	Monthly material usage records from SATVOC in accordance with the Protocol recordkeeping requirements, calculate mass solids overspray using TE and coating solids content, apply control efficiency of waterwash and carbon system filtration (if applicable)
35/40	Space Frame Underbody PVC/Seam Seal Application/Blackout and Oven	Dry Filtration Waterwash Venturi	Monthly material usage records, calculate mass solids overspray using TE and coating solids content, apply control efficiency of dry filters.
41	Miscellaneous Operations	N/A	N/A
65	Fascia Adhesion Promoter Spray Booth	Waterwash Venturi	Monthly material usage records, calculate mass solids overspray using TE and coating solids content, apply control efficiency of waterwash.
98	Hot Water Heaters	No Control	Included in products of combustion
08	Combined Panel Coat (Adhesive)	Dry Filtration	Monthly material usage records, calculate mass solids overspray using TE and coating solids content, apply control efficiency of dry filters.
10	New Final Assembly Line	N/A	N/A
45	Existing Etch/Prime Black Glass Application	N/A	N/A
49	Existing Car Start, Roll Test, Toe-Set and Repair	N/A	N/A
50	Combined Final Assembly Repair	Dry Filtration	Monthly material usage records, calculate mass solids overspray using TE and coating solids content, apply control efficiency of dry filters.
66	Door Seal Adhesive Operation	N/A	N/A

Notes:
(1) Emission factors specified above may be modified only by conducting a site-specific emission-testing program for the subject emissions source(s).
(2) N/A means that the referenced emissions source is not known to emit the subject pollutant.

Table 4
Summary of NO_x/SO_2 Emissions Sources, Control Technology Requirements, and Proposed Emission Rate Calculation Methods

ESRN NO.	EMISSIONS SOURCE DESCRIPTION	AIR POLLUTION CONTROL DEVICE DESCRIPTION	PROPOSED CALCULATION METHOD
1	Site-Wide Products of Combustion	Use of Natural Gas Good Combustion Control	Monthly production related natural gas consumption records and use of appropriate AP-42 or site specific emission factors.
3	New Engine Assembly Line	N/A	N/A
11	New Machining Operations	N/A	N/A
12	Pattern Making for Lost Foam Casting	N/A	N/A
13	Iron Melting	N/A	N/A
14/26	Aluminum Melter/Holder Furnaces, Melting, Holding, and Pouring	Use of Natural Gas Good Combustion Control	Included in products of combustion
18	Iron Casting Finishing and Shot Blasting	N/A	N/A
19	Aluminum Die Casting	N/A	N/A
20	Aluminum Lost Foam Sand System	N/A	N/A
21	Iron Lost Foam Sand System and Pouring	N/A	N/A
22	Sand Storage Silos	N/A	N/A
24	Aluminum Head and Block Mold Shakeout	Use of Natural Gas Good Combustion Control	Included in products of combustion
25	Iron Mold Shakeout	Use of Natural Gas Good Combustion Control	Included in products of combustion
28	Lost Foam Heat Treating	Use of Natural Gas Good Combustion Control	Included in products of combustion
30	Parts Cleaning	N/A	N/A
31	Heat Treat Shot Peening	N/A	N/A
51	Aluminum Head and Block Mold Cooling	N/A	N/A
52	Iron Mold Cooling	N/A	N/A
53	Aluminum Head and Block Line Plastic Shot Blasting	N/A	N/A
54	Maintenance and Tool Room Welding, Steam Cleaning Booth	N/A	N/A
55	Existing Engine & Transmission Machining	N/A	N/A
57	Endo Gas Generators for Heat-Treating Gears & Shafts	Use of Natural Gas Good Combustion Control	Included in products of combustion
58	10 Ten Heat Treat/Oil Quench Furnaces for Gears & Shafts	Use of Natural Gas Good Combustion Control	Included in products of combustion
60	Existing On-Line Robotic RTV Application	N/A	N/A
61	Existing Off-Line Robotic RTV Application	N/A	N/A
64	Maintenance Grinding	N/A	N/A
99	(2) Natural Gas Fired Boilers	Use of Natural Gas Good Combustion Control	Included in products of combustion

Notes:
(1) Emission factors specified above may be modified only by conducting a site-specific emission-testing program for the subject emissions source(s).
(2) N/A means that the referenced emissions source is not known to emit the subject pollutant.

