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ARTICLE 2.0000

AIR POLLUTION CONTROL REGULATIONS AND PROCEDURES

SECTION 2.0900 VOLATILE ORGANIC COMPOUNDS

2.0901 DEFINITIONS

For the purpose of this Section, the following definitions apply:

- (1) **“Coating”** means a functional, protective, or decorative film applied in a thin layer to a surface.
- (2) **“Coating applicator”** means an apparatus used to apply a surface coating.
- (3) **“Coating line”** means one or more apparatus or operations in a single line wherein a surface coating is applied, dried, or cured and which include a coating applicator and flashoff area and may include an oven or associated control devices.
- (4) **“Continuous vapor control system”** means a vapor control system which treats vapors displaced from tanks during filling on a demand basis without intermediate accumulation.
- (5) **“Delivered to the applicator”** means the condition of coating after dilution by the user just before application to the substrate.
- (6) **“Flashoff area”** means the space between the application area and the oven.
- (7) **“High solids coating”** means a coating which contains a higher percentage of solids and a lower percentage of volatile organic compounds and water than conventional organic solvent-borne coatings.
- (8) **“Hydrocarbon”** means any organic compound of carbon and hydrogen only.
- (9) **“Incinerator”** means a combustion apparatus designed for high temperature operation in which solid, semisolid, liquid, or gaseous combustible wastes are ignited and burned efficiently and from which the solid and gaseous residues contain little or no combustible material.
- (10) **“Intermittent vapor control system”** means a vapor control system which employs an intermediate vapor holder to accumulate vapors displaced from tanks during filling. The control device treats the accumulated vapors only during automatically controlled cycles.
- (11) **“Loading rack”** means an aggregation or combination of loading equipment arranged so that all loading outlets in the combination can be connected to a tank truck or trailer parked in a specified loading space.
- (12) **“Low solvent coating”** means a coating which contains a substantially lower amount of volatile organic compound than conventional organic solvent borne coatings; it usually falls into one of three major groups of high solids, waterborne, or powder coatings.
- (13) **“Organic material”** means a chemical compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.
- (14) **“Oven”** means a chamber within which heat is used to bake, cure, polymerize, or dry a surface coating.
- (15) **“Potential emissions”** means the quantity of a pollutant which would be emitted at the maximum capacity of a stationary source to emit the pollutant under its physical and

operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is described or contained as a condition in the federally enforceable permit. Secondary emissions do not count in determining potential emissions of a stationary source. Fugitive emissions count, to the extent quantifiable, in determining the potential emissions only in these cases:

- (a) petroleum refineries,
 - (b) chemical process plants, and
 - (c) petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels.
- (16) **“Prime coat”** means the first film of coating applied to a surface to protect it or to prepare it to receive subsequent coatings.
- (17) **“Reasonably available control technology”** (also denoted as RACT) means the lowest emission limit which a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. It may require technology which has been applied to similar, but not necessarily identical, source categories.
- (18) **“Reid vapor pressure”** means the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids except liquefied petroleum gases as determined by American Society for Testing and Materials, Part 17, 1973, D-323-72 (reapproved 1977).
- (19) **“Shutdown”** means the cessation of operation of a source or a part thereof or emission control equipment.
- (20) **“Solvent”** means organic materials which are liquid at standard conditions and which are used as solvents, viscosity reducers, or cleaning agents.
- (21) **“Standard conditions”** means a temperature of 68°F and pressure of 29.92 inches of mercury.
- (22) **“Startup”** means the setting in operation of a source or emission control equipment.
- (23) **“Substrate”** means the surface to which a coating is applied.
- (24) **“Topcoat”** means the final film of coating applied in a multiple or single coat operation.
- (25) **“True vapor pressure”** means the equilibrium partial pressure exerted by a petroleum liquid as determined in accordance with methods described in American Petroleum Institute Bulletin 2517, “Evaporation Loss from Floating Roof Tanks”, 1962.
- (26) **“Vapor collection system”** means a vapor transport system which uses direct displacement by the liquid loaded to force vapors from the tank into a vapor control system.
- (27) **“Vapor control system”** means a system which prevents release to the atmosphere of at least 90 percent by weight of organic compounds in the vapors displaced from a tank during the transfer of gasoline.
- (28) **“Volatile organic compound”** (also denoted as VOC) means any compound of carbon whose volatile content can be determined by the procedure described in MCAPCO Regulations 2.0913 - “Determination of Volatile Content of Surface Coatings” or 2.0939 - “Determination of Volatile Organic Compound Emissions” excluding any compound that is listed under 40 CFR 51.100(s) as having been determined to have negligible photochemical

reactivity.

*History Note: Authority G.S. 143-215.3(a)(1);
Eff July 1, 1979;
Amended Eff. July 1, 1996, December 1, 1993;
July 1, 1991; March 1, 1991.*

2.0902 APPLICABILITY

(a) The Regulations in this Section do not apply except as specifically set out in this Regulation.

(b) Regardless of any other statement of applicability of this Section, this Section does not apply to:

- (1) sources whose emissions of volatile organic compounds are not more than 15 pounds per day, except that this Section does apply to the manufacture and use of cutback asphalt and to gasoline service stations or gasoline dispensing facilities regardless of levels of emissions of volatile organic compounds;
- (2) sources whose emissions do not exceed 800 pounds of volatile organic compounds per calendar month and that are:
 - (A) bench-scale, on-site equipment used exclusively for chemical or physical analysis for quality control purposes, staff instruction, water or wastewater analyses, or non-production environmental compliance assessments;
 - (B) bench-scale experimentation, chemical or physical analyses, training or instruction from not-for-profit, non-production educational laboratory
 - (C) bench-scale experimentation, chemical or physical analyses, training or instruction from hospitals or health laboratories pursuant to the determination or diagnoses of illness; or
 - (D) research and development laboratory activities provided the activity produces no commercial product or feedstock material; or
- (3) emissions of volatile organic compounds during startup or shutdown operations from sources which use incineration or other types of combustion to control emissions of volatile organic compounds whenever the off-gas contains an explosive mixture during the startup or shutdown operation if the exemption is approved by the Director as meeting the requirements of this Subparagraph.

(c) The following MCAPCO Regulations apply in Mecklenburg County:

- (1) 2.0925 - "Petroleum Liquid Storage in Fixed Roof Tanks", for fixed roof tanks at gasoline bulk plants and gasoline bulk terminals;
- (2) 2.0926 - "Bulk Gasoline Plants";
- (3) 2.0927 - "Bulk Gasoline Terminals";
- (4) 2.0928 - "Gasoline Service Stations Stage I";
- (5) 2.0932 - "Gasoline Truck Tanks and Vapor Collection Systems",
- (6) 2.0933 - "Petroleum Liquid Storage in External Floating Roof Tanks", for external floating roof tanks at bulk gasoline plants and bulk gasoline terminal;

- (7) 2.0948 - "VOC Emissions from Transfer Operations";
- (8) 2.0949 - "Storage of Miscellaneous Volatile Organic Compounds";
and
- (9) 2.0958 - "Work Practices for Sources of Volatile Organic Compounds".

(d) MCAPCO Regulation 2.0953 - "Vapor Return Piping for Stage II Vapor Recovery" applies in Mecklenburg County in accordance with provisions set out in that Regulation.

(e) All sources located in Mecklenburg County that were required to comply with any of these Regulations:

- (1) 2.0917 - "Automobile and Light-Duty Truck Manufacturing through 2.0937 - "Manufacture of Pneumatic Rubber Tires",
or
- (2) 2.0943 - "Synthetic Organic Chemical and Polymer Manufacturing" through 2.0945 - "Petroleum Dry Cleaning",

before July 5, 1995, shall continue to comply with those Regulations.

(f) If a violation of the ambient air quality standard for ozone is measured in accordance with 40 CFR 50.9 in Mecklenburg County, the Director of the North Carolina Department of Environment and Natural Resources - Division of Air Quality (NCDENR-DAQ) shall initiate analysis to determine the control measures needed to attain and maintain the ambient air quality standard for ozone. By the following May 1, the Director of Mecklenburg County Air Quality (MCAQ) shall implement the specific stationary source control measures contained in this Section that are required as part of the control strategy necessary to bring the area into compliance and to maintain compliance with the ambient air quality standard for ozone. The Director of MCAQ shall implement the Regulations in this Section identified as being necessary by the NCDENR-AQ analysis by notice in the North Carolina Register. The notice shall identify the Regulations that are to be implemented and shall identify whether the Regulations implemented are to apply in Gaston or Mecklenburg County or in both counties. At least one week before the scheduled publication date of the North Carolina Register containing the NCDENR-AQ Director's notice implementing Regulations in this Section, the Director of MCAQ shall send written notification to all permitted facilities within the county in which the Regulations are being implemented that are or may be subject to the requirements of this Section informing them that they are or may be subject to the requirements of this Section. Compliance shall be in accordance with MCAPCO Regulation 2.0909 - "Compliance Schedules for Sources in New Nonattainment Areas".

(g) *Relevant to Counties other than Mecklenburg County, therefore this paragraph was not adopted.*

(h) *Relevant to Counties other than Mecklenburg County, therefore this paragraph was not adopted.*

(i) Sources whose emissions of volatile organic compounds are not subject to limitation under this Section may still be subject to emission limits on volatile organic compounds in MCAPCO

Regulation 2.0524 - “New Source Performance Standards”, 2.1110 - “National Emission Standards for Hazardous Air Pollutants”, or 2.1111 - “Maximum Achievable Control Technology”.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. August 1, 2004; July 1, 2000; April 1, 1997; July 1, 1996; July 1,
1995; May 1, 1995; July 1, 1994.*

2.0903 RECORDKEEPING: REPORTING: MONITORING

(a) This Regulation applies to sources subject to Regulations in this Section.

(b) The owner or operator of any volatile organic compound emission source or control equipment shall maintain:

- (1) records detailing all activities relating to any compliance schedule in this Section,
- (2) records detailing all malfunctions under MCAPCO Regulation 2.0535 - “Excess Emissions Reporting and Malfunctions”,
- (3) records of all testing conducted under Regulations in this Section,
- (4) records of all monitoring conducted under Paragraph (d) of this Regulation, and
- (5) records necessary to determine compliance as required by Paragraph (d) of this Regulation.

(c) When requested by the Director, the owner or operator of any volatile organic compound emission source or control equipment shall submit reports detailing the following:

- (1) General information.
 - (A) Type of source and process description.
 - (B) Schedule of operation.
 - (C) Quantity of volatile organic compounds emitted per day from each source.
 - (D) Quantity and type of wash and clean-up solvents used each day for each source.
- (2) Coating line information.
 - (A) Method of application.
 - (B) Drying method used and minimum temperature.
 - (C) Substrate type.
 - (D) Substrate form.
 - (E) Type of coatings applied, number of each coating type applied, and quantity of each type of coating applied per day.
 - (F) Percent by weight of volatile organic compounds content of each coating applied.
 - (G) Percent by volume of solids content of each coating applied.
 - (H) Method used to determine volume percent solids content of coatings.
 - (I) Type and quantity of diluents added to each coating and percent by weight of volatile organic content of each diluent.

- (3) Control equipment.
 - (A) Thermal incinerator.
 - (i) Combustion temperature.
 - (ii) Residence time.
 - (B) Catalytic incinerator.
 - (i) Exhaust gas temperature.
 - (ii) Change in temperature across catalyst bed.
 - (iii) Residence time.
 - (iv) Date of last change of catalyst bed.
 - (v) Date of last catalyst test and results of test.
 - (C) Condenser.
 - (i) Inlet temperature of cooling medium.
 - (ii) Outlet temperature of cooling medium.
 - (D) Emission test results.
 - (i) Inlet volatile organic compound concentration.
 - (ii) Outlet volatile organic compound concentration.
 - (iii) Explanation of how inlet and outlet concentrations have been determined.
 - (iv) Date when these concentrations were last determined.
 - (E) Capture system.
 - (i) Type of capture system.
 - (ii) Efficiency of capture system.
 - (iii) Explanation of how capture efficiency has been determined.

The owner or operator of the source shall also provide any other pertinent information to the Director when requested.

- (d) The owner or operator of any volatile organic compound emission source or control equipment shall:
 - (1) install, operate, and maintain process and/or control equipment monitoring instruments or procedures as necessary to comply with Paragraphs (b) and (c) of this Regulation; and
 - (2) maintain, in writing, data and/or reports relating to monitoring instruments or procedures which will, upon review, document the compliance status of the volatile organic compound emission source or control equipment to the satisfaction of the Director; such data and reports shall, as a minimum, be maintained daily.
- (e) Copies of all records and reports under Paragraphs (b), (c), and (d) of this Regulation shall be retained by the owner or operator for a minimum of two years after the date on which the record was made or the report submitted. However, the Director may extend the retention period in particular instances when necessary to comply with other State or federal requirements or when compliance with a particular standard requires documentation for more than two years.
- (f) Copies of all records and reports under this Section shall be made available within a

reasonable time to the Director upon written request.

History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. July 1, 1993; July 1, 1991; December 1, 1989;
January 1, 1985; July 1, 1980; June 1, 1980.

**2.0904 MALFUNCTIONS: BREAKDOWNS: UPSETS
(REPEALED BY STATE PRIOR TO LOCAL ADOPTION)**

History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.68; 143-215.107(a)(5);
Eff. July 1, 1979; Repealed Eff. March 1, 1983.

**2.0905 PETITION FOR ALTERNATIVE CONTROLS
(REPEALED BY STATE PRIOR TO LOCAL ADOPTION)**

History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.68; 143-215.107(a)(5);
Eff. July 1, 1979; Amended Eff. January 1, 1985; July 1, 1980.
Repealed Eff. July 1, 1988.

2.0906 CIRCUMVENTION

(a) An owner or operator subject to this Section shall not build, erect, install, or use any article, machine, equipment, process, or method, the use of which conceals an emission which would otherwise constitute a violation of an applicable Regulation.

(b) Paragraph (a) of this Regulation includes, but is not limited to, the use of gaseous diluents to achieve compliance and the piecemeal carrying out of an operation to avoid coverage by a Regulation that applies only to operations larger than a specified size.

History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. January 1, 1985.

**2.0907 COMPLIANCE SCHEDULES FOR SOURCES IN NONATTAINMENT
AREAS (REPEALED)**

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. May 1, 1995; July 1, 1994; July 1, 1994;
January 1, 1985;
Repealed Eff. April 1, 1997.

**2.0908 EQUIPMENT MODIFICATION COMPLIANCE SCHEDULES
(REPEALED BY STATE PRIOR TO LOCAL ADOPTION)**

History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.68; 143-
215.107(a)(5);
Eff. July 1, 1979; Amended Eff. January 1, 1985; July 1,
1980.
Repealed Eff. July 1, 1988.

2.0909 COMPLIANCE SCHEDULES FOR SOURCES IN NEW NONATTAINMENT AREAS

(a) With the exceptions in Paragraph (b) of this Regulation, this Regulation applies to all sources covered by Paragraphs (e), (f), or (g) of MCAPCO Regulation 2.0902 - "Applicability".

(b) This Regulation does not apply to:

- (1) sources in Mecklenburg County required to comply with the requirements of this Section under MCAPCO Regulation 2.0902 - "Applicability" Paragraph(c)
- (2) sources covered under MCAPCO Regulations 2.0953 - "Vapor Return Piping for Stage II Vapor Recovery", or 2.0954 - "Stage II Vapor Recovery"
or
- (3) sources required to comply with the requirements of this Section under MCAPCO Regulation 2.0902 - "Applicability" Paragraph (a).

(c) The owner or operator of any source subject to this Regulation because of the application of Paragraphs (e), (f), or (g) of MCAPCO Regulation 2.0902 - "Applicability" shall adhere to the following increments of progress and schedules:

- (1) if compliance is to be achieved by installing emission control equipment, replacing process equipment, or modifying existing process equipment:
 - (A) A permit application and a compliance schedule shall be submitted within six months after the Director of the North Carolina Department of Environment and Natural Resources notices in the North Carolina Register that an area is in violation of the ambient air quality standard for ozone;
 - (B) The compliance schedule shall contain the following increments of progress:
 - (i) a date by which contracts for the emission control system and process equipment shall be awarded or orders shall be issued for purchase of component parts;
 - (ii) a date by which on-site construction or installation of the emission control and process equipment shall begin; and
 - (iii) a date by which on-site construction or installation of the emission control and process equipment shall be completed;
 - (C) Final compliance shall be achieved within three years after the Director of the North Carolina Department of Environment and Natural Resources notices in the North Carolina Register that the area is in violation of the ambient air quality standard for ozone.
- (2) if compliance is to be achieved by using low solvent content coating technology:
 - (A) A permit application and a compliance schedule shall be submitted to Mecklenburg County Air Quality (MCAQ) within six months after the Director of the North Carolina Department of Environment and Natural Resources notices in the North Carolina Register that an area is in violation of the ambient air quality standard for ozone;
 - (B) The compliance schedule shall contain the following increments:
 - (i) a date by which research and development of low solvent content coating shall be completed if the Director of MCAQ determines that low solvent

- content coating technology has not been sufficiently researched and developed;
 - (ii) a date by which evaluation of product quality and commercial acceptance shall be completed;
 - (iii) a date by which purchase orders shall be issued for low solvent content coatings and process modifications;
 - (iv) a date by which process modifications shall be initiated; and
 - (v) a date by which process modifications shall be completed and use of low solvent content coatings shall begin;
- (C) Final compliance shall be achieved within three years after the Director of the North Carolina Department of Environment and Natural Resources notices in the North Carolina Register that the area is in violation of the ambient air quality standard for ozone.

(d) The owner or operator shall certify to the Director of MCAQ within five days after the deadline, for each increment of progress in Paragraph (c) of this Regulation, whether the required increment of progress has been met.

(e) If the Director of MCAQ requires a test to demonstrate that compliance has been achieved the owner or operator of sources subject to this Regulation shall conduct a test and submit a final test report within six months after the stated date of final compliance.

(f) With such exception as the Director of MCAQ may allow, the owner or operator of any source subject to this Regulation shall continue to comply with MCAPCO Regulation 2.0518 - "Miscellaneous Volatile Organic Compound Emissions" until such time as the source complies with applicable regulations in this Section or until the final compliance date set forth in this Regulation, whichever comes first. The Director of the Department may allow the following exceptions:

- (1) testing coating materials,
- (2) making or testing equipment or process modifications,
- or
- (3) adding or testing control devices.

