

**112(g) Case-By-Case Maximum Achievable Control Technology Determination  
Review of DaimlerChrysler Manufacturing International, LLC  
Construction Application for an Automobile Manufacturing Facility  
Located in Pooler, Georgia (Chatham County)**

**NOTICE OF MACT APPROVAL**

**SIP Permit Application No. 14178**

**May 2003**

**Reviewing Authority:  
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Department of Natural Resources  
Environmental Protection Division  
Air Protection Branch**

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## 1. EXECUTIVE SUMMARY

DaimlerChrysler Manufacturing International, LLC (DCMI) is proposing to construct and operate a large vehicle manufacturing facility in Pooler, Georgia at the northeast corner of the intersection of Highways I-95 and I-16. The site is approximately ten miles from Savannah and is located in Chatham County. It will directly employ between 3,000 and 4,000 people.

The proposed DCMI assembly plant will be a major source under the Title V federal operating permit, PSD construction permitting, and 112(g) case-by-case MACT permitting programs.

The DCMI assembly plant will manufacture commercial trucks (primarily delivery vans) to serve the NAFTA market. The vehicles will be manufactured in two sizes: light-duty trucks (LDT) with a gross vehicle weight rating (GVWR) less than or equal to 3,850 kilograms (~8788 pounds) and medium-duty trucks (MDT) with a GVWR greater than 3,850 kilograms but less than or equal to 5250 kilograms (~11,574 pounds). Both the LDT and MDT models will be available to customers in a range of configurations, with variations in vehicle length and height, wheelbase, chassis and body styles, and engine types designed to suit many different commercial needs.

Nominal production rates of 60,000 MDT and 50,000 LDT per year are planned for the DCMI plant, although the mix of MDT and LDT production could shift from year to year, depending on customer demands. The design production capacity, with extended work periods to maintain or catch up on production, is 125,000 units per year. The nominal manufacturing model is 246 production days per year, consisting of two 8-hour shifts per day for a total of approximately 3,936 hours of operation per year. However, the maximum operating capacity is 288 production days per year, consisting of three 7-hour work shifts for a total of 6,048 hours of operation. A facility-wide limit on VOC emissions included in the proposed construction and operating permit would not allow the facility to operate around the clock for an extended period.

The DCMI plant will consist of production areas and ancillary support facilities, which include energy and process water utilities and a waste-water pretreatment system. The production areas of the plant will consist of a body shop, a paint shop, and a final assembly shop.

The permit application submitted by DCMI consists of four volumes. Volume I provides details on the processes, emissions and proposed control strategies for the body and final assembly shops and the support services. Volume II contains details on the processes, emissions and proposed control strategies of the paint shop. Volume III provides the modeling protocols and results for the PSD review and for the State's Toxic Guidelines Toxic Impact Assessment, and Volume IV contains representative material safety data sheets (MSDS) for materials that will be used in the production of the trucks at the DCMI facility.

This document summarizes the applicability of the "Section 112(g)" case-by-case MACT determination regulations to the proposed DCMI facility, and the appropriate level of controls for sources of HAP emissions as determined by the applicant and the Division.

## 2. INTRODUCTION

The permit application includes: process descriptions, an emissions inventory, applicable regulations, PSD and 112(g) requirements, air quality modeling results, and material safety data sheets (MSDS).

### 2.1 Facility Location

The proposed DCMI manufacturing plant will be located at the northeast intersection of the highways I-16 and I-95 in Pooler, Georgia, approximately ten miles West of Savannah in Chatham County. Chatham County has been designated by U.S. EPA as attainment or unclassified for all criteria pollutants. Under Prevention of Significant Deterioration (PSD) definitions, DCMI will be a PSD major source subject to PSD permitting requirements as defined in 40 CFR 52.21.

The proposed plant site consists of approximately 1,370 acres at the Chatham County Economic Development Site. Of this area, the initial manufacturing footprint will be approximately 260 acres, and the total usable area of the site is approximately 720 acres. The remainder of the site will consist of undeveloped wetlands mitigation and buffer areas.

### 2.2 Permit Status of Facility Operations

As a new facility, DCMI does not have any pre-existing air quality permits. The facility intends to commence construction in July 2003 and begin operations in October of 2006, although assembly of pre-fabricated vehicles may commence at the site as early as January of 2005. The facility will be required to submit a complete Title V application within twelve (12) months after the actual start-up date.

### 2.3 Estimated Emissions

The emissions of primary concern are VOC, NO<sub>x</sub>, PM, and HAPs. Emissions of other criteria pollutants are below PSD significance and Title V major source thresholds. Plant-wide emissions of criteria pollutants and hazardous air pollutants are presented in the table below:

<b>Pollutant</b>	<b>Actual Emissions (tpy)</b>	<b>Potential Emissions (tpy)</b>	<b>Emission Limits (tpy)</b>
VOC	780	849	850
NO <sub>x</sub>	22	76	-
SO <sub>2</sub>	38	> 100	40
CO	23	> 100	100
PM-10	43	51	-
TSP	43	51	-
Pb	N/A	N/A	-
HAP <sub>i</sub>	> 10	> 10	-
HAP <sub>T</sub>	95	138	-

VOC and HAP emissions will result primarily from the various surface coating operations that take place within the paint shop. However, lesser amounts of VOC and HAP will be emitted by other production and support activities, especially by the combustion of fossil fuels. VOC and HAP emissions from the paint shop operations will be minimized by the use of low-solvent coating technology where possible and by abatement via thermal oxidation at the significant emission sources (primarily the curing ovens). VOC emissions from other processes at the facility will be minimized by pollution prevention techniques, such as low-solvent cleaning solutions and coatings, closed container storage, the use of clean fuels, etc.

PM emissions will result from various production and support activities. As with VOC and HAP emissions, however, the paint shop operations will be the primary source of the PM emissions. Significant sources of PM emissions (from overspray of coatings) within the paint shop will be controlled by the use of wet venturi scrubbers; minor sources of PM emissions from within the paint shop will be controlled by dry particulate filters.

NO<sub>x</sub>, CO, and SO<sub>2</sub> will be emitted solely by the various fuel burning sources at the facility, including the hot water generators, comfort heaters and air treatment units, and the thermal oxidizers abating emissions from certain surface coating operations. The primary source of NO<sub>x</sub>, CO, and SO<sub>2</sub> emissions will be the five boilers used to generate hot process water for the plant. Of these, NO<sub>x</sub> is the primary pollutant of concern. NO<sub>x</sub> emissions will be reduced through the use of low-NO<sub>x</sub> burner technology that results in NO<sub>x</sub> emission concentrations of less than 30 ppm at 3 percent O<sub>2</sub> on a dry basis when the boilers are burning natural gas. During periods when the boilers are utilizing the distillate back-up fuel, NO<sub>x</sub> emissions will be limited to 0.178 pounds per million BTU of heat input. CO emissions will be limited by a plant-wide PSD avoidance limit of 100 tons per year, and SO<sub>2</sub> emissions will be limited by fuel sulfur content limits and limits on the amount of fuel oil that can be consumed per year.

