



*The Commonwealth of Massachusetts*  
*Department of Environmental Protection*

*Metropolitan Boston - Northeast Region*

*5 Commonwealth Avenue*

*Woburn, Massachusetts 01801*

Daniel S. Greenbaum

Commissioner

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JUN - 8 1990



General Motors Corporation  
Loring Drive  
Framingham, Massachusetts 01701

RE: FRAMINGHAM - Metropolitan  
Boston/Northeast Region  
310 CMR 7.18(17)-Reasonably  
Available Control Technology  
AMENDED PLAN APPROVAL

Attention: Ronald L. Boyd,  
Director of Plant Engineering

Gentlemen:

The Metropolitan Boston/Northeast Region of the Department of Environmental Protection (pursuant to Stat. 1989, c. 240, Section 101, "...the department of environmental quality engineering shall be known as the department of environmental protection", hereinafter in this document referred to as the "Department"), has reviewed comments received as a result of the public hearing held on August 11, 1987 with respect to the General Motors Corporation's (GMC) Framingham facility's plan to achieve Reasonably Available Control Technology (RACT) pursuant to the Department Regulation 310 CMR 7.18(17). Regulation 310 CMR 7.18(17) requires facilities having the potential to emit 100 tons per year or more of volatile organic compounds (VOCs) to the ambient air to implement RACT and to operate in compliance with RACT. RACT as defined in the "Regulations" means "the lowest emission limitation that a particular facility is capable of meeting by application of control technology that is reasonably available considering technological and economic feasibility".

On April 30, 1987, the DEP approved a proposed RACT compliance plan for GMC. The United States Environmental Protection Agency (EPA) reviewed GMC's non-CTG RACT determination and found that the submittal was administratively and technically complete to initiate parallel processing. The DEP requested that EPA publish a notice of proposed rulemaking (NPR) on the SIP revision which would outline any deficiencies which would be corrected prior to final rulemaking. On March 22, 1988 (53 FR 9335), the NPR was published in the Federal Register. EPA indicated the specific amended Plan Approval superseded the original April 30, 1987 Plan Approval in which the Department conditionally approved GMC's original RACT plans submitted on August 7, 1986, and March 11, 1987. As in the original April 30, 1987 Plan Approval, this amended Plan Approval maintained a final compliance date of December 31, 1986 (unless otherwise noted) by which the RACT-defined VOC emission reduction measures must have been fully implemented.

Production processes at this facility which utilize volatile organic compounds are segregated into four principal categories: Prephosphate Cleaning, Flexible Parts, Miscellaneous Sealers and Adhesives, and Miscellaneous Paints and Solvents.

#### PREPHOSPHATE CLEANING

Prior to any materials entering the prephosphate operations, a clean-up operation is performed to remove excess oil and grease, dust, etc. GMC has been able to use solvent based or no/low VOC-containing material for cleaning. The current material being used at Framingham (AMCHEM Products, Inc. P3-T5175A) contains no VOC and is used at a rate of 1.543 pounds per job. The amount of exterior galvanized metal on the current model being produced at Framingham allows the use of the aforementioned material. In the RACT plan submitted to the Department, GMC proposed that RACT for prephosphate cleaning is the continued use of this no-VOC material. This amended Plan Approval requires the use of a no-VOC material for this clean-up operation.

#### FLEXIBLE PARTS

Prior to August 31, 1987, urethane coatings were applied to plastic fascias in the flexible parts painting operation. These plastic fascias were later assembled to the front of the vehicles. Twelve different colors were used and each color was formulated to match the color of the corresponding lacquer coating applied in the topcoat process. Flexible parts painting operations contributed 2.14 pounds of VOC per automobile painted. Based on 49 jobs per hour and 5094 hours per year, the potential emissions from this operation were 267 tons per year. On August 31, 1987, the date on which GMC ceased the existing lacquer topcoat and final repair operations, GMC also ceased the flexible parts painting for subsequent assembling at the Framingham facility. This amended Plan Approval requires that GMC cease the flexible parts painting operation at the Framingham facility.

#### MISCELLANEOUS SEALERS AND ADHESIVES

The miscellaneous sealers and adhesives category represents a grouping of over 50 materials used throughout the plant in the chassis, body, paint, and trim shops. These materials are used to seal weld joints, secure moldings, provide waterproofing, etc. These materials are distributed for usage on an as-needed basis. They are typically high solids (therefore low VOC content) materials to assure that material does not run following application on a vertical surface. Emissions of VOCs from application of the sealers and adhesives are fugitive in nature. This amended Plan Approval imposes emission limits and work practice standards on GMC's use of these materials.