Table 4 (cont.)
Summary of NO_x/SO_2 Emissions Sources, Control Technology Requirements, and Proposed Emission Rate Calculation Methods

ESRN NO.	EMISSIONS SOURCE DESCRIPTION	AIR POLLUTION CONTROL DEVICE DESCRIPTION	PROPOSED CALCULATION METHOD
32	Space Frame and Sheet Metal E-Coat System	Use of Natural Gas Good Combustion Control	Included in products of combustion
33	Major Panel Topcoat Operations	Use of Natural Gas Good Combustion Control	Included in products of combustion
36	Major Panel Prime System	Use of Natural Gas Good Combustion Control	Included in products of combustion
37/39	Fascia Reprocess/Topcoat (Basecoat & Clearcoat)	Use of Natural Gas Good Combustion Control	Included in products of combustion
38/67	Fascia/Prime Service Parts Prime System	Use of Natural Gas Good Combustion Control	Included in products of combustion
35/40	Space Frame Underbody PVC/Seam Seal Application/Blackout and Oven	Use of Natural Gas Good Combustion Control	Included in products of combustion
41	Miscellaneous Operations	N/A	N/A
65	Fascia Adhesion Promoter Spray Booth	Use of Natural Gas Good Combustion Control	Included in products of combustion
98	Hot Water Heaters	Use of Natural Gas Good Combustion Control	Included in products of combustion
08	Combined Panel Coat (Adhesive)	Use of Natural Gas Good Combustion Control	Included in products of combustion
10	New Final Assembly Line	N/A	N/A
45	Existing Etch/Prime Black Glass Application	N/A	N/A
49	Existing Car Start, Roll Test, Toe-Set and Repair Operations	N/A	N/A
66	Door Seal Adhesive Operation	N/A	N/A
50	Combined Final Assembly Repair	Use of Natural Gas Good Combustion Control	Included in products of combustion

Notes:
(1) Emission factors specified above may be modified only by conducting a site-specific emission-testing program for the subject emissions source(s).
(2) N/A means that the referenced emissions source is not known to emit the subject pollutant.

Table 5
Summary of CO Emissions Sources, Control Technology Requirements, and Proposed Emission Rate Calculation Methods