The table below provides projected emissions information (in tons per year) for the various production and support operations at the proposed DCMI facility:

<b>Process</b>	<b>VOC</b>	<b>HAP</b>	<b>PM</b>	<b>NO<sub>x</sub></b>	<b>SO<sub>2</sub></b>	<b>CO</b>
Body Shop	0.074	0.44	0.88	---	---	---
Paint Shop	778.0	94.0	43.0	22.0	0.20	23.0
Assembly Shop	46.4	43.2	0.31	---	---	---
Support Services	4.5	< 1.0	2.9	34.0	36.4	11.6
Totals	829	138	47.1	56.0	36.6	34.6

## **2.4 Construction Schedule**

Upon the issuance of a construction permit, a continuous construction program will commence with the construction of the employee training and re-assembly areas beginning in July 2003. Construction of the main vehicle manufacturing facilities will commence in October 2003. The completion of plant construction and commencement of production is planned in three stages. Re-assembling of semi-knocked-down light-duty

truck vehicles is scheduled to start in January 2005. The start of production of medium-duty trucks is scheduled to commence in October 2006. Finally, the manufacture of light-duty trucks will commence in September 2007. The facility will not be emitting pollutants at major source levels under after the start of the second production phase.

### 3. PROCESS DESCRIPTION

The DCMI plant will consist of production areas and ancillary support facilities, which include energy and process water utilities and a waste-water pretreatment system. The production areas of the plant will consist of a body shop, a paint shop, and a final assembly shop.

#### 3.1 The Body Shop

Vehicle manufacture begins in the body shop, which consists of two parallel production lines, the body line and the framework line. The vehicle body assembly is built by welding together subassembly and component parts. Body stampings for this process are received from suppliers and stored in the body shop prior to assembly. Construction of subassemblies is carried out using manual and automatic machine resistance spot welding, metal active gas (MAG) welding, and nut welding. The body is assembled in steps as it moves along the body assembly line, while the understructure is assembled in the framework line with tack welding, finish welding, and stud welding. The complete body shell is then assembled in the body line with tack and finish welding. Adhesive bonding agent is applied to the roof bow, and sidewall assemblies are installed with tack welding and final welding. The addition of add-on parts is performed with spot welding and adhesives. The facility will feature two body shops; the first body shop is initially planned for the MDT product and will start production first. The second body shop will be used primarily for manufacture of the LDT product and will start operation approximately one year after the MDT body shop.

The primary emissions from the processes within the body shops will be particulate matter from the welding operations and VOCs from the adhesive bonding operations. For particulate matter, the estimated emissions are a factor of the amount of consumable welding material utilized, which is projected at 0.7 pounds per vehicle. An AP-42 emission factor of 5.2 pounds PM per 1000 pounds (0.5%) has been identified for MAG welding, but emission factors for the other welding processes are unconfirmed. DCMI used a very conservative estimate of uncontrolled PM emissions of 20 pounds per 1000 pounds (2.0%) of consumed welding material. This results in conservative emission estimates of 0.21 lb/hr for each of the two body shops, or 0.48 tons per year for MDT production and 0.40 tons per year for LDT production. The particulate matter emissions may contain as much as 50 percent manganese and the particle sizes will be less than 0.2 microns in diameter. These PM emissions will be non-point source in nature and will be emitted into the general plant air or picked up by localized ducts connected to the air handling units and exhausted to the atmosphere through the general plant ventilation systems.

VOC emissions will result from the use of adhesives to bond component and add-on parts to the vehicle assemblies. MSDS supplied by DCMI indicate that the adhesives are nearly 100 percent inert inorganic solids and/or polymeric compounds. The adhesive polymers may include polybutadiene and bisphenol-A epoxy resins. DCMI estimates that 1 percent of the adhesives will be emitted due to evaporative losses after the vehicle assemblies leave the body shops and are heated in the paint shop's e-coat curing oven. Use of this emission factor results in estimates of 1.5 tons VOC per year before controls. However, since the e-coat oven VOC emissions will be controlled by thermal oxidation with

destruction efficiency in excess of 95 percent, the estimated VOC emissions after abatement are less than 0.1 tons per year.

### **3.2 The Paint Shop**

Operations within the DCMI facility's paint shop will consist of: surface preparation, electro-deposition primer (the e-coat) application, sealer and underbody coating, primer-surfacer (guide-coat) application, top-coat application, inspection and repair, exterior seam sealing, cavity waxing, and final inspection paint repair.

The vehicle bodies enter the paint shop in a linear fashion from the two body shops. Prior to application of any coatings, all vehicles must be cleaned and treated in order to maximize paint adhesion and reduce surface flaws that would result from soils on the vehicle substrates. The vehicle bodies will be washed with an alkaline cleaning solution that contains no organic solvents, using equipment similar to a commercial car wash. The bodies will then be rinsed and/or dipped into a zinc phosphate solution, followed by one or more water rinses. The zinc phosphate solution prepares the metal surfaces for subsequent coating operations. There are no significant emissions from the cleaning and phosphate treatment operations. All of these operations take place in an enclosed tunnel environment, and the rinse water is captured and recycled.

Following cleaning and surface preparation, the vehicle bodies will be coated with an electro-deposition primer on a single "e-coat" line. In this coating process, the vehicle bodies will be fully immersed in a tank of the water-borne primer. An electrical charge will be applied to enhance adhesion on all metallic surfaces, both internal and external. Following the e-coat dip stage, all vehicle bodies will be rinsed with water in order to remove and recover all loosely adhering paint solids. After the rinsing stage, the vehicle bodies move into a curing oven, where the paint solids form into a hard, durable coating prior to subsequent coating processes. The radiant and convection zones of the e-coat curing oven will be indirectly heated using return exhaust gases from the thermal oxidizer serving the e-coat line. This oxidizer will abate emissions from the curing process with a destruction efficiency exceeding 95 percent. As with the cleaning and phosphate operations, the e-coat line is completely enclosed.