(g) The owner or operator of any new source of volatile organic compounds not in existence or under construction as of the date that the Director of the North Carolina Department of Environment and Natural Resources notices in the North Carolina Register in accordance with Paragraphs (e), (f), or (g) of MCAPCO Regulation 2.0902 - "Applicability" that the area is in violation of the ambient air quality standard for ozone, shall comply with all applicable Regulations in this Section upon start-up of the source.

(h) Paragraphs (c), (d), and (f) of this Regulation will not apply to sources that are in compliance with applicable Regulations of this Section when the Director of the North Carolina Department of Environment and Natural Resources notices in the North Carolina Register that the area is in violation of the ambient air quality standard for ozone and that have determined and certified

compliance to the satisfaction of the Director within six months after the Director of the North Carolina Department of Environment and Natural Resources notices in the North Carolina Register that the area is in violation.

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. April 1, 1997; July 1, 1995; July 1, 1994; July 1, 1988; January 1, 1985.

2.0910 ALTERNATIVE COMPLIANCE SCHEDULES (REPEALED)

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. May 1, 1995; July 1, 1994; July 1, 1988;
January 1, 1985;
Repealed Eff. April 1, 1997.

2.0911 EXCEPTION FROM COMPLIANCE SCHEDULES (REPEALED)

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. May 1, 1995; July 1, 1994; July 1, 1980;
Repealed Eff. April 1, 1997.

2.0912 GENERAL PROVISIONS ON TEST METHODS AND PROCEDURES

(a) The owner or operator of any volatile organic compound source required to comply with Regulations in this Section shall, at his own expense, demonstrate compliance by the methods described in MCAPCO Regulations 2.0912 - "General Provisions on Test Methods and Procedures" through 2.0916 - "Determination: VOC Emissions from Bulk Gasoline Terminals" and 2.0939 - "Determination of Volatile Organic Compound Emissions" through 2.0942 - "Determination of Solvent in Filter Waste". The owner or operator of a volatile organic compound source shall demonstrate compliance when the Director requests such demonstration. The Director shall explain to the owner or operator the basis for requesting a demonstration of compliance and shall allow reasonable time for testing to be performed.

(b) Volatile organic compound emissions compliance testing shall be allowed and the results shall be accepted, only if the Director has been notified as required by Paragraph (c) of this Regulation and if the Director has granted approval. The Director shall grant approval if all the information required under Paragraph (c) of this Regulation is included in the notification and if the correct testing procedures are used.

(c) Any person proposing to conduct a volatile organic compound emissions test shall notify the Director at least 21 days before beginning the test so that the Director may at his option observe the test. Any person notifying the Director of a proposed volatile organic compound emissions test shall include as part of notification the following minimum information:

- (1) a statement indicating the purpose of the proposed test;
- (2) a detailed description of the facility to be tested;
- (3) a detailed description of the test procedures, equipment, and sampling sites;
and
- (4) a timetable, setting forth the dates on which
 - (A) the testing will be conducted;
 - (B) preliminary test results will be reported (not later than 30 days after sample collection);
and
 - (C) the final test report will be submitted (not later than 60 days after completion of on-site sampling).

(d) If the volatile organic compound emissions test shows noncompliance, the owner or operator of the volatile organic source shall submit along with the final test report proposed corrective action.

(e) For compliance determination, the owner or operator of any volatile organic compound emissions source shall be responsible for providing:

- (1) sampling ports, pipes, lines, or appurtenances for the collection of samples and data required by the test procedure;
- (2) safe access to the sample and data collection locations;
and
- (3) light, electricity, and other utilities required for sample and data collection.

(f) Compliance shall be determined on a line-by-line basis using the more stringent of the following two:

- (1) Compliance shall be determined on a daily basis for each coating line using a weighted average, that is, dividing the sum of the mass (pounds) of volatile organic compounds in coatings consumed on that coating line, as received, and the mass (pounds) of volatile organic compound solvents added to the coatings on that coating line by the volume (gallons) of coating solids consumed during that day on that coating line; or
- (2) Compliance shall be determined as follows:
 - (A) When low solvent or high solids coatings are used to reduce emissions of volatile organic compounds, compliance shall be determined instantaneously.
 - (B) When add on control devices, e.g., solvent recovery systems or incinerators, are used to reduce emissions of volatile organic compounds, compliance shall be determined by averaging emissions over a one-hour period.

(g) The Director may authorize the Department to conduct independent tests of any source subject to a Regulation in this Section to determine the compliance status of that source or to verify any test data submitted about that source. Any test conducted by the Department using the appropriate testing procedures described in this section shall have precedence over all other tests. The United States Environmental Protection Agency (EPA) may verify any test submitted by the owner or operator of a source, and any test conducted by EPA using the appropriate testing procedures described in this Section shall have precedence over tests conducted by the owner or operator of the source.

*History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;*

Amended Eff. April 1, 2003; July 1, 1993; July 1, 1991; March 1, 1991; December 1, 1989; January 1, 1985; July 1, 1980.

2.0913 DETERMINATION OF VOLATILE CONTENT OF SURFACE COATINGS

(a) In accordance with MCAPCO Regulation 2.0912 - "General Provisions on Test Methods and Procedures", the volatile matter content, water content, density, volume of solids and weight of solids of surface coatings shall be determined by the procedures set forth in Method 24 of Appendix A of 40 CFR Part 60. Compounds exempted under the definition of "Volatile Organic Compound" found in MCAPCO Regulation 2.0901 - "Definitions" shall be treated as water. The results of the tests shall be expressed in the same units as the emission limits given in the Regulation for which compliance is being determined.

(b) In accordance with MCAPCO Regulation 2.0912 - "General Provisions on Test Methods and Procedures", the volatile matter and density of printing inks and related coatings shall be determined by the procedures set forth in Method 24A of Appendix A of 40 CFR Part 60. The results of the tests shall be expressed in the same units as the emission limits given in the Regulation for which compliance is being determined.

*History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. March 1, 1991, December 1, 1989; July 1, 1988; January 1, 1985.*

2.0914 DETERMINATION OF VOC EMISSION CONTROL SYSTEM EFFICIENCY

(a) The provisions of this Regulation are applicable, in accordance with MCAPCO Regulation 2.0912 - "General Provisions on Test Methods and Procedures", to any test method employed to determine the collection or control efficiency of any device or system designed, installed, and operated for the purpose of reducing volatile organic compound emissions.

(b) The following procedures shall be used to determine efficiency:

- (1) The volatile organic compound containing material shall be sampled and analyzed using the procedures contained in this Article such that the quantity of emissions that could result from the use of the material can be quantified.
- (2) Samples of the gas stream containing volatile organic compounds shall be taken simultaneously at the inlet and outlet of the emissions control device.
- (3) The total combustible carbon content of the samples shall be determined by a method described in MCAPCO Regulation 2.0939 - "Determination of Volatile Organic Compound Emissions".
- (4) The efficiency of the control device shall be expressed as the fraction of total combustible carbon content reduction achieved.
- (5) The volatile organic compound mass emission rate shall be the sum of emissions from the control device and emissions not collected by the capture system.

(c) Capture efficiency performance of volatile organic compound emission control systems shall

be determined using the EPA recommended capture efficiency protocols and test methods as described in the EPA document, EMTIC GD-035, "Guidelines for Determining Capture Efficiency".

(d) The EPA document, EMTIC GD-035, "Guidelines for Determining Capture Efficiency" cited in this Regulation is hereby incorporated by reference including any subsequent amendments or editions. A copy of this document is available for inspection at MCAQ. Copies of this document may be obtained by downloading a text file from the EPA TTN 2000 home page through the EMTIC (Emission Measurement Technical Information) technical information area at <http://www.epa.gov/ttn/emc/guidlnd/gd-035.pdf> or [gd-035.wpd](http://www.epa.gov/ttn/emc/guidlnd/gd-035.wpd).

History Note: Authority G.S. 143-215.3(a)(1); 143-215.68; 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. July 1, 1998; January 1, 1985.

2.0915 DETERMINATION OF SOLVENT METAL CLEANING VOC EMISSIONS

(a) This method is used to determine volatile organic compound emissions from solvent metal cleaning equipment.

(b) The purpose of this method is to quantify, by material balance, the amount of solvent input into a degreaser over a sufficiently long period of time so that an average emission rate can be computed.

(c) The following procedure shall be followed to perform a material balance test:

- (1) clean the degreaser sump before testing;
- (2) record the amount of solvent added to the tank with a flow meter;
- (3) record the weight and type of work load degreased each day;
- (4) at the end of the test run, pump out the used solvent and measure the amount with a flow meter; also, estimate the volume of metal chips and other material remaining in the emptied sump, if significant;
- (5) bottle a sample of the used solvent and analyze it to find the percent that is oil and other contaminants; the oil and solvent proportions can be estimated by weighing samples of used solvent before and after boiling off the solvent. Compute the volume of oils in the used solvent. The volume of solvent displaced by this oil along with the volume of make-up solvent added during operations is equal to the solvent emissions.

History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.68; 143-215.107(a)(5);
Eff. July 1, 1979; Amended Eff. January 1, 1985.

2.0916 DETERMINATION: VOC EMISSIONS FROM BULK GASOLINE TERMINALS

In accordance with MCAPCO Regulation 2.0912 - "General Provisions on Test Methods and Procedures", the emissions of volatile organic compounds from bulk gasoline terminals shall be determined by the procedures set forth in 40 CFR 60.503.

History Note: Statutory Authority G.S. 143-215.3(a)(1);143-215.107(a) (5);
Eff. July 1, 1979;
Amended Eff. July 1, 1988; April 1, 1986; January 1, 1985.

2.0917 AUTOMOBILE AND LIGHT-DUTY TRUCK MANUFACTURING

(a) For the purpose of this Regulation, the following definitions apply:

- (1) **"Application area"** means the area where the coating is applied by dipping or spraying.
- (2) **"Automobile"** means all passenger cars or passenger car derivatives capable of seating 12 or fewer passengers.
- (3) **"Light-duty trucks"** means any motor vehicles rated at 8,500 pounds gross weight or less which are designed primarily for purpose of transportation or are derivatives of such vehicles except automobiles.
- (4) **"Manufacturing plant"** means a facility where auto body parts are manufactured and/or finished for eventual inclusion into a finished product ready for sale to vehicle dealers. Customizers, body shops and other repairers are not part of this definition.

(b) This Regulation applies to the application area(s), flashoff area(s), and oven(s), of automotive and light-duty truck manufacturing plants involved in prime, topcoat and final repair coating operations.

(c) Emissions of volatile organic compounds from any automotive or light-duty truck manufacturing plant coating line subject to this Regulation shall not exceed:

- (1) 1.4 pounds of volatile organic compounds per gallon of solids delivered to the applicator from prime application, flashoff area, and oven operations;
- (2) 4.5 pounds of volatile organic compounds per gallon of solids delivered to the applicator from topcoat and surface application, flashoff area, and oven operation;
- (3) 13.8 pounds of volatile organic compounds per gallon of solids delivered to the applicator from final repair application, flashoff area, and oven operation.

(d) *PARAGRAPH NOT ADOPTED - Mecklenburg County had no facilities complying with this requirement instead of 2.0518(e) prior to December 1, 1989.*

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. July 1, 1996, December 1, 1989; April 1, 1986.

2.0918 CAN COATING

(a) For the purpose of this Regulation, the following definitions apply:

- (1) **“End sealing compound”** means a synthetic rubber compound which is coated onto can ends and which functions as a gasket when the end is assembled on the can.
- (2) **“Exterior base coating”** means a coating applied to the exterior of a can to provide exterior protection to the metal and to provide background for the lithographic or printing operation.
- (3) **“Interior base coating”** means a coating applied by roller coater or spray to the interior of a can to provide a protective lining between the can metal and product.
- (4) **“Interior body spray”** means a coating sprayed on the interior of the can body to provide a protective film between the product and the can.
- (5) **“Overvarnish”** means a coating applied directly over ink to reduce the coefficient of friction, to provide gloss, and to protect the finish against abrasion and corrosion.
- (6) **“Three-piece can side-seam spray”** means a coating sprayed on the exterior and interior of a welded, cemented, or soldered seam to protect the exposed metal.
- (7) **“Two-piece can exterior end coating”** means a coating applied by roller coating or spraying to the exterior end of a can to provide protection to the metal.

(b) This Regulation applies to coating applicator(s) and oven(s) of sheet, can, or end coating lines involved in sheet basecoat (exterior and interior) and overvarnish; two-piece can interior body spray; two-piece can exterior end (spray or roll coat); three-piece can side-seam spray and end sealing compound operations.

(c) Emissions of volatile organic compounds from any can coating line subject to this Regulation shall not exceed:

- (1) 4.5 pounds of volatile organic compounds per gallon of solids delivered to the coating applicator from sheet basecoat (exterior and interior) and overvarnish or two-piece can exterior (basecoat and overvarnish) operations,
- (2) 9.8 pounds of volatile organic compounds per gallon of solids delivered to the coating applicator from two and three-piece can interior body spray and two-piece can exterior end (spray or roll coat) operations,
- (3) 21.8 pounds of volatile organic compounds per gallon of solids delivered to the coating applicator from a three-piece applicator from a three-piece can side-seam spray operations,
- (4) 7.4 pounds of volatile organic compounds per gallon of solids delivered to the coating applicator from end sealing compound operations.

(d) *PARAGRAPH NOT ADOPTED - Mecklenburg County had no facilities complying with this requirement instead of 2.0518(e) prior to December 1, 1989.*

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. July 1, 1996, December 1, 1989; January 1,
1985.*

2.0919 COIL COATING

(a) For the purpose of this Regulation, the following definitions apply:

- (1) **“Coil coating”** means the coating of any flat metal sheet or strip that comes in rolls or coils.
- (2) **“Quench area”** means a chamber where the hot metal exiting the oven is cooled by either a spray of water or a blast of air followed by water cooling.

(b) This Regulation applies to the coating applicator(s) oven(s), and quench area(s) of coil coating lines involved in prime and top coat or single coat operations.

(c) Emissions of volatile organic compounds from any coil coating line subject to this Regulation shall not exceed 4.0 pounds of volatile organic compounds per gallon of solids delivered to the coating application from prime and topcoat or single coat operations.

(d) *PARAGRAPH NOT ADOPTED - Mecklenburg County had no facilities complying with this requirement instead of 2.0518(e) prior to December 1, 1989.*

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. July 1, 1996, December 1, 1989; January 1,
1985.*

2.0920 PAPER COATING

(a) For the purpose of this Regulation, the following definitions apply:

- (1) **“Knife coating”** means the application of a coating material to a substrate by means of drawing the substrate beneath a knife that spreads the coating evenly over the full width of the substrate.
- (2) **“Paper coating”** means decorative, protective, or functional coatings put on paper and pressure sensitive tapes regardless of substrate. The coatings are distributed uniformly across the web. Related web coating processes on plastic film and decorative coatings on metal foil are included in this definition. Saturation operations are included in this definition.
- (3) **“Roll coating”** means the application of a coating material to a substrate by means of hard rubber or steel rolls.
- (4) **“Rotogravure coating”** means the application of a coating material to a substrate by means of a roll coating technique in which the substance to be applied is temporarily retained in etchings on the coating roll. The coating material is picked up in these recessed areas and is transferred to the substrate.

(b) This Regulation applies to roll, knife or rotogravure coater(s) and drying oven(s) of paper coating lines.

(c) Emissions of volatile organic compounds from any paper coating line subject to this Regulation shall not exceed 4.8 pounds of volatile organic compounds per gallon of solids delivered to the coating applicator from a paper coating line.

(d) *PARAGRAPH NOT ADOPTED Mecklenburg had no facilities complying with this requirement instead of 2.0518(e) prior to December 1, 1989.*

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. July 1, 1996, December 1, 1989; January 1,
1985.*

2.0921 FABRIC AND VINYL COATING

(a) For the purpose of this Regulation, the following definitions apply:

- (1) **“Fabric coating”** means applying protective or functional coatings to a textile substance with a knife, roll, rotogravure, rotary screen, or flat screen coater to impart properties that are not initially present, such as strength, stability, water or acid repellency, or appearance. Printing on textile fabric for decorative or other purposes is not part of this definition. Saturation operations are included in this definition.
- (2) **“Knife coating”** means the application of a coating material to a substrate by means of drawing the substrate beneath a knife which spreads the coating evenly over the full width of the substrate.
- (3) **“Roll coating”** means the application of a coating material to a substrate by means of hard rubber or steel rolls.
- (4) **“Rotary screen or flat screen coating”** means the application of a coating material to a substrate by means of masking the surface and applying a color or finish using a screen either in flat form or rotary form.
- (5) **“Rotogravure coating”** means the application of a coating material to a substrate by means of a roll coating technique in which the pattern to be applied is etched on the coating roll. The coating material is picked up in these recessed areas and is transferred to the substrate.
- (6) **“Vinyl coating”** means applying a functional, decorative, or protective topcoat, or printing on vinyl coated fabric or vinyl sheets.

(b) This Regulation applies to roll, knife, rotogravure, rotary screen, or flat screen coater(s) and drying oven(s) of fabric and vinyl coating lines.

(c) Emissions of volatile organic compounds from any fabric coating line or vinyl coating line subject to this Regulation shall not exceed:

- (1) 4.8 pounds of volatile organic compounds per gallon of solids delivered to the coating applicator from a fabric coating line, or
- (2) 7.9 pounds of volatile organic compounds per gallon of solids delivered to the coating applicator from a vinyl coating line.

(d) *PARAGRAPH NOT ADOPTED Mecklenburg had no facilities complying with this requirement instead of 2.0518(e) prior to December 1, 1989.*

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. July 1, 1996, December 1, 1989; January 1, 1985.*

2.0922 METAL FURNITURE COATING

(a) For the purpose of this Regulation, the following definitions apply:

- (1) **“Application area”** means the area where the coating is applied by spraying, dipping, or flowcoating techniques.
- (2) **“Metal furniture coating”** means the surface coating of any furniture made of metal or any metal part which will be assembled with other metal, wood, fabric, plastic, or glass parts to form a furniture piece.

(b) This Regulation applies to the application area(s), flashoff area(s), and oven(s) of metal furniture coating lines involved in prime and topcoat or single coating operations.

(c) Emissions of volatile organic compounds from any metal furniture coating line subject to this Regulation shall not exceed 5.1 pounds of volatile organic compounds per gallon of solids delivered to the coating applicator from prime and topcoat or single coat operations.