## MISCELLANEOUS PAINTS AND SOLVENTS

The miscellaneous paints and solvents represent a grouping of approximately 40 different paints, thinners, etc. used in paint spray booths throughout the plant. These materials are used principally for purging and cleaning and maintaining plant spraying equipment, facilities, etc. The existing purging system on the topcoat color system involves the use of a dump valve located as close to the gun tip as practical. During the sequence of painting the automobile, each time a different color is introduced, the plant application equipment must be cleaned (purged) of the previous paint color. This purging is accomplished by the use of reconstituted LDL cleaning thinner and the new paint color. Color changing is minimized by block painting which minimizes purging frequency. Block painting utilizes a computerized system that selects production schedules to maximize painting of many cars of the same color in sequence. The purged material from the automatic spray guns, except the small amount required to clean the gun tip, is returned in a circulating system to a collected system. Handheld guns are no longer purged with thinner for color changes. This amended Plan Approval imposes emission limits and work practice standards on GMC's use of these materials.

RACT as defined by 310 CMR 7.18(17) must have been achieved by December 31, 1986. The conditions imposed on this facility to achieve the required emission reductions, in the opinion of the Department, constitute a reasonable level of control. The Department hereby amends the April 30, 1987 Plan Approval for General Motors Corporation in Framingham, Massachusetts, and requires that General Motors Corporation comply with the conditions contained in the following provisos:

1. Prephosphate Cleaning

The cleaning material, AMCHEM Products, Inc. P3-T5175A, shall contain no VOCs at any time. GMC may not use any type of cleaning material that contains VOCs in this operation.

2. Flexible Parts

Effective August 31, 1987, the Flexible Parts process was and shall remain shutdown (i.e., GMC shall not paint any of the flexible parts on-site at the Framingham facility). Should GMC alter its plans to purchase pre-painted flexible parts (produced on-site in the Flexible Parts process category prior to August 31, 1987) and choose to paint these parts at the Framingham facility or restart the Flexible Parts process, GMC shall be subject to the Massachusetts' new source review regulation located at 310 CMR 7.02 and shall, at a minimum, meet an emission limitation of 6.7 pounds VOC per gallon of solids for every coating utilized.

### 3. Miscellaneous Sealers and Adhesives

GMC shall comply with the following work practice standards and emission limitations for coatings used in the Miscellaneous Sealers and Adhesives process category on a continuous basis:

- a. Each and every sealer and adhesive that GMC uses in quantities equal to or exceeding 50 gallons per calendar month shall meet an emission limitation of 0.5 pounds VOC per gallon of material excluding water and exempt solvents.
- b. Each and every sealer and adhesive that GMC uses in quantities less than 50 gallons per calendar month shall meet an emission limitation of 5.5 pounds VOC per gallon of material excluding water and exempt solvents.
- c. All miscellaneous sealers and adhesives shall be stored in closed containers (i.e., containers with closed lids) at all times except when they are being used.
- d. GMC shall maintain the use of the automated system which meters the exact quantity of urethane adhesive necessary for rear windows. The system shall be maintained to be air tight to prevent premature curing of the urethane adhesive and to eliminate fugitive VOC emissions.
- e. GMC shall maintain the use of the urethane windshield primer system consisting of a recirculation system for the urethane primer and a hard pipe purge solvent system. During a normal production routine (i.e., two shifts per day or sixteen (16) hours per day), the system shall not be purged more than once every seven days.
- f. All waste sealers, waste adhesives, and waste solvents shall be disposed of in full compliance with all applicable environmental laws and shall be disposed of in a manner that does not result in more than 10 percent of the VOCs in the waste being emitted to the atmosphere.

### 4. Miscellaneous Paints and Solvents

GMC shall comply with the following work practice standards and emission limitations for coatings and solvents used in the Miscellaneous Paints and Solvents process category on a continuous basis:

- a. Each and every coating GMC uses on metal components in the facility excluding those subject to 310 CMR 7.18(7), "Automobile Surface Coating", shall meet the applicable emission limitation in 310 CMR 7.18(11), "Surface Coating of Miscellaneous Metal Parts and Products". This shall include the deadener, the anti-corrosion wax, the trunk interior coating, and the wheel coatings listed in the GMC's April 24, 1986 letter. This shall also include, but is not limited to, any autobody anti-chip coatings and underbody plastisols used at the plant.