Vehicle bodies exit the e-coat oven through a cooling tunnel and enter the sanding deck, which is followed by the sealer and underbody coating deck. In the latter, high-solids, low-VOC sealers and sound deadeners will be applied on one of several work decks to both LDT and MDT bodies. Sealers will be applied to interior and exterior seams and flanges. These sealers will be applied in one of two fashions: either as a pre-extruded bead or else by flow coating. Neither application technique involves any atomized spraying. The sound deadeners will be applied by means of flow coaters onto the interior surfaces of the bodies. Small amounts of solvent-based solutions may be used to remove excess sealers from body exteriors. The underbody sealing operations will consist of a low-VOC coating that will be spray applied, either robotically or manually, onto the vehicle underbody surfaces. Before the vehicle bodies move on to the primer-surfacer / guide-coat stage, a water-borne, textured primer guide-coat will be spray applied to certain interior and exterior areas to hide spot welds. The bodies will be wiped by hand with water to remove excess primer, and then will move on to the primer-surfacer stage. A combination of water curtain and dry particulate filters will be used to control the

relatively minor amounts of overspray that result from the sealer and deadener application steps. Emissions from this stage are not significant.

Within the primer-surfacer, or guide-coat, stage, the production line will split into two parallel lines. Light duty and medium duty trucks will be processed on either of the two identical guide-coat lines; they will not be dedicated to certain body sizes. DCMI will utilize water-borne guide-coats as an alternative to solvent-based guide-coats with VOC abatement technology. Vehicles entering the guide-coat lines will be manually wiped with tack cloths and automated feather-dusting equipment to remove dust particles. The guide-coat will be applied to interior surfaces by manual spray application, and excess guide-coat will be cleaned from the roof and sides before the guide-coat is applied to the vehicle exterior by means of electrostatic turbine atomizers (ESTAs). Before proceeding forward in the production line, the vehicle bodies will be inspected in a manual back-up zone, where lightly coated areas will be touched up as necessary. Bodies leaving the inspection stage will enter a flash zone, where most of the water and some of the solvent contained in the guide-coat will evaporate prior to curing. The vehicle bodies will then be cured in a gas-fired primer oven. Radiant and convection zones of the oven will be indirectly heated with exhaust gases from the thermal oxidizer abating emissions from the curing stage. The guide-coated vehicles will exit the curing oven through a cooling tunnel and enter another sanding deck, where they will be inspected for defects. Repairs may include wet sanding and/or spot painting of affected areas. Particulate matter emissions from overspray will be controlled via wet-venturi scrubbers, and VOC emissions from the curing process will be abated via thermal oxidation. The VOC emissions from the spray application will not be controlled; due to the water-borne nature of the guide-coat and the low volatility of the solvents it contains, most of the VOC is emitted during the curing stage.

Vehicle bodies leaving the guide-coat stage will enter the top-coat stage, where the production line will once again be split into two parallel process lines that will handle both the light duty and medium duty products. After an initial cleaning stage consisting of manual hand-wiping with tack cloths, one of two distinct top-coat systems will be applied to the vehicle bodies: either a traditional top-coat system that consists of a water-borne basecoat and a traditional solvent-borne clear-coat, or else a mono-coat system that consists of a single water-borne coating. Although the exact mix of trucks coated with the traditional basecoat/clear-coat or the mono-coat system will depend on customer specifications, DCMI anticipates that approximately half of the light duty trucks will be painted with the mono-coat and half with the basecoat/clear-coat combination. However, due to lower demand for high gloss coatings for the medium duty trucks, it is expected that 80 percent of the medium duty vehicles will be painted with the mono-coat system and only 20 percent with the basecoat/clear-coat system. Use of the mono-coat top-coat system will achieve significant reductions in VOC emissions, due to its lower VOC content and the lower overall amount of coating applied (one coating instead of separate basecoats and clear-coats). On a per unit of production basis, the mono-coat emits only 25 percent as much VOC as the traditional basecoat/clear-coat combination, and HAP emissions are roughly the same. On a basis of emissions per gallon of applied coating solids, however, the reduction in VOC emissions from use of the mono-coat over the traditional basecoat/clear-coat is only 50 percent, and the HAP emissions are tripled.

Both the light duty and medium duty trucks produced by DCMI are unique in that the entire vehicle interior is coated with the same coating as the exterior. The vehicle interiors will be coated with a combination of robotic and manual spray applications,

while for both paint systems the exterior surfaces will be coated using ESTA equipment. Electrostatic spray equipment cannot be used on the interior vehicle spray applications, because the metal enclosure of the vehicle body surrounding the spray applicators would produce a Faraday effect and cause the coating to cover the spray applicator instead of the vehicle interior surfaces. Each of the two top-coat lines will be equipped with an indirect-fired curing oven through which the vehicles will pass after the mono-coat or basecoat/clear-coat top-coat system is applied.

The top-coat lines are a significant source of particulate matter and VOC and HAP emissions. The particulate matter resulting from overspray will be abated via wet venturi scrubbers. The VOC and HAP emissions from the curing oven will be abated through thermal oxidation. Some VOC and HAP will also be emitted in the spray booths and flash zones that precede the curing ovens; a portion of these emissions will be captured in the oven exhaust and will be abated by the oxidizer. The remainder will be released to the atmosphere. Exhaust gases from the oxidizer will be used to provide heat to the radiant and convection zones of the curing oven.

The vehicle bodies leaving the top-coat curing ovens will pass through cooling tunnels and then converge into a single process line again before proceeding to an inspection and polishing deck, which will consist of two or more lines. Bodies with defects will be sanded and the defect re-painted. Bodies with significant paint defects will be sent through the top-coat process a second time. Bodies without defects and those that are repaired in the inspection and polishing deck will then pass through to an exterior seam sealer stage, where a sealer consisting of almost 100 percent solids will be applied as a bead to vehicle exterior seams. (Note that this exterior seam sealer is different from the sealers applied after e-coat, which do contain a small fraction of VOC.) Next, the vehicle bodies enter the cavity wax stage, where a water-borne wax will be spray-applied by a combination of manual and automatic spray techniques. The wax is applied to interior seams, body cavities and other inner recesses and is cured by infrared heating elements. Water and a small amount of solvent are emitted in this process. Particulate matter emissions from the spray application are controlled by gravity deposition and by dry filtration. The VOC emissions are not controlled.

The various stages throughout the paint shop lines will be supported by a paint mix area, where the coatings and solvents will be stored, mixed and dispensed. These materials will be maintained in closed drums and totes and will be fed to closed mixing tanks prior to being pumped to paint applicators. The tanks used to mix solvent-borne clear-coat and store the clear-coat purge will be equipped with conservation vents that only open to relieve atmospheric pressure while materials are added to or withdrawn from the vessels. The paints will be delivered to applicators via a computerized, closed-loop recirculation system. There is no abatement of the relatively minor evaporative losses of VOC and HAP from the paint mixing and storage area.