(d) *PARAGRAPH NOT ADOPTED Mecklenburg had no facilities complying with this requirement instead of 2.0518(e) prior to December 1, 1989.*

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. July 1, 1996, December 1, 1989; January 1,
1985.*

2.0923 SURFACE COATING OF LARGE APPLIANCES

(a) For the purpose of this Regulation, the following definitions apply:

- (1) **“Application area”** means the area where the coating is applied by spraying, dipping, or flowcoating techniques.
- (2) **“Large appliances”** means doors, cases, lids, panels, and interior support parts of residential and commercial washers, dryers, ranges, refrigerators, freezers, water heaters, dishwashers, trash compactors, air conditioners, and other similar products.
- (3) **“Single coat”** means a single film of coating applied directly to the metal substrate omitting the primer application.

(b) This Regulation applies to application area(s), flashoff area(s), and oven(s) of large appliance coating lines involved in prime, single, or topcoat coating operations.

(c) This Regulation does not apply to the use of quick-drying lacquers for repair of scratches and nicks which occur during assembly, if the volume of coating does not exceed one quart in any eight-hour period.

(d) Emissions of volatile organic compounds from any large appliance coating line subject to this Regulation shall not exceed 4.5 pounds of volatile organic compounds per gallon of solids

delivered to the coating applicator from prime, single, or topcoat coating operations.

- (e) *PARAGRAPH NOT ADOPTED Mecklenburg had no facilities complying with this requirement instead of 2.0518(e) prior to December 1, 1989.*

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. July 1, 1996, December 1, 1989; January 1,
1985.*

2.0924 MAGNET WIRE COATING

(a) For the purpose of this Regulation, “**magnet wire coating**” means the process of applying a coating of electrically insulating varnish or enamel to aluminum or copper wire for use in electrical machinery.

(b) This Regulation applies to the oven(s) of magnet wire coating operations.

(c) Emissions of volatile organic compounds from any magnet wire coating oven subject to this Regulation shall not exceed 2.2 pounds of volatile organic compounds per gallon of solids delivered to the coating applicator from magnet wire coating operations.

- (d) *PARAGRAPH NOT ADOPTED Mecklenburg had no facilities complying with this requirement instead of 2.0518(e) prior to December 1, 1989.*

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. July 1, 1996, December 1, 1989; January 1,
1985.*

2.0925 PETROLEUM LIQUID STORAGE IN FIXED ROOF TANKS

(a) For the purpose of this Regulation, the following definitions apply:

- (1) **“Condensate”** means hydrocarbon liquid separated from natural gas which condenses due to changes in the temperature and/or pressure and remains liquid at standard conditions.
- (2) **“Crude oil”** means a naturally occurring mixture which consists of hydrocarbons and/or sulfur, nitrogen and/or oxygen derivatives of hydrocarbons and which is a liquid at standard conditions.
- (3) **“Custody transfer”** means the transfer of produced crude oil and/or condensate, after processing and/or treating in the producing operations, from storage tanks or automatic transfer facilities to pipeline or any other forms of transportation.
- (4) **“External floating roof”** means a storage vessel cover in an open top tank consisting of a double deck or pontoon single deck which rests upon and is supported by the petroleum liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.
- (5) **“Internal floating roof”** means a cover or roof in a fixed roof tank which rests upon or is floated upon the petroleum liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.
- (6) **“Petroleum liquids”** means crude oil, condensate, and any finished or intermediate products manufactured or extracted in a petroleum refinery.
- (7) **“Petroleum refinery”** means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of crude oils, or through redistillation, cracking, extraction, or reforming of unfinished petroleum derivatives.

(b) This Regulation applies to all fixed roof storage vessels with capacities greater than 39,000 gallons containing volatile petroleum liquids whose true vapor pressure is greater than 1.52 psia.

(c) This Regulation does not apply to volatile petroleum liquid storage vessels:

- (1) equipped with external floating roofs, or
- (2) having capacities less than 416,000 gallons used to store produced crude oil and condensate prior to lease custody transfer.

(d) With the exceptions stated in Paragraph (c) of this Regulation, the owner or operator of any fixed roof storage vessel subject to this Regulation shall not use the storage vessel unless:

- (1) the storage vessel has been retrofitted with an internal floating roof equipped with a closure seal, or seals, to close the space between the roof edge and tank wall;
- (2) the storage vessel is maintained such that there are no visible holes, tears, or other openings in the seal or any seal fabric or materials;
- (3) all openings, except stub drains are equipped with covers, lids, or seals such that:
 - (A) the cover, lid, or seal is in the closed position at all times except when in actual use;
 - (B) automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports;

- (C) rim vents, if provided, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting;
- (4) routine visual inspections are conducted through roof hatches once per month;
- (5) a complete inspection of cover and seal is conducted whenever the tank is emptied for maintenance, shell inspection, cleaning, or for other nonoperational reasons or whenever excessive vapor leakage is observed; and
- (6) records are maintained in accordance with MCAPCO Regulation 2.0903 - "Recordkeeping: Reporting: Monitoring" and shall include:
 - (A) reports of the results of inspections conducted under Subparagraphs (d)(4) and (d)(5) of this Regulation,
 - (B) a record of the average monthly storage temperature, and true vapor pressures of petroleum liquids stored, and
 - (C) records of the throughput quantities and types of petroleum liquids for each storage vessel.

History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. March 1, 1991; December 1, 1989; January 1, 1985.

2.0926 BULK GASOLINE PLANTS

(a) For the purpose of this Regulation, the following definitions apply:

- (1) **“Average daily throughput”** means annual throughput of gasoline divided by 312 days per year.
- (2) **“Bottom filling”** means the filling of a truck tank or stationary storage tank through an opening that is flush with the tank bottom.
- (3) **“Bulk gasoline plant”** means a gasoline storage and distribution facility which has an average daily throughput of less than 20,000 gallons of gasoline and which usually receives gasoline from bulk terminals by trailer transport, stores it in tanks, and subsequently dispenses it via account trucks to local farms, businesses, and service stations.
- (4) **“Bulk gasoline terminal”** means a gasoline storage facility which usually receives gasoline from refineries primarily by pipeline, ship, or barge; and delivers gasoline to bulk gasoline plants or to commercial or retail accounts primarily by truck tank; and has an average daily throughput of more than 20,000 gallons of gasoline.
- (5) **“Gasoline”** means any petroleum distillate having a Reid vapor pressure of four psia or greater.
- (6) **“Incoming vapor balance system”** means a combination of pipes or hoses which create a closed system between the vapor spaces of an unloading truck tank or trailer and a receiving stationary storage tank such that vapors displaced from the receiving stationary storage tank are transferred to the truck tank or trailer being unloaded.
- (7) **“Outgoing vapor balance system”** means a combination of pipes or hoses which create a closed system between the vapor spaces of an unloading stationary storage tank and a receiving truck tank or trailer such that vapors displaced from the receiving truck tank or trailer are transferred to the stationary storage tank being unloaded.
- (8) **“Splash filling”** means the filling of a truck tank or stationary storage tank through a pipe or hose whose discharge opening is above the surface level of the liquid in the tank being filled.
- (9) **“Submerged filling”** means the filling of a truck tank or stationary tank through a pipe or hose whose discharge opening is entirely submerged when the pipe normally used to withdraw liquid from the tank can no longer withdraw any liquid, or whose discharge opening is entirely submerged when the liquid level is six inches above the bottom of the tank.

(b) This Regulation applies to the unloading, loading, and storage facilities of all bulk gasoline plants and of all truck tanks or trailers delivering or receiving gasoline at bulk gasoline plants except stationary storage tanks with capacities less than 528 gallons.

(c) The owner or operator of a bulk gasoline plant shall not transfer gasoline to any stationary storage tanks after May 1, 1993 unless the unloading truck tank or trailer and the receiving stationary storage tank are equipped with an incoming vapor balance system as described in Paragraph (i) of this Regulation and the receiving stationary storage tank is equipped with a fill line whose discharge opening is flush with the bottom of the tank.

(d) The owner or operator of a bulk gasoline plant with an average daily throughput of 4000 gallons or more shall not load truck tanks or trailers at such plant after May 1, 1993, unless the unloading stationary storage tank and the receiving truck tank or trailer are equipped with an outgoing vapor balance system as described in Paragraph (i) of this Regulation and the receiving truck tank or trailer is equipped for bottom filling.

(e) The owner or operator of a bulk gasoline plant with an average daily throughput of more than 2,500 gallons but less than 4,000 gallons located in an area with a housing density exceeding specified limits as described in this Paragraph shall not load any truck tank or trailer at such bulk gasoline plant after November 1, 1996, unless the unloading stationary storage tank and receiving truck tank or trailer are equipped with an outgoing vapor balance system as described in Paragraph (i) of this Regulation and the receiving truck tank or trailer is equipped for bottom filling. In Mecklenburg County the specified limit on housing density is 50 residences in a square one mile on a side with the square centered on the loading rack at the bulk gasoline plant and with one side oriented in a true North-South direction. In all other counties the specified limit on housing density is 100 residences per square mile. The housing density shall be determined by counting the number of residences using aerial photographs or other methods determined by the Director to provide equivalent accuracy.

(f) The owner or operator of a bulk gasoline plant not subject to the outgoing vapor balance system requirements of Paragraph (d) or (e) of this Regulation shall not load truck tanks or trailers at such plants unless:

- (1) equipment is available at the bulk gasoline plant to provide for submerged filling of each truck tank or trailer; or
- (2) each receiving truck tank or trailer is equipped for bottom filling.

(g) For a gasoline bulk plant located in a nonattainment area for ozone, once the average daily throughput of gasoline at the bulk gasoline plant reaches or exceeds the applicability threshold in Paragraph (d) or (e) of this Regulation or if Paragraph (d) or (e) is currently applicable to the bulk gasoline plant, the bulk gasoline plant shall continue to comply with the outgoing vapor balance system requirements of Paragraph (d) or (e) of this Regulation, as is applicable, even though the average daily gasoline throughput falls below the threshold contained in Paragraph (d) or (e) of this Regulation.

(h) The owner or operator of a bulk gasoline plant, truck tank or trailer that is required to be equipped with a vapor balance system pursuant to Paragraph (c), (d), or (e) of this Regulation shall not transfer gasoline between truck tank or trailer and stationary storage tank unless:

- (1) the vapor balance system is in good working order and is connected and operating,
- (2) truck tank or trailer hatches are closed at all times during loading and unloading operations,
and
- (3) the truck tank's or trailer's pressure/vacuum relief valves and hatch covers and the truck tanks or storage tanks or associated vapor and liquid lines are vapor tight during loading or unloading.

(i) Vapor balance systems required by Paragraphs (c), (d), and (e) of this Regulation shall consist of the following major components:

- (1) a vapor space connection on the stationary storage tank equipped with fittings which are vapor tight and will be automatically and immediately closed upon disconnection so as to prevent release of organic material,
- (2) a connecting pipe or hose equipped with fittings which are vapor tight and will be automatically and immediately closed upon disconnection so as to prevent release of organic material,
- and
- (3) a vapor space connection on the truck tank or trailer equipped with fittings which are vapor tight and will be automatically and immediately closed upon disconnection so as to prevent release of organic material.

(j) The owner or operator of a bulk gasoline plant shall paint all tanks used for gasoline storage white or silver at the next scheduled painting or before November 1, 2002, whichever is sooner.

(k) The pressure relief valves on truck tanks or trailers loading or unloading at bulk gasoline plants shall be set to release at the highest possible pressure (in accordance with state or local fire codes or the National Fire Prevention Association guidelines). The pressure relief valves on stationary storage tanks shall be set at 0.5 psi for storage tanks placed in service on or after November 1, 1992, and 0.25 psi for storage tanks existing before November 1, 1992.

(l) No owner or operator of a bulk gasoline plant may permit gasoline to be spilled, discarded in sewers, stored in open containers, or handled in any other manner that would result in evaporation.

(m) The owner or operator of a bulk gasoline plant shall observe loading and unloading operations and shall discontinue the transfer of gasoline:

- (1) if any liquid leaks are observed, or
- (2) if any vapor leaks are observed where a vapor balance system is required under Paragraph (c), (d), or (e) of this Regulation.

(n) The owner or operator of a bulk gasoline plant shall not load, or allow to be loaded, gasoline into any truck tank or trailer unless the truck tank or trailer has been certified leak tight in accordance with MCAPCO Regulation 2.0932 - "Gasoline Truck Tanks and Vapor Collection Systems" within the last 12 months where the bulk gasoline plant is required to use an outgoing vapor balance system.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979; Amended Eff. July 1, 1996, May 1, 1993,
March 1, 1991, December 1, 1989.*

2.0927 BULK GASOLINE TERMINALS

(a) For the purpose of this Regulation, the following definitions apply:

- (1) **“Breakout tank”** means a tank used to:
 - (A) relieve surges in a hazardous liquid pipeline system, or
 - (B) receive and store hazardous liquids transported by pipeline for reinjection and continued transport by pipeline.
- (2) **“Bulk gasoline terminal”** means:
 - (A) breakout tanks of an interstate oil pipeline facility; or
 - (B) a gasoline storage facility that usually receives gasoline from refineries primarily by pipeline, ship, or barge; delivers gasoline to bulk gasoline plants or to commercial or retail accounts primarily by tank truck; and has an average daily throughput of more than 20,000 gallons of gasoline.
- (3) **“Contact deck”** means a deck in an internal floating roof tank that rises and falls with the liquid level and floats in direct contact with the liquid surface.
- (4) **“Gasoline”** means a petroleum distillate having a Reid vapor pressure of four psia or greater.
- (5) **“Degassing”** means the process by which a tank’s interior vapor space is decreased to below the lower explosive limit for the purpose of cleaning, inspection, or repair.
- (6) **“Liquid balancing”** means a process used to degas floating roof gasoline storage tanks with a liquid whose vapor pressure is below 1.52 psia. This is done by removing as much gasoline as possible without landing the roof on its internal supports, pumping in the replacement fluid, allowing mixing, remove as much mixture as possible without landing the roof, and repeating these steps until the vapor pressure of the mixture is below 1.52 psia.
- (7) **“Liquid displacement”** means a process by which gasoline vapors, remaining in an empty tank, are displaced by a liquid with a vapor pressure below 1.52 psia.

(b) This Regulation applies to bulk gasoline terminals and the appurtenant equipment necessary to load the tank truck or trailer compartments.

(c) Gasoline shall not be loaded into any tank trucks or trailers from any bulk gasoline terminal unless:

- (1) The bulk gasoline terminal is equipped with a vapor control system that prevents the emissions of volatile organic compounds from exceeding 35 milligrams per liter. The owner or operator shall obtain from the manufacturer and maintain in his records a pre-installation certification stating the vapor control efficiency of the system in use;
- (2) Displaced vapors and gases are vented only to the vapor control system or to a flare;
- (3) A means is provided to prevent liquid drainage from the loading device when it is not in use or to accomplish complete drainage before the loading device is disconnected; and
- (4) All loading and vapor lines are equipped with fittings that make vapor-tight

connections and that are automatically and immediately closed upon disconnection.

(d) Sources regulated by Paragraph (b) of this Regulation shall not:

- (1) allow gasoline to be discarded in sewers or stored in open containers or handled in any manner that would result in evaporation, or
- (2) allow the pressure in the vapor collection system to exceed the tank truck or trailer pressure relief settings.

(e) The owner or operator of a bulk gasoline terminal shall paint all tanks used for gasoline storage white or silver at the next scheduled painting or by December 1, 2002, whichever occurs first.

(f) The owner or operator of a bulk gasoline terminal shall install on each external floating roof tank with an inside diameter of 100 feet or less used to store gasoline a self-supporting roof, such as a geodesic dome, at the next time that the tank is taken out of service or by December 1, 2002, whichever occurs first.

(g) The following equipment shall be required on all tanks storing gasoline at a bulk gasoline terminal:

- (1) rim-mounted secondary seals on all external and internal floating roof tanks,
- (2) gaskets on deck fittings, and
- (3) floats in the slotted guide poles with a gasket around the cover of the poles.

(h) Decks shall be required on all above ground tanks with a capacity greater than 19,800 gallons storing gasoline at a bulk gasoline terminal. All decks installed after June 30, 1998 shall comply with the following requirements:

- (1) deck seams shall be welded, bolted or riveted; and
- (2) seams on bolted contact decks and on riveted contact decks shall be gasketed.

(i) If, upon facility or operational modification of a bulk gasoline terminal that existed before December 1, 1992, an increase in benzene emissions results such that:

- (1) emissions of volatile organic compounds increase by more than 25 tons cumulative at any time during the five years following modifications; and
- (2) annual emissions of benzene from the cluster where the bulk gasoline terminal is located (including the pipeline and marketing terminals served by the pipeline) exceed benzene emissions from that cluster based upon calendar year 1991 gasoline throughput and application of the requirements of this Article,

the annual increase in benzene emissions due to the modification shall be offset within the cluster by reduction in benzene emissions beyond that otherwise achieved from compliance with this Regulation, in the ratio of at least 1.3 to 1.

(j) The owner or operators of a bulk gasoline terminal that has received an air permit before December 1, 1992, to emit toxic air pollutants under MCAPCO Section 1.5700 - "Toxic Air

Pollutant Procedures” to comply with MCAPCO Section 2.1100 - “Control of Toxic Air Pollutants” shall continue to follow all terms and conditions of the permit issued under MCAPCO Section 1.5700 - “Toxic Air Pollutant Procedures” and to bring the terminal into compliance with MCAPCO Section 2.1100 - “Control of Toxic Air Pollutants” according to the terms and conditions of the permit, in which case the bulk gasoline terminal shall continue to need a permit to emit toxic air pollutants and shall be exempted from Paragraphs (e) through (i) of this Regulation.

(k) The owner or operator of a bulk gasoline terminal shall not load, or allow to be loaded, gasoline into any truck tank or trailer unless the truck tank or trailer has been certified leak tight according to MCAPCO Regulation 2.0932 - “Gasoline Truck Tanks and Vapor Collection Systems” within the last 12 months.

(l) The owner or operator of a bulk gasoline terminal shall have on file at the terminal a copy of the certification test conducted according to MCAPCO Regulation 2.0932 - “Gasoline Truck Tanks and Vapor Collection Systems” for each gasoline tank truck loaded at the terminal.

(m) Emissions of gasoline from degassing of external or internal floating roof tanks at a bulk gasoline terminal shall be collected and controlled by at least 90 percent by weight. Liquid balancing shall not be used to degas gasoline storage tanks at bulk gasoline terminals. Bulk gasoline storage tanks containing not more than 138 gallons of liquid gasoline or the equivalent of gasoline vapor and gasoline liquid are exempted from the degassing requirements if gasoline vapors are vented for at least 24-hours. Documentation of degassing external or internal floating roof tanks shall be made according to MCAPCO Regulation 2.0903 - “Recordkeeping: Reporting: Monitoring”.