- b. Effective December 31, 1986, the Heat Resistant Anti-Corrosion Coating shall no longer be used in the plant as stated GMC's April 24, 1986 letter. Should GMC alter its plans for this coating in the future, GMC shall be subject to the Massachusetts' new source review regulation located at 310 CMR 7.02 and shall, at a minimum, meet an emission limitation of 6.7 pounds VOC per gallon of solids for this coating.
- c. Each and every coating GMC uses on plastic components in the facility shall meet an emission limitation of 6.7 pounds VOC per gallon of solids.
- d. Each and every temporary coating (i.e., coatings which are applied to the booth surfaces prior to automobile painting) GMC uses in the facility shall meet an emission limitation of 1.5 pounds of VOC per gallon of solids. Only airless spray equipment shall be used to apply temporary coatings.
- e. All hand-held paint spray guns shall not be purged with VOC-containing thinner(s) at any time.
- f. During the purging operation for a color change of the automatic topcoat spray equipment, all of the previous color paint in the paint line and the purge thinner shall be flushed and blown into the purge recovery tank in a completely closed system. Only the amount of thinner necessary to purge the paint from the "gun/bell" tip and the paint in the tip shall be exhausted to the open air.
- g. The anti-corrosion wax application equipment shall incorporate recirculation between the pump and applicator and shall only be purged once per day. Only airless spray equipment shall be used to apply the anti-corrosion wax.
- h. During a normal production routine (i.e., two shifts per day or sixteen (16) hours per day), the computerized block painting scheme shall be in full effect (i.e., alternate blocks of thirty (30) cars at a minimum shall be painted one color followed by a batch of a maximum of ten (10) cars painted random colors).
- i. All clean-up solvents (both unused and used) shall be stored in closed containers (i.e., containers with closed lids) at all times except when they are being used or disposed of.
- j. All waste paints and waste solvents shall be disposed of in full compliance with all applicable environmental laws and shall be disposed of in a manner that does not result in more than 10 percent of the VOC emissions in the waste being emitted to the atmosphere.

5. In addition, GMC is ordered to meet the VOC emission limitations specified in the Table I on a monthly basis:

TABLE I

Miscellaneous Sealers and Adhesives

<u>Pounds of VOC per job</u>	<u>Potential VOC emissions (tons per 12 month period)</u>
1.2	150

Miscellaneous Paints and Solvents

<u>Pounds of VOC per job</u>	<u>Potential VOC emissions (tons per 12 month period)</u>
6.12	764

6. GMC shall perform appropriate testing using the appropriate test methods as required under 310 CMR 7.18(2).
7. GMC shall maintain monthly records on material usage for each of the miscellaneous sealers and adhesives, and miscellaneous paints and solvents. These records shall be maintained at the Framingham facility for not less than three (3) years. The records shall include amounts of each material used, the amount disposed of as waste, the associated VOC emissions, and number of vehicles painted. This information shall be totalled and submitted to the Department on a quarterly basis. These reports shall be submitted to the Department's Northeast Regional Office within 15 days after the close of the quarter. These quarterly reports shall be submitted to this Office by April 15, July 15, October 15, and January 15 of each year.
8. GMC shall record and report to the Department on a quarterly basis, the name and VOC content of all of those compounds/materials that are used in the Prephosphate Cleaning process category for removing excess oil and grease, dust, etc. These records shall be maintained at the Framingham facility for no less than three (3) years.

For Air Quality purposes, an Environmental Notification Form is not required to be submitted for this project since it is exempt under Environmental Protection Regulations of the Executive Office of Environmental Affairs.

Please be advised that the RACT determination under 310 CMR 7.18(17) is a revision to the Massachusetts State Implementation Plan and as such must be submitted for approval to the United States Environmental Protection Agency. In addition, this AMENDED PLAN APPROVAL does not negate the responsibility of the General Motors Corporation to comply with this or other applicable federal, state, or local regulations in the future. Nor does this approval imply the compliance with any other applicable federal, state, or local regulations now or in the future.

GMC is hereby notified that pursuant to G.L. c. 30A and 310 CMR 1.01 et. seq., GMC has the right to request an adjudicatory hearing with regard to this Reasonable Available Control Technology AMENDED PLAN APPROVAL within twenty-one (21) days of the date of this Notice. Any request for a hearing must be filed with the Docket Clerk, Office of General Counsel, Department of Environmental Protection, One Winter Street - 3rd Floor, Boston, Massachusetts 02108. A copy of such a request shall also be sent to the Department of Environmental Protection, Air Quality Section Chief, 5 Commonwealth Avenue, Woburn, Massachusetts 01801.

Should you have any questions concerning this matter, please do not hesitate to contact Mr. James E. Belsky, Air Quality Section Chief, Metropolitan Boston/ Northeast Region, 5 Commonwealth Avenue, Woburn, Massachusetts 01801.

Very truly yours,



Edward H. MacDonald  
Regional Engineer for Waste  
Prevention

EHM/pd

cc: Board of Health, Memorial Building - Room 221, Framingham, MA 01701  
Fire Department, 520 Concord St., Framingham, MA 01701  
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