### **3.3 The Final Assembly Shop**

The vehicle bodies will leave the paint shop in a single process line and enter one of two final assembly shops, where mechanical, electrical and trim components are assembled on the painted vehicle bodies. The vehicle doors are removed and placed on parallel production tracks, and identification plates and labels are attached to the bodies. Next,

interior trim components such as the instrument panel, pedal system, steering column, etc. are installed. Mechanical fasteners, rather than chemical bonding agents, are used for the installation of most components in this area.

The vehicles will proceed from interior trim component installation to a glazing operation, in which the windows will be installed by means of robotic equipment. The bond areas of the panes of glass, and in some cases the flange areas on the vehicle bodies, will be cleaned and primed for adhesive application and the fitting of the windows. VOC emissions from the combined glazing operations of the two body shops will be approximately 13 tons per year once production reaches the design capacity of the plant. These emissions will not be controlled and will be exhausted to the atmosphere with the general building ventilation system.

Once the windows have been installed, the vehicles will move to work decks where an underbody wax will be applied to the frame and motor area surfaces. Dry filtration systems will be used to collect any overspray that occurs. Combined VOC emissions from the wax application stages of the two assembly shops will total approximately 20 tons per year. As with the glazing operation, these emissions will not be controlled and will exit the building through the general ventilation system.

Next, the vehicles will be installed with pre-assembled engines, transmissions, drive trains, axle and suspension components, fuel tanks, brake systems, and electrical components. The drive components will be filled with required lubricants before assembly installation on the vehicles, while the brakes, radiators, air conditioning systems, power steering systems, and windshield washer fluid reservoirs will be filled after the assembly components are installed. At the end of the assembly line the vehicles will be filled with 20 liters of fuel. Other than the gasoline fuel, the various fluids added to the functional systems and reservoir tanks of the vehicles have very low vapor pressures. VOC emissions from these transfer and filling operations are estimated to total approximately 100 pounds per year from the combined final assembly shop operations. Emissions from the fuel filling operations will be reduced through the onboard vapor recovery systems of the vehicles, resulting in net total emissions from the combined assembly shops of approximately 200 pounds per year of VOC.

Vehicles leaving the final assembly shops will be sent to one of five functional test stands, where they will undergo a “rolling road” test, in which the engine is warmed up and the vehicle’s operating modes and functions are tested. The average vehicle will remain in the test stand for a period from 5 to 8 minutes, depending on how it is equipped. Particulate matter emissions (soot) from the test stands are controlled through the use of a filtration system with 80 to 85 percent control efficiency. Although PM emissions will be a function of the mix of fuels used (gasoline vs. diesel), they are projected to be on the order of 2 kilograms per year.

After the test stands, there will be a final repair station to inspect for damage to the painted surfaces of the vehicles. Damaged vehicles will be routed to a touch-up area, where the defects may be either polished out or else sent to one of two spot repair stations. Spot repairs will be achieved through the use of manual spray application of paints, with the overspray controlled through gravity deposition and dry particulate filtration systems. Based on historical records of existing LDT and MDT plants in Europe, it is estimated that the minor repair operations within the paint shop and the final assembly spot repair will utilize about 2.5 percent of the amount of top-coat that is

applied in the paint shops. Thus, VOC emissions from the two spot repair booths in the final assembly area are projected to be 15 tons per year, and PM emissions are projected to be less than 0.5 tons per year. The VOC emissions will not be abated.

### **3.4 Utilities and Support Services**

The support facilities will consist of a small tank farm for storage of vehicle fuel and fluids, hot water generators for process water, emergency power generators, a fuel oil storage tank, air handling units, and cooling towers.

The tank farm will consist of tanks of various designs and sizes to store gasoline and diesel fuels for the assembled vehicles, refrigerant coolant, brake fluid, antifreeze fluid, differential gear oil, transmission fluid, and power steering fluid. A detailed table of the tanks, dimensions, materials stored and projected annual throughputs is available in Section 6 of Volume I of the permit application, along with output from Tanks 4.0 to identify emissions from each tank. VOC emissions from the tank farm are estimated to be 0.77 tons per year; gasoline storage accounts for the majority of these emissions.

The DCMI facility will be equipped with five firetube boilers to provide heated process water (not steam) for operations at the plant. Three of the boilers will be rated at 1100 horsepower (~ 45 MM BTU/hr), and the remaining two will be rated at 600 horsepower (~ 24 MM BTU/hr). The boilers will be fired primarily with natural gas; No. 2 fuel oil will be used as a backup fuel during periods of natural gas curtailment. Potential emissions from the boilers are approximately 40 tons per year for NO<sub>x</sub>, 52 tons per year for CO, 14 tons per year for VOC, 7 tons per year for PM, and 36 tons per year for SO<sub>2</sub>.

A fuel oil storage tank will be sited adjacent to the boiler plant to provide backup fuel oil to the boilers during periods of natural gas curtailment. The preliminary tank design is for a capacity of 50,000 gallons.

DCMI plans to install two emergency power generators, each rated at 1.1 MW capacity. These units will run on diesel fuel. The anticipated operation of each generator is less than 250 hours per year, including time spent on testing and maintenance runs. The generators will emit approximately 5 tons per year of NO<sub>x</sub>. Emissions of other criteria pollutants will be less than one ton per year.

The plant will contain numerous small (between 1.42 and 2.84 MM BTU/hr) air handling units to provide comfort heat during the winter months as necessary.

Finally, the DCMI facility will be equipped with a refrigerant chiller system to provide cooling to air handling units and process air systems for temperature and humidity control. The refrigerant will be condensed using cooling water from a large cooling water recirculation system from the cooling towers, which will be equipped with high efficiency drift mist eliminators with 0.008 percent flow loss or better. The cooling towers will not utilize chromium or any other HAP in solution and will therefore not be subject to the NESHAP for these operations.

### **3.2 Emission Controls**

#### The Body Shops:

The Body Shops will emit relatively small amounts of particulate matter (primarily from welding operations) and some VOCs (from the application of adhesive compounds). Due to the low concentrations of these pollutants and the non-point source nature of the processes that emit them and the high air flow rates involved, it is considered technically and economically infeasible to abate emissions of PM and VOC that occur within the body shop. However, because the volatility of the solvents used in the adhesives is so high, it is expected that most of the VOC emissions will actually occur in the curing oven for the primer line, which will be controlled via thermal oxidation.