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);

Eff. July 1, 1979;

Amended Eff. April 1, 2003; August 1, 2002; July 1, 1998; July 1, 1996; July 1, 1994; December 1, 1992.

2.0928 GASOLINE SERVICE STATIONS STAGE I

(a) Definitions. For the purpose of this Regulation, the following definitions apply:

- (1) **“Coaxial system”** means the delivery of the product and recovery of vapors occur through a single coaxial fill tube, which is a tube within a tube. Product is delivered through the inner tube, and vapor is recovered through the annular space between the walls of the inner tube and outer tube.
- (2) **“Delivery vessel”** means truck tanks or trailers equipped with a storage tank and used for the transport of gasoline from sources or supply to stationary storage tanks of gasoline dispensing facilities.
- (3) **“Dual point system”** means the delivery of the product to the stationary storage tank and the recovery of vapors from the stationary storage tank occurs through two separate openings in the storage tank and two separate hoses between the truck tank and the stationary storage tank.
- (4) **“Gasoline”** means a petroleum distillate having a Reid vapor pressure of four psia or greater.
- (5) **“Gasoline dispensing facility”** means any site where gasoline is dispensed to motor vehicle gasoline tanks from stationary storage tanks.
- (6) **“Gasoline service station”** means any gasoline dispensing facility where gasoline is sold to the motoring public from stationary storage tanks.
- (7) **“Line”** means any pipe suitable for transferring gasoline.
- (8) **“Operator”** means any person who leases, operates, controls, or supervises a facility at which gasoline is dispensed.
- (9) **“Owner”** means any person who has legal or equitable title to the gasoline storage tank at a facility.
- (10) **“Poppeted vapor recovery adaptor”** means a vapor recovery adaptor that automatically and immediately closes itself when the vapor return line is disconnected and maintains a tight seal when the vapor return line is not connected.
- (11) **“Stationary storage tank”** means a gasoline storage container which is a permanent fixture.
- (12) **“Submerged fill pipe”** means any fill pipe with a discharge opening which is entirely submerged when the pipe normally used to withdraw liquid from the tank can no longer withdraw any liquid, or which is entirely submerged when the level of the liquid is:
 - (A) six inches above the bottom of the tank if the tank does not have a vapor recovery adaptor, or
 - (B) 12 inches above the bottom of the tank if the tank has a vapor recovery adaptor.If the opening of the submerged fill pipe is cut at a slant, the distance is measured from the top of the slanted cut to the bottom of the tank.
- (13) **“Throughput”** means the amount of gasoline dispensed at a facility during a calendar month after November 15, 1990.

(b) Applicability. This Regulation applies to all gasoline dispensing facilities and gasoline

service stations and to delivery vessels delivering gasoline to a gasoline dispensing facility or gasoline service station.

(c) Exemptions. This Regulation does not apply to:

- (1) transfers made to storage tanks at gasoline dispensing facilities or gasoline service stations equipped with floating roofs or their equivalent;
- (2) stationary tanks with a capacity of not more than 2,000 gallons which are in place before July 1, 1979, if the tanks are equipped with a permanent or portable submerged fill pipe;
- (3) stationary storage tanks with a capacity of not more than 550 gallons which are installed after June 30, 1979, if tanks are equipped with a permanent or portable submerged fill pipe;
- (4) stationary storage tanks with a capacity of not more than 2,000 gallons located on a farm or a residence and used to store gasoline for farm equipment or residential use if gasoline is delivered to the tank through a permanent or portable submerged fill pipe except that this exemption does not apply in ozone non-attainment areas;
- (5) stationary storage tanks at a gasoline dispensing facility or gasoline service station where the combined annual throughput of gasoline at the facility or station does not exceed 50,000 gallons, if the tanks are permanently equipped with submerged fill pipes;
- (6) any tanks used exclusively to test the fuel dispensing meters.

(d) With exceptions stated in Paragraph (c) of this Regulation, gasoline shall not be transferred from any delivery vessel into any stationary storage tank unless:

- (1) The tank is equipped with a submerged fill pipe, and the vapors displaced from the storage tank during filling are controlled by a vapor control system as described in Paragraph (e) of this Regulation;
- (2) The vapor control system is in good working order and is connected and operating with a vapor tight connection;
- (3) The vapor control system is properly maintained and all damaged or malfunctioning components or elements of design are repaired, replaced or modified;
- (4) Gauges, meters, or other specified testing devices are maintained in proper working order;
- (5) The delivery vessel and vapor collection system complies with MCAPCO Regulation 2.0932 - "Gasoline Truck Tanks and Vapor Collection Systems"; and
- (6) The following records, as a minimum, are kept in accordance with MCAPCO Regulation 2.0903 - "Recordkeeping: Reporting: Monitoring":
 - (A) the scheduled date for maintenance or the date that a malfunction was detected;
 - (B) the date the maintenance was performed or the malfunction corrected;
and
 - (C) the component or element of design of the control system repaired, replaced, or modified.

(e) The vapor control system required by Paragraph (d) of this Regulation shall include one or

more of the following:

- (1) a vapor-tight line from the storage tank to the delivery vessel and:
 - (A) for a coaxial vapor recovery system, either a popped or unpopped vapor recovery adaptor;
 - (B) for a dual point vapor recovery system, a popped vapor recovery adaptor; or
- (2) a refrigeration-condensation system or equivalent designed to recover at least 90 percent by weight of the organic compounds in the displaced vapor.

(f) If an unpopped vapor recovery adaptor is used pursuant to Part (e)(1)(A) of this Regulation, the tank liquid fill connection shall remain covered either with a vapor-tight cap or a vapor return line except when the vapor return line is being connected or disconnected.

(g) If an unpopped vapor recovery adaptor is used pursuant to Part (e)(1)(A) of this Regulation, the unpopped vapor recovery adaptor shall be replaced with a popped vapor recovery adaptor when the tank is replaced or is removed and upgraded.

(h) Where vapor lines from the storage tanks are manifolded, popped vapor recovery adaptors shall be used. No more than one tank shall be loaded at a time if the manifold vapor lines are size two and one half (2 ½) inches and smaller. If the manifold vapor lines are three (3) inches and larger, then two tanks at a time may be loaded.

(i) Vent lines on tanks with Stage I controls shall have pressure release valves or restrictors.

(j) The vapor-laden delivery vessel:

- (1) shall be designed and maintained to be vapor-tight during loading and unloading operations and during transport with the exception of normal pressure/vacuum venting as required by regulations of the Department of Transportation; and
- (2) if it is refilled in North Carolina, shall be refilled only at:
 - (A) bulk gasoline plants complying with MCAPCO Regulation 2.0926 - "Bulk Gasoline Plants", or
 - (B) bulk gasoline terminals complying with MCAPCO Regulation 2.0927 - "Bulk Gasoline Terminals" or 2.0524 - "New Source Performance Standards".

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. July 1, 1996; July 1, 1994; March 1, 1991; December 1,
1989.

2.0929 PETROLEUM REFINERY SOURCES (REPEALED)

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. March 1, 1991; December 1, 1989; January
1, 1985;
Repealed Eff. July 1, 1996.*

2.0930 SOLVENT METAL CLEANING

(a) For the purpose of this Regulation, the following definitions apply:

- (1) **“Cold cleaning”** means the batch process of cleaning and removing soils from metal surfaces by spraying, brushing, flushing, or immersion while maintaining the solvent below its boiling point. Wipe cleaning is not included in this definition.
- (2) **“Conveyorized degreasing”** means the continuous process of cleaning and removing soils from metal surfaces by operating with either cold or vaporized solvents.
- (3) **“Freeboard height”** means for vapor degreasers the distance from the top of the vapor zone to the top of the degreaser tank. For cold cleaners, freeboard height means the distance from liquid solvent level in the degreaser tank to the top of the tank.
- (4) **“Freeboard ratio”** means the freeboard height divided by the width of the degreaser.
- (5) **“Open top vapor degreasing”** means the batch process of cleaning and removing soils from metal surfaces by condensing hot solvent vapor on the colder metal parts.
- (6) **“Solvent metal cleaning”** means the process of cleaning soils from metal surfaces by cold cleaning or open top vapor degreasing or conveyorized degreasing.

(b) This Regulation applies to cold cleaning, open top vapor degreasing, and conveyorized degreasing operations.

(c) The provisions of this Regulation shall apply with the following exceptions:

- (1) Open top vapor degreasers with an open area smaller than 10.8 square feet shall be exempt from Subparagraph (e)(3) of this Regulation; and
- (2) Conveyorized degreasers with an air/vapor interface smaller than 21.6 square feet shall be exempt from Subparagraph (f)(2) of this Regulation.

(d) The owner or operator of a cold cleaning facility shall:

- (1) equip the cleaner with a cover and the cover shall be designed so that it can be easily operated with one hand, if:
 - (A) the solvent volatility is greater than 15 millimeters of mercury or 0.3 pounds per square inch measured at 100°F,
 - (B) the solvent is agitated,or
 - (C) the solvent is heated,
- (2) equip the cleaner with a facility for draining cleaned parts. The drainage facility shall be constructed internally so that parts are enclosed under the cover while draining if

- the solvent volatility is greater than 32 millimeters of mercury or 0.6 pounds per square inch measured at 100°F. However, the drainage facility may be external for applications where an internal type cannot fit into the cleaning system;
- (3) install one of the following control devices if the solvent volatility is greater than 33 millimeters of mercury or 0.6 pounds per square inch measured at 100°F, or if the solvent is heated above 120°F:
 - (A) freeboard which gives a freeboard ratio greater than or equal to 0.7;
 - (B) water cover if the solvent is insoluble in and heavier than water;
or
 - (C) other systems of equivalent control, such as refrigerated chiller or carbon adsorption, approved by the Director;
 - (4) provide a permanent, conspicuous label, summarizing the operating requirements;
 - (5) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, such that greater than 20 percent of the waste solvent (by weight) can evaporate into the atmosphere;
 - (6) close the cover whenever parts are not being handled in the cleaner;
 - (7) drain the cleaned parts for at least 15 seconds or until dripping ceases;
and
 - (8) if used, supply a solvent spray which is a solid fluid stream (not a fine, atomized, or shower type spray) at a pressure which does not cause excessive splashing.

(e) With the exception stated in Paragraph (c) of this Regulation, the owner or operator of an open top vapor degreaser shall:

- (1) equip the vapor degreaser with a cover which can be opened and closed easily without disturbing the vapor zone;
- (2) provide the following safety switches or devices:
 - (A) a condenser flow switch and thermostat or other device which prevents heat input if the condenser coolant is either not circulating or too warm,
 - (B) a spray safety switch or other device which shuts off the spray pump if the vapor level drops more than 10 inches, and
 - (C) a vapor level control thermostat or other device which prevents heat input when the vapor level rises too high;
- (3) install one of the following control devices:
 - (A) freeboard ratio greater than or equal to 0.75. If the degreaser opening is greater than 10.8 square feet, the cover must be powered;
 - (B) refrigerated chiller;
 - (C) enclosed design (The cover or door opens only when the dry part is actually entering or exiting the degreaser.);
 - (D) carbon adsorption system, with ventilation greater than or equal to 50 cubic feet per minute per square foot of air/vapor area (when cover is open), and exhausting less than 25 parts per million of solvent averaged over one complete adsorption cycle;
- (4) keep the cover closed at all times except when processing workloads through the degreaser;

- (5) minimize solvent carry out by:
 - (A) racking parts to allow complete drainage,
 - (B) moving parts in and out of the degreaser at less than 11 feet per minute,
 - (C) holding the parts in the vapor zone at least 30 seconds or until condensation ceases,
 - (D) tipping out any pools of solvent on the cleaned parts before removal from the vapor zone, and
 - (E) allowing parts to dry within the degreaser for at least 15 seconds or until visually dry;
- (6) not degrease porous or absorbent materials, such as cloth, leather, wood, or rope;
- (7) not occupy more than half of the degreaser's open top area with a workload;
- (8) not load the degreaser to the point where the vapor level would drop more than 10 inches when the workload is removed from the vapor zone;
- (9) always spray below the vapor level;
- (10) repair solvent leaks immediately or shutdown the degreaser;
- (11) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, such that greater than 20 percent of the waste solvent (by weight) can evaporate into the atmosphere;
- (12) not operate the cleaner so as to allow water to be visually detectable in solvent exiting the water separator;
- (13) not use ventilation fans near the degreaser opening, nor provide exhaust ventilation exceeding 65 cubic feet per minute per square foot of degreaser open area, unless necessary to meet OSHA requirements (OSHA is the U.S. Occupational Safety and Health Administration; in North Carolina the N.C. Labor Department has delegation of OSHA programs);
and
- (14) provide a permanent, conspicuous label, summarizing the operating procedures of Subparagraphs (4) through (12) of this Paragraph.

(f) With the exception stated in Paragraph (c) of this Regulation, the owner or operator of a conveyORIZED degreaser shall:

- (1) not use workplace fans near the degreaser opening, nor provide exhaust ventilation exceeding 65 cubic feet per minute per square foot of degreaser opening, unless necessary to meet OSHA requirements;
- (2) install one of the following control devices:
 - (A) refrigerated chiller;
 - (B) carbon adsorption system, with ventilation greater than or equal to 50 cubic feet per minute per square foot of air/vapor area (when downtime covers are open), and exhausting less than 25 parts per million of solvent by volume averaged over a complete adsorption cycle;
- (3) equip the cleaner with equipment, such as a drying tunnel or rotating (tumbling) basket, sufficient to prevent cleaned parts from carrying out solvent liquid or vapor;
- (4) provide the following safety switches or devices:
 - (A) a condenser flow switch and thermostat or other device which prevents heat

- input if the condenser coolant is either not circulating or too warm,
- (B) a spray safety switch or other device which shuts off the spray pump or the conveyor if the vapor level drops more than 10 inches,
and
- (C) a vapor level control thermostat or other device which prevents heat input when the vapor level rises too high;
- (5) minimize openings during operation so that entrances and exits will silhouette workloads with an average clearance between the parts and the edge of the degreaser opening of less than four inches or less than 10 percent of the width of the opening;
- (6) provide downtime covers for closing off the entrance and exit during shutdown hours;
- (7) minimize carry out emissions by:
 - (A) racking parts for best drainage; and
 - (B) maintaining the vertical conveyor speed at less than 11 feet per minute;
- (8) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, such that greater than 20 percent of the waste solvent (by weight) can evaporate into the atmosphere;
- (9) repair solvent leaks immediately, or shut down the degreaser;
- (10) not operate the cleaner so as to allow water to be visually detectable in solvent exiting the water separator;
and
- (11) place downtime covers over entrances and exits of conveyORIZED degreasers immediately after the conveyors and exhausts are shutdown and not remove them until just before start-up.

*History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. Mar. 1, 1991; Dec. 1, 1989; January 1, 1985.*

2.0931 CUTBACK ASPHALT

(a) For the purpose of this Regulation, the following definitions apply:

- (1) **“Asphalt”** means a dark-brown to black cementitious material (solid, semisolid, or liquid in consistency) in which the predominating constituents are bitumens which occur in nature as such or which are obtained as residue in refining petroleum.
- (2) **“Cutback asphalt”** means asphalt cement which has been liquefied by blending with petroleum solvents (diluent). Upon exposure to atmospheric conditions, the diluents evaporate, leaving the asphalt cement to perform its function.
- (3) **“Emulsified asphalt”** means an emulsion of asphalt cement and water which contains a small amount of an emulsifying agent; a heterogeneous system containing two normally immiscible phases (asphalt and water) in which the water forms the continuous phase of the emulsion, and minute globules of asphalt form the discontinuous phase.
- (4) **“Penetrating prime coat”** means an application of low-viscosity liquid asphalt to an absorbent surface. It is used to prepare an untreated base for an asphalt surface. The prime penetrates the base and plugs the voids, hardens the top, and helps bind it to the overlying asphalt course. It also reduces the necessity of maintaining an untreated base course prior to placing the asphalt pavement.

(b) This Regulation applies to the manufacture and use of cutback asphalts for the purpose of paving or maintaining roads, highways, streets, parking lots, driveways, curbs, sidewalks, airfields (runways, taxiways, and parking aprons), recreational facilities (tennis courts, playgrounds, and trails), and other similar structures.

(c) Cutback asphalt shall not be manufactured, mixed, stored, used, or applied except where:

- (1) Long-life (one month or more) stockpile storage is necessary;
- (2) The use or application at ambient temperatures less than 50°F, as measured at the nearest National Weather Service Field Office or Federal Aviation Administration Station, is necessary;
- (3) The cutback asphalt is to be used solely as a penetrating prime coat;
or
- (4) The user can demonstrate to the Director that there are no volatile organic compound emissions under conditions of normal use.

*History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1979;
Amended Eff. December 1, 1989; January 1, 1985; June 1, 1980.*

2.0932 GASOLINE TRUCK TANKS AND VAPOR COLLECTION SYSTEMS

(a) For the purposes of this Regulation, the following definitions apply:

- (1) **“Bottom filling”** means the filling of a tank truck or stationary storage tank through an opening that is flush with the tank bottom.
- (2) **“Bulk gasoline plant”** means a gasoline storage and distribution facility that has an average daily throughput of less than 20,000 gallons of gasoline and usually receives gasoline from bulk terminals by trailer transport, stores it in tanks, and subsequently dispenses it via account trucks to local farms, businesses, and service stations.
- (3) **“Bulk gasoline terminal”** means:
 - (A) breakout tanks of an interstate oil pipeline facility;
or
 - (B) a gasoline storage facility that usually receives gasoline from refineries primarily by pipeline, ship, or barge; delivers gasoline to bulk gasoline plants or to commercial or retail accounts primarily by tank truck; and has an average daily throughput of no less than 20,000 gallons of gasoline.
- (4) **“Certified facility”** means any facility that has been certified under 15A NCAC 2D Rule .0960 - “Certification of Leak Tightness Tester” to perform leak tightness tests on truck tanks.
- (5) **“Gasoline”** means any petroleum distillate having a Reid vapor pressure of 4.0 psia or greater.
- (6) **“Gasoline dispensing facility”** means any site where gasoline is dispensed to motor vehicle gasoline tanks from stationary storage tanks.
- (7) **“Gasoline service station”** means any gasoline dispensing facility where gasoline is sold to the motoring public from stationary storage tanks.
- (8) **“Truck tank”** means the storage vessels of trucks or trailers used to transport gasoline from sources of supply to stationary storage tanks of bulk gasoline terminals, bulk gasoline plants, gasoline dispensing facilities and gasoline service stations.
- (9) **“Truck tank vapor collection equipment”** means any piping, hoses, and devices on the truck tank used to collect and route gasoline vapors in the tank to or from the bulk gasoline terminal, bulk gasoline plant, gasoline dispensing facility or gasoline service station vapor control system or vapor balance system.
- (10) **“Vapor balance system”** means a combination of pipes or hoses that create a closed system between the vapor spaces of an unloading tank and a receiving tank such that vapors displaced from the receiving tank are transferred to the tank being unloaded.
- (11) **“Vapor collection system”** means a vapor balance system or any other system used to collect and control emissions of volatile organic compounds.