ESRN NO.	EMISSIONS SOURCE DESCRIPTION	AIR POLLUTION CONTROL DEVICE DESCRIPTION	PROPOSED CALCULATION METHOD
1	Site-Wide Products of Combustion	Use of Natural Gas Good Combustion Control	Monthly production related natural gas consumption records and use of appropriate AP-42 or site specific emission factors.
3	New Engine Assembly Line	N/A	N/A
11	New Machining Operations	N/A	N/A
12	Pattern Making for Lost Foam Casting	N/A	N/A
13	Iron Melting	N/A	N/A
14/26	Aluminum Melter/Holder Furnaces, Melting, Holding, and Pouring	Use of Natural Gas Good Combustion Control	Included in products of combustion
18	Iron Casting Finishing and Shot Blasting	N/A	N/A
19	Aluminum Die Casting	N/A	N/A
20	Aluminum Lost Foam Sand System	N/A	N/A
21	Iron Lost Foam Sand System and Pouring	N/A	N/A
22	Sand Storage Silos	N/A	N/A
24	Aluminum Head and Block Mold Shakeout	Use of Natural Gas Good Combustion Control	Included in products of combustion
25	Iron Mold Shakeout	Use of Natural Gas Good Combustion Control	Included in products of combustion
28	Lost Foam Heat Treating	Use of Natural Gas Good Combustion Control	Included in products of combustion
30	Parts Cleaning	N/A	N/A
31	Heat Treat Shot Peening	N/A	N/A
51	Aluminum Head and Block Mold Cooling	N/A	N/A
52	Iron Mold Cooling	N/A	N/A
53	Aluminum Head and Block Line Plastic Shot Blasting	N/A	N/A
54	Maintenance and Tool Room Welding, Steam Cleaning Booth	N/A	N/A
55	Existing Engine & Transmission Machining	N/A	N/A
57	Endo Gas Generators for Heat-Treating Gears & Shafts	Use of Natural Gas Good Combustion Control	Included in products of combustion
58	10 Ten Heat Treat/Oil Quench Furnaces for Gears & Shafts	Use of Natural Gas Good Combustion Control	Hours of operation and CO emission factor (15.55 lb./hr)
60	Existing On-Line Robotic RTV Application	N/A	N/A
61	Existing Off-Line Robotic RTV Application	N/A	N/A
64	Maintenance Grinding	N/A	N/A
99	(2) Natural Gas Fired Boilers	Use of Natural Gas Good Combustion Control	Included in products of combustion

Notes:
(1) Emission factors specified above may be modified only by conducting a site-specific emission-testing program for the subject emissions source(s).
(2) N/A means that the referenced emissions source is not known to emit the subject pollutant.

Table 5 (cont.)
Summary of CO Emissions Sources, Control Technology Requirements, and Proposed Emission Rate Calculation Methods

ESRN NO.	EMISSIONS SOURCE DESCRIPTION	AIR POLLUTION CONTROL DEVICE DESCRIPTION	PROPOSED CALCULATION METHOD
32	Space Frame and Sheet Metal E-Coat System	Use of Natural Gas Good Combustion Control	Included in products of combustion
33	Major Panel Topcoat Operations	Use of Natural Gas Good Combustion Control	Included in products of combustion
36	Major Panel Prime System	Use of Natural Gas Good Combustion Control	Included in products of combustion
37/39	Fascia Reprocess/Topcoat (Basecoat & Clearcoat)	Use of Natural Gas Good Combustion Control	Included in products of combustion
38/67	Fascia/Prime Service Parts Prime System	Use of Natural Gas Good Combustion Control	Included in products of combustion
35/40	Space Frame Underbody PVC/Seam Seal Application/Blackout and Oven	Use of Natural Gas Good Combustion Control	Included in products of combustion
41	Miscellaneous Operations	N/A	N/A
65	Fascia Adhesion Promoter Spray Booth	Use of Natural Gas Good Combustion Control	Included in products of combustion
98	Hot Water Heaters	Use of Natural Gas Good Combustion Control	Included in products of combustion
08	Combined Panel Coat (Adhesive)	Use of Natural Gas Good Combustion Control	Included in products of combustion
10	New Final Assembly Line	No Control	Applicable AP-42 emission factors for new automobile tailpipe emissions
45	Existing Etch/Prime Black Glass Application	N/A	N/A
49	Existing Car Start, Roll Test, Toe-Set and Repair Operations	No Control	Applicable AP-42 emission factors for new automobile tailpipe emissions
66	Door Seal Adhesive Operation	N/A	N/A
50	Combined Final Assembly Repair	Use of Natural Gas Good Combustion Control	Included in products of combustion

Notes:
(1) Emission factors specified above may be modified only by conducting a site-specific emission-testing program for the subject emissions source(s).
(2) N/A means that the referenced emissions unit is not known to emit the subject pollutant.

Table 6
Best Available Control Technology Thresholds for
New Sources Added Under the PAL

Pollutant	PTE Threshold, tons/year
VOC	40
PM	15
NO_x	40
CO	100

END OF PERMIT NUMBER: 952233