#### The Paint Shop:

The Paint Shop will be the primary emitter of VOC, HAPs and PM at the proposed facility. All significant sources of PM (from paint overspray) will be abated with either wet venturi systems or else by dry particulate filters. The paints to be utilized by DCMI do not contain heavy metal compounds listed as HAPs; therefore the PM emissions from the Paint Shop will not contribute to the HAP emission inventory from the facility.

The VOC and HAP emissions from the Paint Shop result from solvents used in the paint formulations. These solvents are primarily in the form of glycol ethers in the case of the water-borne coatings, such as the electro-deposition primer, the guide-coat, the mono-coat top-coat system, and the water-borne basecoat used in the conventional top-coat system. The remainder of the HAPs emitted are in the form of traditional paint solvents such as toluene, xylene isomers and ethyl benzene from the solvent-borne clear coat used in the traditional top-coat system. All primary sources of VOC and HAP from these coating operations, which include the curing ovens for the primer, guide-coat, and top-coat applications, will be controlled by thermal oxidation.

#### The Final Assembly Shop:

The Final Assembly Shop will emit approximately 43 tons per year of HAPs, or about 31 percent of the total HAPs emitted by the proposed DCMI facility. The primary source of these emissions will be the final repair top-coat spray booth, which is expected to consume an amount of top-coat equal to 2.5 percent of the top-coat consumed in the Paint Shop. Other, minor sources of HAP emissions will include fluids filling (primarily the fuel filling of the gasoline-fueled models) and adhesive application in the window glazing operations, and the storage of gasoline in the fuel farm. The emissions from the fuel filling operations will be minimized by the on-board vapor recovery systems that will be built into all of the LDT and MDT models. DCMI is not proposing to control emissions from the glazing and final repair operations.

#### Utilities and Support Services:

The Utilities and Support Services will be an insignificant source of HAP emissions from the DCMI facility at less than 1 ton per year HAP emissions. The majority of these emissions will result from the combustion of natural gas and distillate fuel oil in the hot water generators and emergency power generators. DCMI is proposing to minimize emissions of HAPs from these sources by limiting the use of distillate fuel oil as a back-up fuel and by limiting the use of the emergency power generators to routine maintenance and situations where electricity is not available from the grid, no to exceed 200 hours per year.

#### **4. EMISSION RATES AND 112(G) APPLICABILITY**

The methodologies used to quantify emissions from the emissions units at the DCMI facility are summarized in this section of the Notice of MACT Approval. The emission rates are calculated for all of the operations of the proposed facility. Projected emission rates are estimated by multiplying an emission factor by an associated process rate.

##### **4.1 112(g) Case-by-Case MACT Applicability**

A newly constructed or reconstructed major source of HAP without a promulgated Part 63 NESHAP will be subject to the requirements 40 CFR 63.40 through 63.44, a 112(g) case-by-case MACT determination as described by the Clean Air Act. The proposed DCMI facility will be subject to case-by-case MACT review under Section 112(g) of the 1990 Clean Air Act Amendments and corresponding regulations at 40 CFR Part 63, Subpart B because it meets all three of the following criteria:

- It meets the definition of “construct[ion] of a major source” as defined by 40 CFR 63.41;
- It will be a major source of HAP emissions, in that it has the potential to emit more than 10 tons per year of any individual HAP and/or 25 tons per year of any combination of HAPs; and
- The processes that will be emitting HAPs are among listed industry categories and will be subject to various MACT standards promulgated by U.S. EPA under authority of Section 112(d) of the 1990 Clean Air Amendments; however, none of the applicable MACT standards, or NESHAPs, has been fully promulgated at the time of permit issuance.

##### **4.2 Potential HAP Emissions**

The proposed DCMI facility will have potential and actual HAP emissions of 138 and 95 tons per year, respectively. The primary source of these emissions will be evaporative losses of HAP-containing solvents from surface coating operations. Other, less significant sources will include fossil fuel combustion and the fuel storage and filling operations. Some HAP (less than 1 ton per year) in the form of particulate matter will be emitted from the welding operations in the Body Shops.

### 4.3 HAP Emissions Profile

HAP and VOC emissions for each process of automobile manufacture at the facility have been calculated using recommended procedures and emission factors from U.S. EPA and the automobile manufacturing industry. The results are summarized in the table below:

<b>Emissions Source</b>	<b>Model</b>	<b>Primary HAP</b>	<b>HAP (tpy)</b>
<b>Body Shop (Welding)</b>	All	Manganese	0.44
<b>Paint Shop:</b>			
Vehicle Cleaning & Prep	All	N/A	0
Primer & Guide-coat	LDT	Glycol ethers	0.20
	MDT	Glycol ethers	0.40
Top-coat	LDT	Glycol ethers & BTEX	11.9
	MDT	Glycol Ethers	35.7
Miscellaneous (sealers, etc.)	All	N/A	25.8
Paint Mixing & Storage	N/A	Glycol ethers & BTEX	1.4
Maintenance Materials	N/A	N/A	19.0
<b>Final Assembly</b>	All	Glycol Ethers & BTEX	43.2
<b>Utilities &amp; Support</b>	N/A	BTEX & formaldehyde	< 1.0

BTEX = Benzene, Toluene, Ethyl Benzene, and Xylene Isomers

## 5. MAXIMUM AVAILABLE CONTROL TECHNOLOGY (MACT) ANALYSIS

A 112(g) case-by-case MACT determination is required for this facility. MACT emission limitation for new sources is defined as:

“...the emission limitation which is not less stringent than the emission limitation achieved in practice by the best controlled similar source, and which reflects the maximum degree of deduction in emissions that the permitting authority, taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements, determines is achievable by the constructed or reconstructed major source.” 40 CFR 63.41.

The requirements of the determination are set forth in 40 CFR 63.40 through 63.44.

### 5.1 MACT Technical Approach

Because EPA could not immediately issue MACT standards for all industries (and there was a potential for significant new sources of toxic air emissions to remain uncontrolled), section 112(g) of the Clean Air Act acts as a “gap-filler” requiring MACT-level control of air toxics when a new major source of HAP is constructed or reconstructed. The facility provides basic information about the source and its potential emissions through its air quality permit application. The application also specifies the emission controls that will ensure that new source MACT will be met. The Division reviews and approves (or disapproves) the application, and provides an opportunity for public comment on the determination.

The principles of a 112(g) case-by-case MACT determination are outlined in 40 CFR 63.43(d)(1) through (4) as follows:

(d) *Principles of MACT determinations.* The following general principles shall govern preparation by the owner or operator of each permit application or other application requiring a case-by-case MACT determination concerning construction or reconstruction of a major source, and all subsequent review of and actions taken concerning such an application by the permitting authority:

(1) The MACT emission limitation or MACT requirements recommended by the applicant and approved by the permitting authority shall not be less stringent than the emission control which is achieved in practice by the best controlled similar source, as determined by the permitting authority.