(b) This Regulation applies to gasoline truck tanks equipped for vapor collection and to vapor control systems at bulk gasoline terminals, bulk gasoline plants, gasoline dispensing facilities, and gasoline service stations equipped with vapor balance or vapor control systems.

(c) Gasoline Truck Tanks

- (1) Gasoline truck tanks and their vapor collection systems shall be tested annually by a certified facility. The test procedure that shall be used is described in MCAPCO Regulations 2.0940 - "Determination of Leak Tightness and Vapor Leaks" and 2.0941 - "Alternative Method for Leak Tightness", and is according to MCAPCO Regulation 2.0912 - "General Provisions on Test Methods and Procedures". The gasoline truck tank shall not be used if it sustains a pressure change greater than 3.0 inches of water in five minutes when pressurized to a gauge pressure of 18 inches of water or when evacuated to a gauge pressure of 6.0 inches of water.
- (2) Each gasoline truck tank that has been certified leak tight, according to Subparagraph (1) of this Paragraph shall display a sticker near the Department of Transportation certification plate required by 49 CFR 178.340-10b.
- (3) There shall be no liquid leaks from any gasoline truck tank.
- (4) Any truck tank with a leak equal to or greater than 100 percent of the lower explosive limit, as detected by a combustible gas detector using the test procedure described in MCAPCO Regulation 2.0940 - "Determination of Leak Tightness and Vapor Leaks", shall not be used beyond 15 days after the leak has been discovered, unless the leak has been repaired and the tank has been certified to be leak tight according to Subparagraph (1) of this Paragraph.

(d) Vapor Collection System

- (1) The vapor collection system and vapor control system shall be designed and operated to prevent gauge pressure in the truck tank from exceeding 18 inches of water and to prevent a vacuum of greater than six inches of water.
- (2) During loading and unloading operations there shall be:
 - (A) no vapor leakage from the vapor collection system such that a reading equal to or greater than 100 percent of the lower explosive limit at one inch around the perimeter of each potential leak source as detected by a combustible gas detector using the test procedure described in MCAPCO Regulation 2.0940 - "Determination of Leak Tightness and Vapor Leaks"; and
 - (B) no liquid leaks.
- (3) If a leak is discovered that exceeds the limit in Part (2) (A) of this Paragraph, the vapor collection system or vapor control system (and therefore the source) shall not be used beyond 15 days after the leak has been discovered, unless the leak has been repaired and the system has been retested and found to comply with Part (2)(A) of this Paragraph.
- (4) The owner or operator of a vapor collection system at a bulk gasoline plant or a bulk gasoline terminal shall monitor, according to MCAPCO Regulations 2.0912 - "General Provisions on Test Methods and Procedures" and MCAPCO Regulation 2.0940 - "Determination of Leak Tightness and Vapor Leaks", the vapor collection system at least once per year. If after two complete annual checks no more than 10 leaks are found, the Director may allow less frequent monitoring. If more than 20 leaks are found, the Director may require that the frequency of monitoring be

increased.

(e) The owner or operator of a source subject to this Regulation shall maintain records of all certification testing and repairs. The records shall identify the gasoline truck tank, vapor collection system, or vapor control system; the date of the test or repair; and, if applicable, the type of repair and the date of retest. The records of certification tests shall include:

- (1) the gasoline truck tank identification number;
 - (2) the initial test pressure and the time of the reading;
 - (3) the final test pressure and the time of the reading;
 - (4) the initial test vacuum and the time of reading;
 - (5) the final test vacuum and the time of the reading,
- and
- (6) the date and location of the tests.

A copy of the most recent certification test shall be kept with the truck tank. The owner or operator of the truck tank shall also file a copy of the most recent certification test with each bulk gasoline terminal that loads the truck tank. The records shall be maintained for at least two years after the date of the testing or repair, and copies of such records shall be made available within a reasonable time to the Director upon written request.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1980;
Amended Eff. April 1, 2003; August 1, 2002; July 1, 1994; December 1, 1989;
January 1, 1985.*

2.0933 PETROLEUM LIQUID STORAGE IN EXTERNAL FLOATING ROOF TANKS

(a) For the purpose of this Regulation, the following definitions apply:

- (1) **“Condensate”** means hydrocarbon liquid separated from natural gas which condenses due to changes in the temperature or pressure and remains liquid at standard conditions.
- (2) **“Crude oil”** means a naturally occurring mixture consisting of hydrocarbons or sulfur, nitrogen or oxygen derivatives of hydrocarbons or mixtures thereof which is a liquid in the reservoir at standard conditions.
- (3) **“Custody transfer”** means the transfer of produced crude oil or condensate, after processing or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.
- (4) **“External floating roof”** means a storage vessel cover in an open top tank consisting of a double deck or pontoon single deck which rests upon and is supported by the petroleum liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.
- (5) **“Internal floating roof”** means a cover or roof in a fixed roof tank which rests upon or is floated upon the petroleum liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.
- (6) **“Liquid-mounted seal”** means a primary seal mounted so the bottom of the seal covers the liquid surface between the tank shell and the floating roof.
- (7) **“Vapor-mounted seal”** means a primary seal mounted so there is an annular vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank shell, the liquid surface, and the floating roof.
- (8) **“Petroleum liquids”** means crude oil, condensate, and any finished or intermediate products manufactured or extracted in a petroleum refinery.

(b) This Regulation applies to all external floating roof tanks with capacities greater than 950 barrels containing petroleum liquids whose true vapor pressure exceed 1.52 pounds per square inch absolute.

(c) This Regulation does not apply to petroleum liquid storage vessels:

- (1) that have external floating roofs that have capacities less than 10,000 barrels and that are used to store produced crude oil and condensate prior to custody transfer;
 - (2) that have external floating roofs and that store waxy, heavy-pour crudes;
 - (3) that have external floating roofs, and that contain a petroleum liquid with a true vapor pressure less than 4.0 pounds per square inch absolute and:
 - (A) The tanks are of welded construction; and
 - (B) The primary seal is a metallic-type shoe seal, a liquid-mounted foam seal, a liquid-mounted filled type seal, or any other closure device of demonstrated equivalence;
- or
- (4) that have fixed roofs with or without internal floating roofs.

(d) With the exceptions stated in Paragraph (c) of this Regulation, an external floating roof tank subject to this Regulation shall not be used unless:

- (1) The tank has:
 - (A) a continuous secondary seal extending from the floating roof to the tank wall (a rim-mounted secondary),
 - (B) a metallic-type shoe primary seal and a secondary seal from the top of the shoe seal to the tank wall (shoe-mounted secondary seal);
or
 - (C) a closure or other control device demonstrated to have an efficiency equal to or greater than that required under Part (A) or (B) of this Subparagraph.
- (2) The seal closure devices meet the following requirements:
 - (A) There shall be no visible holes, tears, or other openings in the seal or seal fabric;
 - (B) The seal shall be intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall;
and
 - (C) For vapor mounted primary seals, the gap-area of gaps exceeding 0.125 inch in width between the secondary seal and the tank wall shall not exceed 1.0 square inch per foot of tank diameter;
- (3) All openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves, are:
 - (A) provided with a projection below the liquid surface;
and
 - (B) equipped with covers, seals, or lids that remain in a closed position at all times except when in actual use;
- (4) Automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports;
- (5) Rim vents are set to open only when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting;
- (6) Any emergency roof drains are provided with slotted membrane fabric covers or equivalent covers that cover at least 90 percent of the area at the opening;
- (7) Routine visual inspections are conducted once per month;
- (8) For tanks equipped with a vapor-mounted primary seal, the secondary seal gap measurements are made annually in accordance with Paragraph (e) of this Regulation;
and
- (9) Records are maintained in accordance with MCAPCO Regulation 2.0903 - "Recordkeeping: Reporting: Monitoring" and include:
 - (A) reports of the results of inspections conducted under Subparagraph (7) and (8) of this Paragraph;
 - (B) a record of the average monthly storage temperature and the true vapor pressures or Reid vapor pressures of the petroleum liquids stored;
and
 - (C) records of the throughput quantities and types of volatile petroleum liquids for each storage vessel.

(e) The secondary seal gap area is determined by measuring the length and width of the gaps around the entire circumference of the secondary seal. Only gaps equal to or greater than 0.125

inch are used in computing the gap area. The area of the gaps is accumulated to determine compliance with Part (d)(2)(C) of this Regulation.

(f) Notwithstanding the definition of volatile organic compound found in MCAPCO Regulation 2.0901 - "Definitions" Paragraph (28), the owner or operator of a petroleum liquid storage vessel with an external floating roof not equipped with a secondary seal or approved alternative, that contains a petroleum liquid with a true vapor pressure greater than 1.0 pound per square inch shall maintain records of the average monthly storage temperature, the type of liquid, throughput quantities, and the maximum true vapor pressure for all petroleum liquids with a true vapor pressure greater than 1.0 pound per square inch.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1980;
Amended Eff. May 1, 2004; July 1, 1994; March 1, 1991; December 1, 1989;
January 1, 1985*

2.0934 COATING OF MISCELLANEOUS METAL PARTS AND PRODUCTS

(a) For the purpose of this Regulation, the following definitions apply:

- (1) **"Air dried coating"** means coatings which are dried by the use of air or a forced air drier.
- (2) **"Clear coat"** means a coating which lacks color and opacity.
- (3) **"Extreme environmental conditions"** means exposure to:
 - (A) the weather at all times;
 - (B) temperatures consistently above 203°F;
 - (C) detergents, scouring, solvents, or corrosive atmospheres;or
 - (D) other similar environmental conditions.
- (4) **"Extreme performance coatings"** means coatings designed for harsh exposure or extreme environmental conditions.
- (5) **"Heat sensitive material"** means materials that cannot be exposed to temperatures greater than 180°F to 200°F.

(b) This Regulation applies to application areas, flash off areas, ovens and other processes that are used in the coating of metal parts and products of the following types of manufacturing plants:

- (1) large farm machinery including harvesting, fertilizing and planting machines, tractors, combines, and other similar machines;
- (2) small farm machinery including lawn and garden tractors, lawn mowers, rototillers, and other similar machines;
- (3) small appliances including fans, mixers, blenders, crock pots, dehumidifiers, vacuum cleaners, and other similar machines;
- (4) commercial machinery including computers and auxiliary equipment, typewriters, calculators, vending machines, and other similar machines;

- (5) industrial machinery including pumps, compressors, conveyor components, fans, blowers, transformers, and other similar machines;
- (6) fabricated metal products including metal covered doors, frames and other similar structures;
and
- (7) any other manufacturing plant that coats metal parts or products.

(c) This Regulation does not apply to:

- (1) sources covered by MCAPCO Regulations 2.0917 - "Automobile and Light-Duty Truck Manufacturing", 2.0918 - "Can Coating", 2.0919 - "Coil Coating", 2.0922 - "Metal Furniture Coating", 2.0923 - "Surface Coating of Large Appliances", and 2.0924 - "Magnet Wire Coating";
- (2) architectural and maintenance coating;
- (3) coating of airplane exterior;
- (4) automobile refinishing;
- (5) customized coating of automobiles and trucks;
or
- (6) exterior of marine vessels.

(d) Emissions of volatile organic compounds from any coating line subject to this Regulation shall not exceed:

- (1) 10.3 pounds of volatile organic compounds per gallon of solids delivered to a coating applicator that applies clear coatings;
- (2) 6.7 pounds of volatile organic compounds per gallon of solids delivered to a coating applicator in a coating application system that utilizes air or forced air driers;
- (3) 6.7 pounds of volatile organic compounds per gallon of solids delivered to a coating applicator that applies extreme performance coatings;
- (4) 5.1 pounds of volatile organic compounds per gallon of solids delivered to a coating applicator that applies coatings of five or more color changes or of five or more colors or applies the coating that is the first coat on untreated ferrous substrate;
or
- (5) where there are less than five color changes and less than five colors are applied:
 - (A) 0.4 pounds of volatile organic compounds per gallon of solids delivered to a coating applicator that applies powder coatings;
or
 - (B) 5.1 pounds of volatile organic compounds per gallon of solids delivered to a coating applicator for any other type of coating.

Whenever more than one of the aforementioned emission limitations may apply to a process, then the least stringent emission limitation shall apply to the process.

(e) *PARAGRAPH NOT ADOPTED Mecklenburg had no facilities complying with this requirement instead of 2.0518(e) prior to December 1, 1989.*

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);

*Eff. July 1, 1980;
Amended Eff. July 1, 1996; December 1, 1989; January 1,
1985.*

2.0935 FACTORY SURFACE COATING OF FLAT WOOD PANELING

- (a) For the purpose of this Regulation, the following definitions apply:
- (1) **“Class II hardboard paneling finishes”** means finishes which meet the specifications of Voluntary Product Standard PS-59-73 as approved by the American National Standards Institute.
 - (2) **“Hardboard”** is a panel manufactured primarily from inter-felted lignocellulosic fibers which are consolidated under heat and pressure in a hot-press.
 - (3) **“Hardwood plywood”** means plywood whose surface layer is a veneer of hardwood.
 - (4) **“Natural finish hardwood plywood panel”** means a panel whose original grain pattern is enhanced by essentially transparent finishes frequently supplemented by fillers and toners.
 - (5) **“Particle board”** means a manufactured board made of individual wood particles which have been coated with a binder and formed into flat sheets by pressure. Thin particleboard has a thickness of one-fourth inch or less.
 - (6) **“Printed panel”** means a panel whose grain or natural surface is obscured by fillers and basecoats upon which a simulated grain or decorative pattern is printed.
 - (7) **“Tileboard”** means paneling that has a colored waterproof surface coating.
- (b) This Regulation applies to factory finishing of the following flat wood products:
- (1) printed interior wall panels made of hardwood plywood and thin particleboard,
 - (2) natural finish hardwood plywood panels,
and
 - (3) class II finishes of hardboard paneling.
- (c) This Regulation does not apply to the following factory finished flat wood products:
- (1) exterior siding,
 - (2) tileboard,
 - (3) particleboard used in cabinetry or furniture,
 - (4) insulation board,
or
 - (5) softwood plywood.
- (d) Emissions of volatile organic compounds from any factory finished flat wood product operation subject to this Regulation shall not exceed:
- (1) 6.0 pounds of volatile organic compounds per 1,000 square feet of coated finished product of printed interior wall panels made of hardwood plywood and thin particle board,
 - (2) 12.0 pounds of volatile organic compounds per 1,000 square feet of coated finished product of natural finish hardwood plywood panels,
or
 - (3) 10.0 pounds of volatile organic compounds per 1,000 square feet of coated finished product of class II finishes on hardboard paneling.

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);

Eff. July 1, 1980;
Amended Eff. July 1, 1996; December 1, 1989; January 1, 1985.

2.0936 GRAPHIC ARTS

(a) For the purpose of this Regulation, the following definitions apply:

- (1) **“Flexographic printing”** means the application of words, designs and pictures to a substrate by means of a roll printing technique in which both the pattern to be applied is raised above the printing roll and the image carrier is made of rubber or other elastometric materials.
- (2) **“Packaging rotogravure printing”** means printing with a gravure press upon paper, paper board, metal foil, plastic film, and other substrates, which are, in subsequent operation, formed into containers and labels for articles to be sold.
- (3) **“Printing”** means the formation of words, designs and pictures, usually by a series of application rolls each with only partial coverage.
- (4) **“Publication rotogravure printing”** means printing upon paper which is subsequently formed into books, magazines, catalogues, brochures, directories, newspaper supplements, and other types of printed materials.
- (5) **“Roll printing”** means the application of words, designs and pictures to a substrate by means of hard rubber or steel rolls.

(b) This Regulation applies to:

- (1) flexographic printing, packaging rotogravure printing and publication rotogravure printing operations;
or
- (2) machines that have both coating units and printing units.

(c) This Regulation does not apply to facilities where the potential emissions of volatile organic compounds is less than 100 tons per year.

(d) Emissions of volatile organic compounds from any printing press or drying oven of a printing operation subject to this Regulation shall not be discharged into the atmosphere unless:

- (1) The captured volatile organic compound emissions are reduced by at least 90 percent by an incineration system or 95 percent by a carbon adsorption system or any other control system; and:
 - (A) for packaging rotogravure printing operations, at least 65 percent overall reduction of the volatile organic compound emissions is achieved;
 - (B) for publication rotogravure printing operations, at least 75 percent overall reduction of the volatile organic compound emissions is achieved;and
 - (C) for flexographic printing operations, at least 60 percent overall reduction of the volatile organic compound emissions is achieved;
- (2) The solvent portion of the ink, as it is applied on the substrate, consists of at least 75 percent water by volume and no more than 25 percent organic solvent by volume;

- (3) The ink contains by volume at least 60 percent nonvolatile material;
- (4) The printing system uses a combination of solvent-borne and water-borne ink such that at least a 70 percent by volume overall reduction in solvent usage is achieved when compared to all solvent-borne ink usage;
or
- (5) The ink, including any solvents that may be added to it, contains no more than 0.5 pounds of volatile organic compounds per pound of solids in the ink; only flexographic printing and packaging rotogravure printing may use this option.

(e) When a facility complies with this Regulation using the provision of Subparagraph (d)(4) of this Regulation, the permit shall contain a condition stating the maximum quantity of solvent-borne ink that each printing unit may use or that the facility as a whole may use.

(f) Equivalency calculations for emissions trading, cross-line averaging, or determining compliance with add-on control equipment shall be performed in units of pounds of volatile organic compounds per gallon of solids.

History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1980; Amended Eff. December 1, 1993;
December 1, 1989;
January 1, 1985; June 1, 1981.