(2) Based upon available information, as defined in this subpart, the MACT emission limitation and control technology (including any requirements under paragraph (d)(3) of this section) recommended by the applicant and approved by the permitting authority shall achieve the maximum degree of reduction in emissions of HAP which can be achieved by utilizing those control technologies that can be identified from the available information, taking into consideration the costs of achieving such emission reduction and any non-air quality health and environmental impacts and energy requirements associated with the emission reduction.

(3) The applicant may recommend a specific design, equipment, work practice, or operational standard, or a combination thereof, and the permitting authority

may approve such a standard if the permitting authority specifically determines that it is not feasible to prescribe or enforce an emission limitation under the criteria set forth in section 112(h)(2) of the Act.

(4) If the Administrator has either proposed a relevant emission standard pursuant to section 112(d) or section 112(h) of the Act or adopted a presumptive MACT determination for the source category which includes the constructed or reconstructed major source, then the MACT requirements applied to the constructed or reconstructed major source shall have considered those MACT emission limitations and requirements of the proposed standard or presumptive MACT determination.

## **5.2 Potential Control Options**

The operations at the proposed DCMI facility were evaluated for potential applicability under the following NESHAPs that have already been promulgated: Subpart N for Chromium Anodizing and Electroplating, Subpart Q for Industrial Cooling Towers, and Subpart T for Halogenated Solvent Cleaning. None of these promulgated NESHAPs or their control requirements will apply to the proposed DCMI facility. There will be no chromium anodizing or electroplating operations; the facility will not utilize chromium in any of its water cooling towers; and DCMI will not perform any solvent cleaning operations with halogenated solvents.

The operations at the proposed DCMI facility were next broken into subcategories for evaluation of appropriate MACT level controls under Section 112(g) of the 1990 Clean Air Act Amendments. This evaluation included a review of any proposed NESHAPs under Section 112(d) that have not yet been promulgated and an evaluation of the best-controlled similar sources in the industry located elsewhere in the United States and its territories, as well as other DaimlerChrysler manufacturing facilities in Germany and Spain. The review of best-controlled similar sources included an evaluation of recently constructed automobile manufacturing facilities in Michigan and in U.S. EPA Region IV that have recently undergone case-by-case BACT and/or case-by-case MACT control technology reviews.

The manufacturing process subcategories include: welding operations in the Body Shops, surface coating of the LDT models in the Paint Shop, surface coating of MDT models in the Paint Shop, the boilers/hot water generators in the Utilities & Support Section, and the emergency power generators in the Utilities & Support Section.

The following federal MACT standards, or NESHAPs, have recently been proposed by U.S. EPA and will apply to the manufacturing subcategories listed above (with the exception of welding operations):

- 40 CFR Part 63 Subpart IIII, “National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks.”
- 40 CFR Part 63 Subpart MMMM, “National Emission Standards for Hazardous Air Pollutants: Surface Coating of Miscellaneous Metal Parts and Products.”
- 40 CFR Part 63 Subpart DDDDD, “National Emission Standards for Hazardous Air Pollutants: Industrial, Commercial and Institutional Boilers and Process Heaters.”

- 40 CFR Part 63 Subpart ZZZZ, “National Emission Standards for Hazardous Air Pollutants: Stationary Reciprocating Internal Combustion Engines.”

U.S. EPA expects that a proposed MACT standard will be strongly considered in the Division’s determination for case-by-case MACT level controls under Section 112(g) review. The Division has in the past allowed facilities to adopt proposed MACT standards as case-by-case MACT level controls under Section 112(g) construction permit reviews.

### **5.3 Technical Feasibility Review**

A control method or technology is considered available if it can be obtained through commercial channels or applied within the common sense meaning of the term. An available control technology is applicable if it can reasonably be installed and operated. A technology that is both available and applicable is technically feasible. EPA has identified the potential control options in the proposed MACT standards as being available and applicable.

### **5.4 Company’s Proposed MACT for HAP Control**

#### **A. Utilities & Support Services:**

##### Emergency Power Generators:

The DCMI facility will be equipped with two diesel-fired internal combustion engines for emergency power generation, rated at 1.1 MW, or 1615 brake horsepower, each. These units will eventually become subject to proposed Subpart ZZZZ once it is promulgated. Proposed Subpart P P P P P, “National Emission Standards for Hazardous Air Pollutants: Engine Test Cells/Standards” was also evaluated for potential applicability to the operation of the emergency power generators, since this NESHAP regulates various internal combustion engines; however, this proposed NESHAP specifically excludes such IC engines used for emergency power generation as affected sources. The anticipated actual emissions from these units (at a maximum of 200 hours of operation per year for maintenance and emergency power generation only) will be 200 pounds, or 0.1 ton, of VOC per year, of which approximately 25 percent is expected to be in the form of HAPs, primarily formaldehyde, acrolein, methanol, and acetaldehyde. The proposed NESHAP for this category contains only reporting requirements for units used exclusively for emergency power generation. Therefore, DCMI is proposing as MACT for the emergency power generators an enforceable operating limit of 200 hours per year for purposes of routine maintenance and emergency power generation when electricity is not available from the grid.

##### Hot Water Generators:

The proposed DCMI facility will be equipped with five fire-tube boilers for the generation on hot process water. These boilers, or hot water generators, will eventually be subject to proposed Subpart D D D D D once it is promulgated. These units are anticipated to emit, with the ultra-low NOx burner requirement that the Division is proposing as BACT for NOx emissions, 4.4 tons per year of VOC and 2.8 tons per year of PM, of which a portion will be HAPs. The types and amounts of HAP emitted are a function of the fuels that are burned and the size of the units. The proposed NESHAP for this source category contains different emission limits according to their size, fuel consumed, and

date of construction or reconstruction. The units being proposed by DCMI would be classified as new, large liquid-fired units under the proposed rule and would be subject to certain emission limits for particulate matter, hydrogen chloride and carbon monoxide (although carbon monoxide is not a HAP, it is being used as a surrogate for HAP emissions in the proposed NESHAP). However, the DCMI boilers, because they will burn only natural gas or distillate fuel oil and NOT residual oil, will not be subject to any performance testing requirements. The only requirements of the proposed NESHAP that will apply to the DCMI boilers are the requirements for initial notification and certification of the types of fuels utilized in the boilers. For this reason, DCMI is proposing limits and certification and record-keeping requirements on the types of fuels used in the boilers as MACT. These same limits and record-keeping requirements will be necessary to demonstrate compliance with other state and federal standards, including NSPS Subpart Dc and state rules (d) and (g).

#### B. Body Shop Welding Operations:

As discussed above and in the accompanying SIP construction application review, the two Body Shops of the proposed DCMI facility will contain a large number and variety of open-air welding operations in the initial assembly of the vehicle bodies. These operations are expected to emit, at extremely conservative emission factors, 0.88 tons per year of particulate matter, of which up to 50 percent may be comprised of manganese. These welding operations are not among the listed HAP source categories, and they were not included in the proposed automobile and light-duty truck surface coating NESHAP. Based on a review of best-controlled similar sources elsewhere in the country, DCMI is proposing as MACT no controls for these operations.

#### C. Paint Shop Operations:

The Paint Shop operations will consist of various stages, including: cleaning & surface preparation, prime coating, guide-coating, top-coating, and miscellaneous functional surface coating applications, such as underbody and cavity waxes and application of various sealers, sound deadeners and adhesives. Vehicles will enter and leave the Paint Shop in a single linear process line, but within the Paint Shop, the process line may split into two or more parallel lines for certain stages of the manufacturing process. None of these lines will be dedicated to a specific vehicle model, LDT or MDT; instead, all production lines will be geared to manufacture both vehicle sizes. This arrangement has implications for NESHAP applicability. Because the same production lines and process equipment will be involved in the manufacture of both light-duty and medium-duty trucks, they will eventually be regulated under two separate Section 112(d) MACT standards, or NESHAPs, namely Subpart IIII for the surface coating of light-duty trucks and Subpart M MMM for the surface coating of medium-duty trucks.

#### Case-By-Case MACT for Surface Coating of Medium-Duty Trucks:

The applicant's review of best-controlled similar sources subject to case-by-case MACT review under Section 112(g) revealed only one other recently permitted facility producing medium-duty trucks that has undergone case-by-case MACT review and contained a comparison of the HAP emissions from the proposed DCMI facility to this source. The applicant's review also included an evaluation of emission limits issued under PSD/BACT review and emission limits contained within the proposed NESHAP for miscellaneous metal surface coating operations, which will eventually apply to the production of medium-duty trucks at the DCMI facility. DCMI is proposing as MACT

for the surface coating operations of medium-duty trucks the emission standards contained in the draft Subpart MMMM NESHAP. These emission limits include a standard of 1.94 pounds of HAP emitted per gallon of coating solids, as averaged on a weighted monthly basis, and various work practice standards intended to minimize evaporative losses from miscellaneous surface preparation and coating operations.

The applicant proposes to comply with the aforementioned emission limits through a combination of standard and innovative water-borne and low-VOC/HAP coating systems and abatement via thermal oxidation of significant emission sources, including the curing ovens for the primer, guide-coat, and top-coat operations. Compliance demonstrations will be made using a weighted averaging approach with a monthly averaging period, taking into account reductions from the abatement systems.

Case-By-Case MACT for Surface Coating of Light-Duty Trucks:

The applicant's review of best-controlled similar sources subject to case-by-case MACT review under Section 112(g) included other recently permitted facilities producing automobiles and light-duty trucks that have undergone case-by-case BACT, LAER or MACT review and contained a comparison of the HAP emissions from the proposed DCMI facility to these sources. Direct comparisons of these sources are difficult to make, because of significant variations in vehicle performance requirements and process design. For example, some of the evaluated sources utilize near-zero emitting powder coats for their primer and/or clear-coat. Technologies such as these were evaluated by ruled out by the applicant as being technically infeasible. Furthermore, the applicant is proposing to utilize an innovative and inherently low-emitting single-coat mono-coat system on a significant fraction of the light-duty trucks manufactured at the proposed plant. There are no similar manufacturing operations within the United States with which to compare the use of this technology. The applicant attempted to overcome this difficulty in comparing emission rates from such dissimilar sources by converting the emissions from all evaluated facilities, including the proposed plant, into standard units of comparison, such as mass of HAP emitted per unit of production (completed vehicles), mass of HAP emitted per square foot of substrate coated, and mass of HAP emitted per gallon of coating solids applied to vehicles.

The applicant's review also included an evaluation of emission limits contained within the proposed NESHAP for surface coating of automobiles and light-duty trucks, which will eventually apply to the production of light-duty trucks at the DCMI facility. DCMI is proposing as MACT for the surface coating operations of light-duty trucks the emission standards contained in the draft Subpart IIII NESHAP.

The applicant proposed as MACT the various emission limits contained within U.S. EPA's proposed NESHAP for this industry category, including the work practice standards intended to minimize evaporate losses of solvents, including HAPs, to the atmosphere. These limits include:

- 0.30 pounds of HAP per gallon of applied coating solids, inclusive of emissions from primer, guide-coat, top-coat, final repair, and glass bonding primer and adhesive application, as averaged on a weighted monthly basis. Please note that the last two listed operations will actually occur within the Final Assembly Shop rather than the Paint Shop at the proposed DCMI plant;

- 0.010 pounds of HAP per pound of adhesive and sealers applied (excluding the adhesives used in glass bonding operations), as averaged on a weighted monthly basis;
- 0.010 pounds of HAP per pound of sound deadeners applied, as averaged on a weighted monthly basis; and
- 90 percent capture of purge solvents used to clean paint delivery lines and applicators.

The applicant proposes to comply with the aforementioned emission limits through a combination of standard and innovative water-borne and low-VOC/HAP coating systems and abatement via thermal oxidation of significant emission sources, including the curing ovens for the primer, guide-coat, and top-coat operations. Compliance demonstrations will be made using a weighted averaging approach with a monthly averaging period, taking into account reductions from the abatement systems.

#### D. Final Assembly Operations:

The final steps in the production of the LDT and MDT models will include a number of operations, such as: installation of interior trim components, window installation and glazing, underbody wax coating, vehicle fluids and fuel filling, vehicle and engine testing in test stands, and a final repair operation for patching of damaged paint jobs. Of these operations, the installation of interior trim components involves mechanical fasteners and will emit no VOC or HAP. Many of the remaining operations are regulated as surface coating processes and were included in the MACT determination for the Paint Shop operations and emissions; these include window glazing, underbody wax coating, and final repair of paint. The remaining operations that will emit HAPs and need to be evaluated for case-by-case MACT under Section 112(g) are: vehicle fluids and fuel filling and vehicle and engine testing in the test stands.