2.0937 MANUFACTURE OF PNEUMATIC RUBBER TIRES

(a) For the purpose of this Regulation, the following definitions apply:

- (1) **“Bead dipping”** means the dipping of an assembled tire bead into a solvent based cement.
- (2) **“Green tires”** means assembled tires before molding and curing have occurred.
- (3) **“Green tire spraying”** means the spraying of green tires, both inside and outside, with release compounds which help remove air from the tire during molding and prevent the tire from sticking to the mold after curing.
- (4) **“Pneumatic rubber tire manufacture”** means the production of passenger car tires, light and medium truck tires, and other tires manufactured on assembly lines.
- (5) **“Tread end cementing”** means the application of a solvent based cement to the tire tread ends.
- (6) **“Undertread cementing”** means the application of a solvent based cement to the underside of a tire tread.

(b) This Regulation applies to undertread cementing, tread end cementing, bead dipping, and green tire spraying operations of pneumatic rubber tire manufacturing.

(c) With the exception stated in Paragraph (d) of this Regulation, emissions of volatile organic compounds from any pneumatic rubber tire manufacturing plant shall not exceed:

- (1) 25 grams of volatile organic compounds per tire from each undertread cementing operation,
- (2) 4.0 grams of volatile organic compounds per tire from each tread end cementing operation,
- (3) 1.9 grams of volatile organic compounds per tire from each bead dipping operation, or
- (4) 24 grams of volatile organic compounds per tire from each green tire spraying operation.

(d) If the total volatile organic compound emissions from all undertread cementing, tread end cementing, bead dipping, and green tire spraying operations at a pneumatic rubber tire manufacturing facility does not exceed 50 grams per tire, Paragraph (c) of this Regulation shall not apply.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1980;
Amended Eff. July 1, 1996; December 1, 1989; January 1, 1985.*

2.0938 PERCHLOROETHYLENE DRY CLEANING SYSTEM (REPEALED)

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1980;
Amended Eff. December 1, 1989; January 1, 1985;
Repealed Eff. July 1, 1998.

2.0939 DETERMINATION OF VOLATILE ORGANIC COMPOUND EMISSIONS

(a) Where the test methods are applicable, the owner or operator of a source of volatile organic compounds shall, in accordance with MCAPCO Regulation 2.0912 - "General Provisions on Test Methods and Procedures", use one of the following test methods to determine compliance with the Regulations of this Section:

- (1) Method 25 of Appendix A of 40 CFR Part 60,
- (2) Method 25A of Appendix A of 40 CFR Part 60,
or
- (3) Method 25B of Appendix A of 40 CFR Part 60.

The results of the tests shall be expressed in the same units as the emission limits given in the Regulation for which compliance is being determined. Method 1 of Appendix A of 40 CFR Part 60 shall be used to determine sample and velocity traverses. Method 2 of Appendix A of 40 CFR Part 60 shall be used to determine stack gas velocity and volumetric flow rate.

(b) Method 21 of Appendix A of 40 CFR Part 60 shall be used, in accordance with MCAPCO Regulation 2.0912 - "General Provisions on Test Methods and Procedures", to determine leaks of volatile organic compounds from organic process equipment. These sources include valves, flanges and other connections, pumps and compressors, pressure relief devices, process drains, open-ended valves, pump and compressor seal system degassing vents, accumulator vessel vents, access door seals, and agitator seals.

History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1980;
Amended Eff. July 1, 1988; May 1, 1985; December 1, 1984.

2.0940 DETERMINATION OF LEAK TIGHTNESS AND VAPOR LEAKS

(a) In accordance with MCAPCO Regulation 2.0912 - "General Provisions on Test Methods and Procedures", one of the following test methods from the EPA document "Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection System", EPA-450/2-78-051, published by the U.S. Environmental Protection Agency, December 1978, shall be used to determine compliance with MCAPCO Regulation 2.0932 - "Gasoline Truck Tanks and Vapor Collection Systems":

- (1) The gasoline vapor leak detection procedure by combustible gas detector described in Appendix B of EPA-450/2-78-051 shall be used to determine leakage from gasoline truck tanks and vapor control systems;
- (2) The leak detection procedure for bottom-loaded truck tanks by bag capture method described in Appendix C of EPA-450/2-78-051 shall be used to determine the leak tightness of truck tanks during bottom-loading.

The pressure-vacuum test procedures for leak tightness of truck tanks described in Method 27 of Appendix A of 40 CFR Part 60 shall be used to determine the leak tightness of gasoline truck tanks in use and equipped with vapor collection equipment. Techniques other than specified in Method 27 of Appendix A of 40 CFR Part 60 may be used for purging and pressurizing the truck tank, if the techniques are approved by the Director.

(b) The test method described in MCAPCO Regulation 2.0941 - "Alternative Method for Leak Tightness" may be used instead of the test methods described in Subparagraph (a)(2) of this Regulation or Method 27 of Appendix A of 40 CFR Part 60.

History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1980;
Amended Eff. July 1, 1988; January 1, 1985.

2.0941 ALTERNATIVE METHOD FOR LEAK TIGHTNESS

(a) This test method may be used, in accordance with MCAPCO Regulation 2.0912 - "General Provisions on Test Methods and Procedures", as an alternative to the test method described in MCAPCO Regulation 2.0940 - "Determination of Leak Tightness and Vapor Leaks".

(b) Principle. Pressure and vacuum are applied to the compartment of gasoline truck tanks, and the change in pressure/vacuum is recorded after a specified period of time. Water is used instead of air to create the pressure and vacuum. The water test method does not require that the truck tank be gas-free.

(c) Applicability. This method is applicable to determine the leak tightness of gasoline truck tanks in use and equipped with vapor collection equipment.

(d) Apparatus. The following equipment is required to conduct the test:

- (1) a pressure/vacuum gauge (Dwyer Magnehelic pressure/vacuum gauge, Model No. 2030 or equivalent) calibrated in 0 to 30 inches of water or a water manometer capable of measuring at least 25 inches of water gauge;
- (2) a locally fabricated water hose coupler which mates with the A.P.I. bottom loading adaptor on the truck tank;
- (3) a appropriate length water hose with shutoff cock to connect to a water supply source;
- (4) a check valve to prevent water from flowing back into the water supply;
- (5) a mixture of soap and water and a two inch paint brush;
- and
- (6) a Son-Testor ultrasonic air leak detector, Model No. 110, or equivalent.

(e) Test Preparation

- (1) The unit to be tested is properly parked and chocked. The unit is parked as close as practical to the water supply locations.
- (2) All compartments, discharge lines, and vapor return lines are visually inspected to ascertain that all are completely drained.
- (3) All dome covers, inspection hatches, vapor recovery connections and bottom loading valves are visually inspected to ascertain that all are fully closed.
- (4) At the rear of one of the overturn rails, the pipe plug is removed from the pipe coupling provided for degassing operations. The piping containing the pressure/vacuum gauge is installed into the coupling.
- (5) The water supply hose with check valve is connected to any one compartment bottom loading adaptor.
- (6) All compartment emergency valves and positive vents are opened in the normal manner. This condition permits all compartments to vent into the common vapor recovery system; therefore, only one test is required for the entire tank.

(f) Pressure Test

- (1) The test is begun by flowing water into the compartment. The pressure gauge is monitored.

- (2) When the pressure gauge indicates 18 inches of water in the tank, the water flow is shut off. When a water manometer is used, this reading is nine inches above and nine inches below the zero indicator.
- (3) The gauge is monitored for five minutes. If the pressure gauge does not drop below an indicated 15 inches of water in these five minutes, the tank passes the pressure test. If the pressure does drop below an indicated 15 inches of water in five minutes, the tank does not pass the pressure test and the leak source must be determined. The soap and water method and a sonic leak detector are to be used to locate the source of leak or leaks. After correcting the leaks, the pressure test must be rerun to certify compliance.
- (4) After compliance has been accomplished, one dome cover is carefully opened to depressurize the tank and is then re-closed.

(g) Vacuum Test

- (1) The water hose is removed, and water is drained from the compartment until a vacuum of six inches of water is registered on the gauge. The flow of water is stopped by closing the bottom loading valve.
- (2) The gauge is monitored for five minutes. If the vacuum does drop below an indicated three inches of water in the five minutes, the tank does not pass the vacuum test, and the leak source must be determined. The soap and water method and a sonic leak detector are to be used to locate the source of leak or leaks. After the leaks are corrected, the vacuum test must be rerun to certify compliance.
- (3) After compliance has been accomplished, the compartment dome cover is opened; and all water is drained from compartment, line, and bottom loading valve.

(h) Conclusion of Test

- (1) The test results are recorded and retained in the vehicle test file.
- (2) The pressure/vacuum gauge is removed, and the plug is re-installed in the rail. The water hose coupler is removed.
- (3) The tank unit is returned to service.

*History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.68; 143-215.107(a)(5);
Eff. July 1, 1980.
Amended Eff. December 1, 1989.*

2.0942 DETERMINATION OF SOLVENT IN FILTER WASTE

This Regulation applies, in accordance with MCAPCO Regulation 2.0912 - "General Provisions on Test Methods and Procedures", to the determination of the amount of solvent in filter materials (muck and distillation waste). To be derived is the quantity of volatile organic compounds per quantity of discarded filter muck. The procedure to be used in making this determination is the test method described by the American National Standards Institute's "Standard Method of Test for Dilution of Gasoline-Engine Crankcase Oils" (ASTM 322-67 or IP 23/68) except that filter muck is to be used instead of crankcase oil.

History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.68; 143-215.107(a)(5);
Eff. July 1, 1980.

2.0943 SYNTHETIC ORGANIC CHEMICAL AND POLYMER MANUFACTURING

(a) For the purposes of this Regulation, the following definitions apply:

- (1) **"Closed vent system"** means a system which is not open to the atmosphere and which is composed of piping, connections, and if necessary, flow inducing devices that transport gas or vapor from a fugitive emission source to an enclosed combustion device or vapor recovery system.
- (2) **"Enclosed combustion device"** means any combustion device which is not open to the atmosphere such as a process heater or furnace, but not a flare.
- (3) **"Fugitive emission source"** means each pump, valve, safety/relief valve, open-ended valve, flange or other connector, compressor, or sampling system.
- (4) **"In gas vapor service"** means that the fugitive emission source contains process fluid that is in the gaseous state at operating conditions.
- (5) **"In light liquid service"** means that the fugitive emission source contains a liquid having:
 - (A) a vapor pressure of one or more of the components greater than 0.3 kilopascals at 20°C, and
 - (B) a total concentration of the pure components having a vapor pressure greater than 0.3 kilopascals at 20°C equal to or greater than 10 percent by weight, and the fluid is a liquid at operating conditions.
- (6) **"Open-ended valve"** means any valve, except safety/relief valves, with one side of the valve seat in contact with process fluid and one side that is open to the atmosphere, either directly or through open piping.
- (7) **"Polymer manufacturing"** means the industry that produces, as intermediates or final products, polyethylene, polypropylene, or polystyrene.
- (8) **"Process unit"** means equipment assembled to produce, as intermediates or final products, polyethylene, polypropylene, polystyrene, or one or more of the chemicals listed in 40 CFR 60.489. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the final product.
- (9) **"Quarter"** means a three month period. The first quarter concludes at the end of the

last full month during the 180 days following initial start-up.

- (10) **“Synthetic organic chemical manufacturing”** means the industry that produces, as intermediates or final products, one or more of the chemicals listed in 40 CFR 60.489.

(b) This Regulation applies to synthetic organic chemicals manufacturing facilities and polymer manufacturing facilities.

(c) The owner or operator of a synthetic organic chemical manufacturing facility or a polymer manufacturing facility shall not cause, allow or permit:

- (1) any liquid leakage of volatile organic compounds
or
- (2) any gaseous leakage of volatile organic compound of 10,000 ppm or greater from any fugitive emission source.

The owner or operator of these facilities shall control emissions of volatile organic compounds from open-ended valves as described in Paragraph (f) of this Regulation.

(d) The owner or operator shall visually inspect each week every pump in light liquid service. If there are indications of liquid leakage, the owner or operator shall repair the pump within 15 days after detection except as provided in Paragraph (k) of this Regulation.

(e) The owner or operator shall monitor each pump, valve, compressor and safety/relief valve in gas/vapor service or in light liquid service for gaseous leaks at least once each quarter. The owner or operator shall monitor safety/relief valves after each overpressure relief to ensure the valve has properly resealed. The monitoring procedure shall be in accordance with MCAPCO Regulation 2.0939 - “Determination of Volatile Organic Compound Emissions”. If a volatile organic compound concentration of 10,000 ppm or greater is measured, the owner or operator shall repair the component within 15 days after detection except as provided in Paragraph (k) of this Regulation. Exceptions to the quarterly monitoring frequency are provided for in Paragraphs (h), (i) and (j) of this Regulation.

(f) The owner or operator shall install on each open-ended valve:

- (1) a cap,
- (2) a blind flange,
- (3) a plug, or
- (4) a second closed valve,

which shall remain attached to seal the open end at all times except during operations requiring process fluid flow through the opened line.

(g) If any fugitive emission source appears to be leaking on the basis of sight, smell, or sound, it shall be repaired within 15 days after detection except as provided in Paragraph (k) of this Regulation.

(h) If after four consecutive quarters of monitoring no more than two percent of the valves in gas/vapor service or in light liquid service are found leaking more than 10,000 ppm of volatile

organic compounds, then the owner or operator may monitor valves for gaseous leaks only every third quarter. If the number of these valves leaking more than 10,000 ppm of volatile organic compounds remains at or below two percent, these valves need only be monitored for gaseous leaks every third quarter. However, if more than two percent of these valves are found leaking more than 10,000 ppm of volatile organic compounds, they shall be monitored every quarter until four consecutive quarters are monitored which have no more than two percent of these valves leaking more than 10,000 ppm of volatile organic compounds.

(i) When a fugitive emission source is unsafe to monitor because of extreme temperatures, pressures, or other reasons, the owner or operator of the facility shall be required to monitor the fugitive emission source only when process conditions are such that the fugitive emission source is not operating under extreme conditions. The Director may allow monitoring of these fugitive emission sources less frequently than each quarter, provided they are monitored at least once per year.

(j) Any fugitive emission source more than 12 feet above a permanent support surface may be monitored only once per year.

(k) The repair of a fugitive emission source may be delayed until the next turnaround if the repair is technically infeasible without a complete or partial shutdown of the process unit.

(l) The owner or operator of the facility shall maintain records in accordance with MCAPCO Regulation 2.0903 - "Recordkeeping: Reporting: Monitoring", which shall include:

- (1) identification of the source being inspected or monitored,
- (2) dates of inspection or monitoring,
- (3) results of inspection or monitoring,
- (4) action taken if a leak was detected,
- (5) type of repair made and when it was made,
and
- (6) if the repair were delayed, an explanation as to why.

(m) The Code of Federal Regulations adopted by reference in this Regulation shall automatically include any later amendments thereto as allowed by G.S. 150B-14(c).

History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107 (a)(5);
Eff. May 1, 1985;
Amended Eff. March 1, 1991; December 1, 1989.

2.0944 MANUFACTURE OF POLYETHYLENE, POLYPROPYLENE AND POLYSTYRENE

(a) For the purpose of this Regulation, the following definitions apply:

- (1) **“By-product and diluent recovery operation”** means the process that separates the diluent from the by-product (atactic) and purifies and dries the diluent for recycle.
- (2) **“Continuous mixer”** means the process that mixes polymer with anti-oxidants.
- (3) **“Decanter”** means the process that separates the diluent/crude product slurry from the alcohol-water solution by decantation.
- (4) **“Ethylene recycle treater”** means the process that removes water and other impurities from the recovered ethylene.
- (5) **“High-density polyethylene plants using liquid phase slurry processes”** means plants that produce high-density polyethylene in which the product, polyethylene, is carried as a slurry in a continuous stream of process diluent, usually pentane or isobutane.
- (6) **“Neutralizer”** means the process that removes catalyst residue from the diluent/crude product slurry.
- (7) **“Polypropylene plants using liquid phase processes”** means plants that produce polypropylene in which the product, polypropylene, is carried as a slurry in a continuous stream of process diluent, usually hexane.
- (8) **“Polystyrene plants using continuous processes”** means plants which produce polystyrene in which the product, polystyrene, is transferred in a continuous stream in a molten state.
- (9) **“Product devolatilizer system”** means the process that separates unreacted styrene monomer and by-products from the polymer melt.
- (10) **“Reactor”** means the process in which the polymerization takes place.

(b) This Regulation applies to:

- (1) polypropylene plants using liquid phase processes,
- (2) high-density polyethylene plants using liquid phase slurry processes,
and
- (3) polystyrene plants using continuous processes.

(c) For polypropylene plants subject to this Regulation, the emissions of volatile organic compounds shall be reduced by 98 percent by weight or to 20 ppm, whichever is less stringent, from:

- (1) reactor vents,
- (2) decanter vents,
- (3) neutralizer vents,
- (4) by-product and diluent recovery operation vents,
- (5) dryer vents,
and
- (6) extrusion and pelletizing vents.

(d) For high-density polyethylene plants subject to this Regulation, the emissions of volatile

organic compounds shall be reduced by 98 percent by weight or to 20 ppm, whichever is less stringent, from:

- (1) ethylene recycle treater vents,
- (2) dryer vents,
and
- (3) continuous mixer vents.

(e) For polystyrene plants subject to this Regulation, the emissions of volatile organic compounds shall not exceed 0.24 pounds per ton of product from the product devolatilizer system.

(f) If flares are used to comply with this Regulation all of the following conditions shall be met:

- (1) Visible emissions shall not exceed five minutes in any two-hour period;
- (2) A flame shall be present;
- (3) If the flame is steam-assisted or air-assisted, the net heating value shall be at least 300 Btu per standard cubic foot. If the flame is non-assisted, the net heating value shall be at least 200 Btu per standard cubic foot;
and
- (4) If the flare is steam-assisted or non-assisted, the exit velocity shall be no more than 60 feet per second. If the flare is air-assisted, the exit velocity shall be no more than $(8.706 + 0.7084 HT)$ feet per second, where HT is the net heating value.

A flare that meets the conditions given in Subparagraphs (1) through (4) of this Paragraph are presumed to achieve 98 percent destruction of volatile organic compounds by weight. If the owner or operator of the source chooses to use a flare that fails to meet one or more of these conditions, he shall demonstrate to the Director that the flare shall destroy at least 98 percent of the volatile organic compounds by weight. To determine if the specifications for the flare are being met, the owner or operator of a source using the flare to control volatile organic compound emissions shall install, operate, and maintain necessary monitoring instruments and shall keep necessary records as required by MCAPCO Regulation 2.0903 - "Recordkeeping: Reporting: Monitoring".

History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. May 1, 1985.