The operation of filling the finished vehicles with functional fluids, such as engine coolant and hydraulic and other fluids for the braking, engine coolant and lubricating oil, power steering and transmission systems is not expected to result in the emissions of any HAPs. With the exception of the engine coolant (which will contain some ethylene glycol), none of these materials contains any HAP. Moreover, the low volatility and closed-loop filling systems to be used with these materials will minimize evaporative losses to the atmosphere. The fueling of gasoline-powered vehicles is expected to result in VOC emissions of approximately 300 pounds per year, of which a portion will contain HAPs (primarily benzene, toluene, ethyl benzene and xylene isomers – the so-called BTEX compounds). However, these emissions will be effectively minimized by virtue of the on-board vapor recovery systems that will be installed in all truck models. There are no proposed NESHAPs for these fuel and fluid filling operations, and they are not among the listed source categories. DCMI has proposed as MACT no additional controls beyond the closed-loop fluid filling systems and the on-board vapor recovery systems for fuel filling.

The final vehicle test stands have been determined not to be subject to review under Section 112(g) because they are classified as mobile source emissions, rather than as stationary source emissions. This determination is based on the fact that the final vehicles being tested are fully assembled vehicles and are completely mobile under their own power at the point of testing. In order for the engine test stands to be regulated as point source emissions under Section 112(g), the engines would have to be removed from the

vehicles and mounted on stationary test stands. Subpart P P P P P, “National Emission Standards for Hazardous Air Pollutants: Engine Test Cells/Stands” was also evaluated for potential applicability to the operation of the test stands; however, this proposed NESHAP specifically excludes from the definition of affected sources any test stands in which fully assembled and self-mobile vehicles are tested.

## **5.5 Preliminary MACT Determination**

### **A. Utilities & Support Services:**

#### Emergency Power Generators:

The Division has reviewed the proposed operational limits that the applicant has proposed as MACT for the emergency power generators, as well as the extensive research prepared by U.S. EPA in the course of development of the proposed Subpart Z Z Z Z NESHAP. This research, which is available in the background information docket and summarized in the preamble to the proposed rule, provides extensive documentation and rationale for not requiring emissions controls on units used exclusively for emergency power generation. This documentation includes a survey of the best-controlled similar sources in the country. The Division accepts DCMI’s proposal of an enforceable operating limit of 200 hours per year for the emergency power generators as MACT level controls.

#### Hot Water Generators:

The Division has reviewed the proposed operational limits that the applicant has proposed as MACT for the boilers/hot water generators, as well as the extensive research prepared by U.S. EPA in the course of development of the proposed Subpart D D D D D NESHAP. This research, which is available in the background information docket and summarized in the preamble to the proposed rule, provides extensive documentation and rationale for not requiring emissions controls or associated performance testing and monitoring on units that burn only liquid or gaseous fossil fuels excluding residual oil. This documentation includes a survey of the best-controlled similar sources in the country. The Division accepts DCMI’s proposal of an limiting fuel sources for the five boilers to natural gas and low sulfur distillate fuel oil, with associated certifications and record-keeping.

### **B. Body Shop Welding Operations:**

The Division has reviewed and agrees with the applicant’s proposal for no active emission controls of the particulate matter emissions from the Body Shop welding operations. The Division is unaware of any similar operation that is abating particulate matter emissions elsewhere in the state or the country. Furthermore, the Division notes that the PM emissions from the welding operations in the Body Shop will be subject to two state emission standards for visible emissions, or opacity, and for particulate matter, and are also subject to BACT review under the federal PSD construction permitting program.

### **C. Paint Shop Operations:**

#### Surface Coating of Medium-Duty Trucks:

The Division’s review of case-by-case MACT for surface coating of medium-duty trucks included the following sources:

- Information submitted by the applicant regarding appropriate case-by-case MACT level standards, with particular emphasis on the novel one-step water-borne mono-coat system that will be employed on a significant fraction (approximately 80 percent) of the medium-duty trucks produced;
- An evaluation of the best-controlled similar sources in the industry category, which included a review of construction permits for automobile manufacturing facilities issued under the PSD permitting program with BACT or LAER emission limits; and
- An evaluation of the U.S. EPA's proposed NESHAP for surface coating of miscellaneous metal parts and products, Subpart M MMM, and its associated background information docket and preamble.

Upon review of these materials, the Division agrees with the applicant's proposal of imposing the requirements of the proposed Subpart M MMM NESHAP as case-by-case MACT for the DCMI facility.

#### Surface Coating of Light-Duty Trucks:

The Division's review of case-by-case MACT for surface coating of light-duty trucks included the following sources:

- Information submitted by the applicant regarding appropriate case-by-case MACT level standards, with particular emphasis on the novel one-step water-borne mono-coat system that will be employed on a significant fraction (approximately 50 percent) of the light-duty trucks produced;
- An evaluation of the best-controlled similar sources in the industry category, which included a review of construction permits for automobile manufacturing facilities issued under the PSD permitting program with BACT or LAER emission limits; and
- An evaluation of the U.S. EPA's proposed NESHAP for surface coating of automobiles and light-duty trucks, Subpart III, and its associated background information docket and preamble.

Upon review of these materials, the Division agrees with the applicant's proposal of imposing the requirements of the proposed Subpart III NESHAP as case-by-case MACT for the DCMI facility.

#### D. Final Assembly Operations

The Division has reviewed and agrees with the applicant's proposal for reduction of evaporative losses from the fluid filling and fueling operations through pollution prevention techniques such as the closed-loop fluids systems and the on-board vapor recovery systems for fueling operations. These technologies are demonstrated to be effective and economical methods for reducing the evaporative losses associated with these operations. The Division has reviewed other, recently constructed similar sources and has determined that the best-controlled similar sources do not actively abate the emissions from these operations.

## **ATTACHMENTS**

- A.1 Control Technology Requirements in Accordance Section 112(g)(2)(B) of the 1990 Clean Air Act Amendments, 40 CFR 63.40 through 63.44**
  
- A.2 40 CFR Part 63, Subpart MMMM, “National Emission Standards for Hazardous Air Pollutants: Surface Coating of Miscellaneous Metal Parts and Products” (proposed)**
  
- A.3 40 CFR Part 63, Subpart IIII, “National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks” (proposed)**
  
- A.4 40 CFR Part 63, Subpart DDDDD, “National Emission Standards for Hazardous Air Pollutants: Industrial, Commercial and Institutional Boilers and Process Heaters” (proposed)**
  
- A.5 40 CFR Part 63, Subpart ZZZZ, “National Emission Standards for Hazardous Air Pollutants: Stationary Reciprocating Internal Combustion Engines” (proposed)**
  
- A.5 40 CFR Part 63, Subpart PTTTT, “National Emission Standards for Hazardous Air Pollutants: Engine Test Cells / Stands” (proposed)**