2.0945 PETROLEUM DRY CLEANING

(a) For the purpose of this Regulation, the following definitions apply:

- (1) **“Cartridge filter”** means perforated canisters containing filtration paper and/or activated carbon that are used in a pressurized system to remove solid particles and fugitive dyes from soil-laden solvent, together with the piping and ductwork used in the installation of this device.
- (2) **“Containers and conveyors of solvent”** means piping, ductwork, pumps, storage tanks, and other ancillary equipment that are associated with the installation and operation of washers, dryers, filters, stills, and settling tanks.
- (3) **“Dry cleaning”** means a process for the cleaning of textiles and fabric products in which articles are washed in a non-aqueous solution (solvent) and then dried by exposure to a heated air stream.
- (4) **“Dryer”** means a machine used to remove petroleum solvent from articles of clothing or other textile or leather goods, after washing and removing of excess petroleum solvent, together with the piping and ductwork used in the installation of this device.
- (5) **“Perceptible leaks”** means any petroleum solvent vapor or liquid leaks that are conspicuous from visual observation or that bubble after application of a soap solution, such as pools or droplets of liquid, open containers of solvent, or solvent laden waste standing open to the atmosphere.
- (6) **“Petroleum solvent”** means organic material produced by petroleum distillation comprising a hydrocarbon range of eight to 12 carbon atoms per organic molecule that exists as a liquid under standard conditions.
- (7) **“Petroleum solvent dry cleaning”** means a dry cleaning facility that uses petroleum solvent in a combination of washers, dryers, filters, stills, and settling tanks.
- (8) **“Settling tank”** means a container which gravimetrically separates oils, grease, and dirt from petroleum solvent, together with the piping and ductwork used in the installation of the device.
- (9) **“Solvent filter”** means a discrete solvent filter unit containing a porous medium which traps and removes contaminants from petroleum solvent, together with the piping and ductwork used in the installation of this device.
- (10) **“Solvent recovery dryer”** means a class of dry cleaning dryers that employs a condenser to condense and recover solvent vapors evaporated in a closed-loop stream of heated air, together with the piping and ductwork used in the installation of this device.
- (11) **“Still”** means a device used to volatilize, separate, and recover petroleum solvent from contaminated solvent, together with the piping and ductwork used in the installation of this device.
- (12) **“Washer”** means a machine which agitates fabric articles in a petroleum solvent bath and spins the articles to remove the solvent, together with the piping and ductwork used in the installation of this device.

(b) This Regulation applies to petroleum solvent washers, dryers, solvent filters, settling tanks, stills, and other containers and conveyors of petroleum solvent that are used in petroleum solvent dry cleaning facilities that consume 32,500 gallons or more of petroleum solvent annually.

(c) The owner or operator of a petroleum solvent dry cleaning dryer subject to this Regulation shall:

- (1) limit emissions of volatile organic compounds to the atmosphere to an average of 3.5 pounds of volatile organic compounds per 100 pounds dry weight of articles dry cleaned, or
- (2) install and operate a solvent recovery dryer in a manner such that the dryer remains closed and the recovery phase continues until a final recovered solvent flow rate of 50 milliliters per minute is attained.

(d) The owner or operator of a petroleum solvent filter subject to this Regulation shall:

- (1) reduce the volatile organic compound content in all filter wastes to 1.0 pound or less per 100 pounds dry weight of articles dry cleaned, before disposal and exposure to the atmosphere, or
- (2) install and operate a cartridge filter and drain the filter cartridges in their sealed housings for 8 hours or more before their removal.

(e) The owner or operator of a petroleum solvent dry cleaning facility subject to this Regulation shall inspect the facility every 15 days and shall repair all perceptible leaks within 15 working days after identifying the sources of the leaks. If necessary repair parts are not on hand, the owner or operator shall order these parts within 15 working days and repair the leaks no later than 15 working days following the arrival of the necessary parts. The owner or operator shall maintain records, in accordance with MCAPCO Regulation 2.0903 - "Recordkeeping: Reporting: Monitoring", of when inspections were made, what was inspected, leaks found, repairs made and when repairs were made.

(f) To determine compliance with Subparagraph (c)(1) of this Regulation, the owner or operator shall use the test method in MCAPCO Regulation 2.0939 - "Determination of Volatile Organic Compound Emissions", Subparagraph (a)(2) and shall:

- (1) field calibrate the flame ionization analyzer with propane standards;
- (2) determine in a laboratory, the ratio of the flame ionization analyzer response to a given parts per million by volume concentration of propane to the response to the same parts per million concentration of the volatile organic compounds to be measured;
- (3) determine the weight of volatile organic compounds vented to the atmosphere by:
 - (A) multiplying the ratio determined in Subparagraph (2) of this Paragraph by the measured concentration of volatile organic compound gas (as propane) as indicated by the flame ionization analyzer response output record,
 - (B) converting the parts per million by volume value calculated in Part (A) of this Subparagraph into a mass concentration value for the volatile organic compounds present,
and
 - (C) multiplying the mass concentration value calculated in Part (B) of this Subparagraph by the exhaust flow rate; and
- (4) Calculate and record the dry weight of articles dry cleaned.

The test shall be repeated for normal operating conditions that encompass at least 30 dryer loads that total not less than 4,000 pounds dry weight and that represent a normal range of variation in fabrics, solvents, load weights, temperatures, flow rates, and process deviations.

(g) To determine compliance with Subparagraph (c)(2) of this Regulation, the owner or operator shall verify that the flow rate of recovered solvent from the solvent recovery dryer at the termination of the recovery phase is no greater than 50 milliliters per minute. This one-time procedure shall be conducted for a duration of not less than two weeks during which not less than 50 percent of the dryer loads shall be monitored for their final recovered solvent flow rate. The suggested point for measuring the flow rate of recovered solvent is from the solvent-water separator. Near the end of the recovery cycle, the flow of recovered solvent is to be diverted to a graduated cylinder. The cycle continues until the minimum flow of solvent is 50 milliliters per minute. The type of articles cleaned and the total length of the cycle is then recorded.

History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. May 1, 1985.

2.0946 COMPLIANCE SCHEDULE: GASOLINE HANDLING (REPEALED)

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. May 1, 1990;
Repealed Eff. April 1, 1997.

2.0947 MANUFACTURE OF SYNTHESIZED PHARMACEUTICAL PRODUCTS

(a) For the purposes of this Regulation, the following definitions apply:

- (1) **“Production equipment exhaust system”** means a device for collecting and directing out of the work area fugitive emissions of volatile organic compounds from reactor openings, centrifuge openings, and other vessel openings for the purpose of protecting workers from excessive exposure to volatile organic compounds.
- (2) **“Synthesized pharmaceutical manufacturing”** means manufacture of pharmaceutical products by chemical synthesis.

(b) This Regulation applies to synthesized pharmaceutical products manufacturing facilities.

(c) The owner or operator of a synthesized pharmaceutical products manufacturing facility shall control the emissions of volatile organic compounds from:

- (1) reactors, distillation operations, crystallizers, centrifuges, and vacuum dryers that have the potential to emit 15 pounds per day or more of volatile organic compounds with surface condensers that meet the requirements of Paragraph (e) of this Regulation or equivalent controls;
- (2) air dryers and production equipment exhaust system by reducing emissions of volatile organic compounds:
 - (A) by 90 percent if they are 330 pounds per day or more; or
 - (B) to 33 pounds per day if they are less than 330 pounds per day.
- (3) storage tanks by:
 - (A) providing a vapor balance system or equivalent control that is at least 90 percent effective in reducing emissions from truck or railcar deliveries to storage tanks with capacities greater than 2,000 gallons that store volatile organic compounds with a vapor pressure greater than 4.1 pounds per square inch at 68°F;
and
 - (B) installing pressure/vacuum conservation vents, which shall be set \pm 0.8 inches of water unless a more effective control system is used, on all storage tanks that store volatile organic compounds with a vapor pressure greater than 1.5 pounds per square inch at 68°F;
- (4) centrifuges containing volatile organic compounds, rotary vacuum filters processing liquid containing volatile organic compounds, and other filters having an exposed liquid surface where the liquid contains volatile organic compounds by enclosing those centrifuges and filters that contain or process volatile organic compounds with a vapor pressure of 0.5 pounds per square inch or more at 68°F; and
- (5) in-process tanks by installing covers, which shall remain closed except when production, sampling, maintenance, or inspection procedures require operator access.

(d) The owner or operator of a synthesized pharmaceutical products manufacturing facility shall repair as expeditiously as possible all leaks from which liquid volatile organic compounds can be seen running or dripping. This repair must take place at least within 15 days after which said leak is discovered unless the leaking component cannot be repaired before the process is shutdown in

which case the leaking component must be repaired before the process is restarted.

(e) If surface condensers are used to comply with Subparagraph (c)(1) of this Regulation, the condenser outlet temperature shall not exceed:

- (1) -13°F when condensing volatile organic compounds of vapor pressure greater than 5.8 psi at 68°F;
- (2) 5°F when condensing volatile organic compounds of vapor pressure greater than 2.9 psi at 68°F;
- (3) 32°F when condensing volatile organic compounds of vapor pressure greater than 1.5 psi at 68°F;
- (4) 50°F when condensing volatile organic compounds of vapor pressure greater than 1.0 psi at 68°F; or
- (5) 77°F when condensing volatile organic compounds of vapor pressure greater than 0.5 psi at 68°F.

History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1994.

2.0948 VOC EMISSIONS FROM TRANSFER OPERATIONS

(a) This Regulation applies to operations that transfer volatile organic compounds from a storage tank to truck-tanks, trailers, or railroad tank cars that are not covered by MCAPCO Regulation 2.0926 - "Bulk Gasoline Plants", 2.0927 - "Bulk Gasoline Terminals", or 2.0928 - "Gasoline Stations Stage I".

(b) The owner or operator of a source to which this Regulation applies shall not load in any one day more than 20,000 gallons of any volatile organic compound with a vapor pressure of 1.5 pounds per square inch or greater under actual conditions into any truck-tank, trailer, or railroad tank car from any loading facility unless the loading uses submerged loading through boom loaders that extend down into the compartment being loaded or by other methods that are at least as efficient based on source testing or engineering calculations.

History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1994.
Amended Effective July 1, 2000.

2.0949 STORAGE OF MISCELLANEOUS VOLATILE ORGANIC COMPOUNDS

(a) This Regulation applies to the storage of volatile organic compounds in stationary tanks, reservoirs, or other containers with a capacity greater than 50,000 gallons that are not covered by MCAPCO Regulation 2.0925 - "Petroleum Liquid Storage in Fixed Roof Tanks" or 2.0933 - "Petroleum Liquid Storage in External Floating Roof Tanks".

(b) The owner or operator of any source to which this Regulation applies shall not place, store, or hold in any stationary tank, reservoir, or other container with a capacity greater than 50,000 gallons, any liquid volatile organic compound that has a vapor pressure of 1.5 pounds per square inch absolute or greater under actual storage conditions unless such tank, reservoir, or other container:

- (1) is a pressure tank capable of maintaining working pressures sufficient at all times to prevent vapor gas loss into the atmosphere; or
- (2) is designed and equipped with one of the following vapor loss control devices:
 - (A) a floating pontoon, double deck type floating roof or internal pan type floating roof equipped with closure seals to enclose any space between the cover's edge and compartment wall; this control equipment shall not be permitted for volatile organic compounds with a vapor pressure of 11.0 pounds per square inch absolute or greater under actual storage conditions; all tank gauging or sampling devices shall be gas-tight except when tank gauging or sampling is taking place;
 - (B) a vapor recovery system or other equipment or means of air pollution control that reduces the emission of organic materials into the atmosphere by at least 90 percent by weight; all tank gauging or sampling devices shall be gas-tight except when tank gauging or sampling is taking place.

History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1994.
Amended Eff. July 1, 2000.

2.0950 INTERIM STANDARDS FOR CERTAIN SOURCE CATEGORIES (REPEALED)

History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1994;
Amended Eff. May 1, 1995;
Repealed Eff. July 1, 2000.

2.0951 MISCELLANEOUS VOLATILE ORGANIC COMPOUND EMISSIONS

(a) With the exceptions in Paragraph (b) of this Regulation, this Regulation applies to all facilities that use volatile organic compounds as solvents, carriers, material processing media, or industrial chemical reactants, or in other similar uses or that mix, blend, or manufacture volatile organic compounds for which there is no other applicable emissions control Regulation in this Section except MCAPCO Regulation 2.0958 - "Work Practices For Sources Of Volatile Organic Compounds".

(b) This Regulation does not apply to architectural or maintenance coating.

(c) The owner or operator of any facility to which this Regulation applies shall:

(1) install and operate reasonable available control technology;

or

(2) limit emissions of volatile organic compounds from coating lines not covered by MCAPCO Regulations 2.0917 - "Automobile and Light-Duty Truck Manufacturing" through 2.0924 - "Magnet Wire Coating", 2.0934 - "Coating of Miscellaneous Metal Parts and Products", or 2.0935 - "Factory Surface Coating of Flat Wood Paneling" to no more than 6.7 pounds of volatile organic compounds per gallon of solids delivered to the coating applicator.

(d) If the owner or operator of a facility chooses to install reasonable available control technology under Paragraph (c)(1) of this Regulation, the owner or operator shall submit:

(1) the name and location of the facility;

(2) information identifying the source for which a reasonable available control technology limitation or standard is being proposed;

(3) a demonstration that shows the proposed reasonable available control technology limitation or standard satisfies the requirements for reasonable available control technology; and

(4) a proposal for demonstrating compliance with the proposed reasonable control technology limitation or standard.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1994;
Amended Eff. July 1, 2000; July 1, 1996.*

2.0952 PETITION FOR ALTERNATIVE CONTROLS FOR RACT

(a) With the exceptions in Paragraph (b) of this Regulation, this Regulation applies to all sources covered under this Section.

(b) This Regulation does not apply to:

- (1) sources in Mecklenburg County to which MCAPCO Regulations 2.0917 - “Automobile and Light-Duty Truck Manufacturing” through 2.0937 - “Manufacture of Pneumatic Tires apply and which are located at a facility where the total potential emissions of volatile organic compounds from all stationary sources at the facility are 100 tons per year or more, or
- (2) sources covered under MCAPCO Regulation 2.0953 - “Vapor Return Piping for Stage II Vapor Recovery” or 2.0954 - “Stage II Vapor Recovery”.

(c) If the owner or operator of any source of volatile organic compounds subject to the requirements of this Section can demonstrate that compliance with Regulations in this Section would be technologically or economically infeasible, he may petition the Director of the Department to allow the use of alternative operational or equipment controls for the reduction of volatile organic compound emissions. Petition shall be made for each source to the Director.

(d) The petition shall contain:

- (1) the name and address of the company and the name and telephone number of a company officer over whose signature the petition is submitted;
 - (2) a description of all operations conducted at the location to which the petition applies and the purpose that the volatile organic compound emitting equipment serves within the operations;
 - (3) reference to the specific operational and equipment controls under the Regulations of this Section for which alternative operational or equipment controls are proposed;
 - (4) a detailed description of the proposed alternative operational or equipment controls, the magnitude of volatile organic compound emission reduction that will be achieved, and the quantity and composition of volatile organic compounds that will be emitted if the alternative operational or equipment controls are instituted;
 - (5) a plan, which will be instituted in addition to the proposed alternative operational or equipment controls, to reduce, where technologically and economically feasible, volatile organic compound emissions from other source operations at the facility, further than that required under the Regulations of this Section, if these sources exist at the facility, such that aggregate volatile organic compound emissions from the facility will in no case be greater through application of the alternative control than would be allowed through conformance with the Regulations of this Section;
 - (6) a schedule for the installation or institution of the alternative operational or equipment controls in conformance with MCAPCO Regulation 2.0909 - “Compliance Schedules for Sources in New Non-Attainment Areas”, as applicable;
- and

- (7) certification that emissions of all other air contaminants from the subject source are in compliance with all applicable local, state and federal laws and regulations.

The petition may include a copy of the permit application and need not duplicate information in the permit application.

(e) The Director shall approve a petition for alternative control if:

- (1) The petition is submitted in accordance with Paragraph (d) of this Regulation;
- (2) The Director determines that the petitioner cannot comply with the Regulations in question because of technological or economical infeasibility;
- (3) All other air contaminant emissions from the facility are in compliance with, or under a schedule for compliance as expeditiously as practicable with, all applicable local, state, and federal regulations and;
- (4) The petition contains a schedule for achieving and maintaining reduction of volatile organic compound emissions to the maximum extent feasible and as expeditiously as practicable.

(f) When controls different from those specified in the appropriate emission standards in this Section are approved by the Director the permit shall contain a condition stating such controls.

*History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 1994;
Amended Eff. April 1, 2003; July 1, 1995; May 1, 1995.*

2.0953 VAPOR RETURN PIPING FOR STAGE II VAPOR RECOVERY

(a) Applicability. This Regulation applies to any facility located in Mecklenburg County:

- (1) that is built after June 30, 1994,
or
- (2) whose tanks are replaced or removed for upgrades or repairs after June 30, 1994.

When a new tank is added, the new tank shall comply with this Regulation.

(b) Exemptions. The burden of proof of eligibility for exemption from this Regulation is on the owner or operator of the facility. Persons seeking an exemption from this Regulation shall maintain records of throughput and shall furnish these records to the Director upon request. These records shall be maintained on file for three years. The following facilities are exempt from this Regulation based upon the previous two years records:

- (1) any facility that dispenses less than 10,000 gallons of gasoline per calendar month;
- (2) any facility that dispenses less than 50,000 gallons of gasoline per calendar month and is an independent small business marketer of gasoline;
- (3) any facility that dispenses gasoline exclusively for refueling marine vehicles, aircraft, farm equipment, and emergency vehicles;
or
- (4) any tanks used exclusively to test the fuel dispensing meters.

Any facility that ever exceeds the exemptions given in Subparagraphs (1), (2), (3), or (4) of this Paragraph shall be subject to all of the provisions of this Regulation according to the schedule given in Paragraph (e) of this Regulation, and shall remain subject to these provisions even if the facility's later operation meets the exemption requirements.

(c) Definitions. For the purpose of this Regulation, the following definitions apply:

- (1) **"Affected facility"** means any gasoline service station or gasoline dispensing facility subject to the requirements of this Regulation.
- (2) **"CARB"** means the California Air Resources Board.
- (3) **"Certified Stage II Vapor Recovery System"** means any system certified by the California Air Resources Board as having a vapor recovery or removal efficiency of at least 95 percent by weight.
- (4) **"Facility"** means any gasoline service station or gasoline dispensing facility.
- (5) **"Independent Small Business Marketer of Gasoline"** means a facility that qualifies under Section 324 of the Federal Clean Air Act.
- (6) **"ISBM"** means independent small business marketer.
- (7) **"Operator"** means any person who leases, operates, controls, or supervises a facility at which gasoline is dispensed.
- (8) **"Owner"** means any person who has legal or equitable title to the gasoline storage tank at a facility.
- (9) **"Stage II Vapor Recovery"** means the control of gasoline vapor at the vehicle fill-pipe, where the vapors are captured and returned to a vapor-tight underground storage tank or are captured and destroyed.
- (10) **"Throughput"** means the amount of gasoline dispensed at a facility during any calendar month.

- (11) **“Vapor Recovery Dispenser Riser”** means piping rising from the vapor recovery piping to the dispenser.
- (12) **“Vapor Recovery Piping”** means vapor return piping connecting the storage tank(s) with the vapor recovery dispenser riser(s).

(d) Requirements. Affected facilities shall install the necessary piping for future installation of a CARB certified Stage II vapor recovery system. The vapor piping shall extend from the tanks to the pumps. The vapor piping shall be installed in accordance with the following requirements:

- (1) Gasoline vapors shall be:
 - (A) transferred from each gasoline dispenser to the underground storage tank individually,
or
 - (B) manifolded through a common header from which a single return line is connected through another manifold to all of the underground tanks.Each vapor return pipe shall allow the transfer of gasoline vapors to the tank from which the liquid gasoline is being drawn;
- (2) Pipe diameter shall meet manufacturer’s specifications. If the manufacturer does not specify diameters, the following minimum pipe diameters apply. If the manufacturer only specifies diameters for part of the system, the following diameters apply for the pipe(s) not specified. All fittings, connectors, and joints shall have an inside diameter equal to the inside diameter of the pipe to which it is attached. The following diameters are specified for the number of nozzles that may be operated at the same time.
 - (A) Vapor Recovery Dispenser Risers
 - (i) Three fourths of an inch (3/4”) for vapor recovery dispenser risers returning vapors from 1 nozzle;
or
 - (ii) One inch (1”) for vapor recovery dispenser risers returning vapors from 2 nozzles;
 - (B) Vapor Recovery Piping
 - (i) At least two inches for six or fewer nozzles;
or
 - (ii) At least three inches for more than six nozzles;
- (3) All piping and fittings shall be installed in accordance with manufacturer’s instructions and specifications. Metal pipe shall be minimum schedule 40 welded or seamless steel per ASTM A-53, “Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless Pipe”. Fittings shall be 150 pounds cold water screwed malleable iron. Pipe and fittings shall be galvanized and pipe threads shall be zinc-coated. Nonmetallic pipes and fittings shall be U/L listed under nonmetallic primary pipes and fittings for underground flammable liquids (gas and oil equipment directory);
- (4) Each vapor return pipe shall slope toward the storage tank with a minimum grade of one eighth of an inch (1/8”) per foot. No low points or sags exist along the return piping;

- (5) All vapor return and vent piping shall be provided with flexible joints or swing joints at each tank connection and at the base of the vent pipe riser where it fastens to a building or other structure;
- (6) All vapor return pipe-trenching shall be compacted to 90 percent of the standard proctor according to ASTM D-698 "Laboratory Compaction Characteristics of Soil Using Standard Effort" of the area soil before the pipes are installed and back-filled with sand or other material approved by the pipe manufacturer at least six inches below and above the piping;
- (7) The pipes shall not be driven over or in any other way crushed before paving or surfacing;
- (8) The vapor return piping or manifolded piping on a vacuum assisted system shall enter a separate opening to the tank from that connected to the vent pipe or the Stage I piping;
- (9) All vapor return piping shall be tagged at the termination point recording the function of the piping. In addition, a record of the installation of the Stage II vapor return piping shall be kept in the facility;
- (10) Vent piping shall be constructed of materials in accordance with Subparagraph (3) of this Paragraph;
- (11) All vent pipes shall be a minimum of two inches inside diameter or meet the local Fire Codes;
and
- (12) All vent pipes shall slope toward the underground storage tank with a grade of at least one eighth (1/8) inch per linear foot.

(e) Compliance Schedule. Compliance under Paragraph (d) of this Regulation by the affected facility shall coincide with the completion of the tank installation or repair. The owner or operator of a facility shall notify the Director within 60 days after the day the facility has exceeded the exemptions under Paragraph (b) of this Regulation. Facilities that lose their exemption under Paragraph (b) of this Regulation shall comply with this Regulation within 18 months after the day the owner or operator of the facility has notified the Director that the facility has exceeded its exemption under Paragraph (b) of this Regulation.

(f) Testing Requirements.

- (1) Within 30 days after installation of the vapor return piping, the owner or operator of the facility shall submit reports of the following tests to be completed as described in EPA-450/3-91-022b:
 - (A) Bay Area Source Test Procedure ST-30, Leak Test Procedure, or San Diego Test Procedure TP-91-1, Pressure Decay/Leak Test Procedure, and
 - (B) Bay Area Source Test Procedure ST-27, Dynamic Back Pressure, or San Diego Test Procedure TP-91-2, Pressure Drop vs Flow/Liquid Blockage Test Procedure.
- (2) Testing shall be in accordance with MCAPCO Regulation 2.0912 - "General Provisions on Test Methods and Procedures".
- (3) The owner or operator of the facility shall notify the Department at least five business

days before back-filling the trenches and at least 10 business days before the tests given in Subparagraph (1) of this Paragraph are to be performed to allow inspection by the Department. The owner or operator may commence back-filling five days after notification has been given to the Department.

- (4) The owner or operator of the facility and the test contractor shall report all test failures to the Department within 24 hours of the failure.
- (5) The Director may require the owner or operator of the facility to perform any of the tests in Subparagraph (1) of this Paragraph if there are any modifications or repairs.
- (6) Where the Department conducts a test on the vapor control system, it shall be without compensating the owner or operator of the facility for any lost revenues incurred due to the testing procedure.

(g) Referenced documents

- (1) EPA-450/3-91-022b, "Technical Guidance - Stage II Vapor Recovery Systems for Control of Vehicle Refueling Emissions at Gasoline Dispensing Facilities, Volume II: Appendices", November 1991, cited in this Regulation is hereby incorporated by reference and does not include subsequent amendments or editions. A copy of this document is available for inspection at Mecklenburg County Air Quality. Copies of this document may be obtained through the Library Services Office (MD-35), U. S. Environmental Protection Agency, Research Triangle Park or National Technical Information Services (NTIS), 5285 Port Royal Road, Springfield VA 22161. The NTIS number for this document is PB-92132851, and the cost is fifty-two dollars (\$52.00).

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a); 150B-21.6;
Eff. July 1, 1994;
Amended Eff. April 1, 2003; July 1, 1998; July 1, 1996.

2.0954 STAGE II VAPOR RECOVERY

(a) Applicability. In accordance with Paragraph (e), (f), or (g) of MCAPCO Regulation 2.0902 - "Applicability", this Regulation applies to the control of gasoline vapors at the vehicle fill-pipe during refueling operations at a facility. The vapors shall be captured and returned to a vapor-tight underground storage tank or shall be captured and destroyed. These systems shall be installed at all facilities that dispense gasoline to motor vehicles unless exempted under Paragraph (b) of this Regulation.

(b) Exemptions. The following gasoline dispensing facilities are exempt from this Regulation based upon the previous two years records:

- (1) any facility which dispenses less than 10,000 gallons of gasoline per calendar month;
- (2) any facility which dispenses less than 50,000 gallons per calendar month and is an independent small business marketer of gasoline;
- (3) any facility which dispenses gasoline exclusively for refueling marine vehicles, aircraft, farm equipment, and emergency vehicles;
- or
- (4) any tanks used exclusively to test the fuel dispensing meters.

Any facility that ever exceeds the exemptions given in Subparagraphs (1), (2), (3) or (4) in this Paragraph shall be subject to all of the provisions of this Regulation in accordance with the schedule given in Paragraph (f) of this Regulation, and shall remain subject to these provisions even if the facility's later operation meets the exemption requirements.

(c) Proof of Eligibility. The burden of proof of eligibility for exemption from this Regulation is on the owner or operator of the facility. Persons seeking an exemption from this Regulation shall maintain the following:

- (1) chronologically arranged bills of lading for receipt of gasoline shipments from the last three years; and
- (2) daily inventory of each gasoline type for each day of operation or equivalent records as required; this shall be maintained for the last three years.

These records shall be furnished to the Director upon request.

(d) Definitions. For the purpose of this Regulation, the following definitions apply:

- (1) **"CARB"** means the California Air Resources Board.
- (2) **"Certified STAGE II Vapor Recovery System"** means any system certified by the California Air Resources Board as having a vapor recovery or removal efficiency of at least 95 percent by weight.
- (3) **"Defective equipment"** means any absence, disconnection, or malfunction of a Stage II vapor recovery system component which is required by this Regulation including the following:
 - (A) a vapor return line that is crimped, flattened or blocked or that has any hole or slit that allows vapors to leak out;
 - (B) a nozzle bellows that has any hole or tear large enough to allow a one fourth of an inch (1/4") diameter cylindrical rod to pass through it or any slit one inch (1") or more in length;

- (C) a nozzle face-plate or cone that is torn or missing over 25 percent of its surface;
 - (D) a nozzle with no automatic overfill control mechanism or an inoperable overfill control mechanism;
 - (E) an inoperable or malfunctioning vapor processing unit, vacuum generating device, pressure or vacuum relief valve, vapor check valve or any other equipment normally used to dispense gasoline, or that is required by this Regulation; or
 - (F) a failure to meet the requirements of Paragraph (g) of this Regulation.
- (4) **“Facility”** means any gasoline service station, gasoline dispensing facility, or gasoline cargo tanker.
 - (5) **“ISBM”** means independent small business marketer.
 - (6) **“Independent Small Business Marketer of Gasoline”** means a facility that qualifies under Section 324 of the Federal Clean Air Act.
 - (7) **“Operator”** means any person who leases, operates, controls, or supervises a facility at which gasoline is dispensed.
 - (8) **“Owner”** means any person who has legal or equitable title to the gasoline storage tank at a facility.
 - (9) **“Pressure Balanced Stage II System”** means one which is not vacuum-assisted. That is, the volume of vapor in the automobile’s fuel tank displaced by the incoming liquid gasoline equals the space in the underground tank created by the gasoline leaving.
 - (10) **“Remote Vapor Check Valve”** means a check valve in the vapor return line but not located in the nozzle.
 - (11) **“Stage II Vapor Recovery”** means the control of gasoline vapor at the vehicle fill-pipe, where the vapors are captured and returned to a vapor-tight storage tank or are captured and destroyed.
 - (12) **“Throughput”** means the amount of gasoline dispensed at a facility during any calendar month after June 30, 1994.

(e) Stage II Requirements. No person shall transfer or permit the transfer of gasoline into the fuel tank of any motor vehicle at any applicable facility unless:

- (1) the transfer is made using a Certified Stage II vapor recovery system that meets the requirements of the inspections;
- (2) all installed Stage II vapor recovery systems use coaxial vapor recovery hoses; no dual-hose designs shall be used;
- (3) all installed Stage II vapor recovery systems used are certified by CARB except that the Stage I system need not be CARB certified. In addition, no Stage II system shall employ a remote vapor check valve. Pressure balanced Stage II systems may be used; and
- (4) the underground vapor return piping satisfies the requirements of MCAPCO Regulation 2.0953 - “Vapor Return Piping for Stage II Vapor Recovery”.

In the event that CARB revokes certification of an installed system, the owner or operator of the facility shall have four years to modify his equipment to conform with re-certification requirements unless modifications involve only the replacement of dispenser check valves, hoses,

or nozzles or appurtenances to these components in which case the allowed time period is three months. This time period is defined as the period from the day that the owner or operator of the facility has been officially notified by the Director.

(f) Compliance Schedule.

If the gasoline service station or gasoline dispensing facility is subject to the requirements of this Regulation in accordance with Paragraph (e), (f), or (g) of MCAPCO Regulation 2.0902 - "Applicability", compliance shall be achieved no later than:

- (1) one year from the date that the Director of the North Carolina Department of Environment and Natural Resources notices in the North Carolina Register that an area is in violation of the ambient air quality standard for ozone, for facilities having any single monthly throughput of at least 100,000 gallons per month;
- (2) two years from the date that the Director of the North Carolina Department of Environment and Natural Resources notices in the North Carolina Register that an area is in violation of the ambient air quality standard for ozone, for facilities having any single monthly throughput of greater than 10,000 gallons but less than 100,000 gallons;
- (3) for affected facilities owned by a single ISBM:
 - (A) one year from the date that the Director of the North Carolina Department of Environment and Natural Resources notices in the North Carolina Register that an area is in violation of the ambient air quality standard for ozone, for 33 percent of affected facilities;
 - (B) two years from the date that the Director of the North Carolina Department of Environment and Natural Resources notices in the North Carolina Register that an area is in violation of the ambient air quality standard for ozone, for 66 percent of the affected facilities;
 - (C) three years from the date that the Director of the North Carolina Department of Environment and Natural Resources notices in the North Carolina Register that an area is in violation of the ambient air quality standard for ozone, for the remainder of the affected facilities;
- (4) 18 months after the day the owner or operator of the facility has been notified by the Director of MCAQ, that his exemption under Paragraph (b) of this Regulation has been revoked;
or
- (5) before beginning operation for islands constructed after the Director of the North Carolina Department of Environment and Natural Resources notices in the North Carolina Register that an area is in violation of the ambient air quality standard for ozone.

(g) Testing Requirements.

- (1) Within 30 days after the commencement of operation of the Stage II system and every five years thereafter, the owner or operator of the facility shall submit reports of the following tests as described in EPA-450/3-91-022b:
 - (A) Bay Area Source Test Procedure ST-30, Leak Test Procedure, or San Diego

- Test Procedure TP-91-1, Pressure Decay/Leak Test Procedure every five years;
- (B) Bay Area Source Test Procedure ST-27, Dynamic Back Pressure, or San Diego Test Procedure TP-91-2, Pressure Drop vs Flow/Liquid Blockage Test Procedure every five years;
- and
- (C) Bay Area Source Test Procedure ST-37, Liquid Removal Devices every five years.

If the tests have been performed within the last two years, the owner or operator may submit a copy of those tests in lieu of retesting. Testing shall be in accordance with MCAPCO Regulation 2.0912 - "General Provisions on Test Methods and Procedures".

- (2) The owner or operator shall perform daily testing and inspections as follows:
 - (A) daily tests to ensure proper functioning of nozzle automatic overfill control mechanisms and flow prohibiting mechanisms, and
 - (B) daily visual inspection of the nozzle bellows and face-plate.
- (3) The owner or operator of the facility and the test contractor shall report all test failures to the Director of MCAQ within 24 hours of the failure.
- (4) The Director of MCAQ may require the owner or operator of the facility to perform any of the tests in Subparagraph (1) of this Paragraph if there are any modifications or repairs.
- (5) Where the Department conducts tests or upon requirement from the Director of MCAQ to test the vapor control system it shall be without compensating the owner or operator of the facility for any lost revenues incurred due to the testing procedure.

(h) Operating Instructions and Posting.

- (1) The owner or operator of the facility shall post operating instructions for the vapor recovery system on the top one-third of the front of each gasoline dispenser to include the following:
 - (A) a clear description of how to correctly dispense gasoline with the vapor recovery nozzles;
 - (B) a warning that repeated attempts to continue dispensing gasoline, after the system has indicated that the vehicle fuel tank is full (by automatically shutting off), may result in spillage or recirculation of gasoline;
 - (C) a telephone number to report problems experienced with the vapor recovery system to the owner or operator of the facility;
 - and
 - (D) a telephone number to report problems experienced with the vapor recovery system to the Director of MCAQ.
- (2) The owner or operator shall provide written instructions on site as detailed in EPA-450/3-91-022b to ensure that employees of the facility have an accurate understanding of the operation of the system and, in particular, when the system is malfunctioning and requires repair.

(i) Other General Requirements. The owner or operator of the facility shall conspicuously post "Out of Order" signs on any nozzle associated with any aboveground part of the vapor recovery

system which is defective until the system has been repaired to bring it back into compliance with this Regulation.

(j) Recordkeeping and Reporting. Owners or operators of the facility shall maintain records in accordance with Regulation 2.0903 - “Recordkeeping: Reporting: Monitoring” on compliance and testing.

(k) Referenced document. EPA-450/3-91-022b, “Technical Guidance - Stage II Vapor Recovery Systems for Control of Vehicle Refueling Emissions at Gasoline Dispensing Facilities, Volume II: Appendices”, November 1991, cited in this Regulation is hereby incorporated by reference and does not include subsequent amendments or editions. A copy of this document is available for inspection at Mecklenburg County Air Quality. Copies of this document may be obtained through the Library Services Office (MD-35), U. S. Environmental Protection Agency, Research Triangle Park or National Technical Information Services, 5285 Port Royal Road, Springfield VA 22161. The NTIS number for this document is PB-92132851 and the cost is fifty-two dollars (\$52.00).

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a); 150B-21.6;
Eff. May 1, 1995;
Amended Eff. April 1, 2003; April 1, 1997; July 1, 1996;
April 1, 1996; May 1, 1995.

2.0955 THREAD BONDING MANUFACTURING

(a) For the purpose of this Regulation, the following definitions apply:

- (1) **“Capture hoods”** means any device designed to remove emissions from the solution bath tray areas during the manufacturing process.
- (2) **“Curing”** means exposing coated threads to high temperatures in an oven until the nylon solution mixture hardens (vaporizing the solvents) and bonds to the threads.
- (3) **“Day tanks”** means holding tanks that contain nylon solution mixture ready for use.
- (4) **“Drying ovens”** means any apparatus through which the coated threads are conveyed while curing.
- (5) **“Enclose”** means to construct an area within the plant that has a separate ventilation system and is maintained at a slightly negative pressure.
- (6) **“Fugitive emissions”** means emissions that cannot be collected and routed to a control system.
- (7) **“Nylon thread coating process”** means a process in which threads are coated with a nylon solution and oven cured.
- (8) **“Permanent label”** means a label that cannot be easily removed or defaced.
- (9) **“Polyester solution mixture”** means a mixture of polyester and solvents which is used for thread coating.
- (10) **“Storing”** means reserving material supply for future use.
- (11) **“Thread bonding manufacturing”** means coating single or multi-strand threads with plastic (nylon or polyester solution mixture) to impart properties such as additional strength and durability, water resistance, and moth repellency.
- (12) **“Transporting”** means moving material supply from one place to another.

(b) This Regulation applies in accordance with MCAPCO Regulation 2.0902 - “Applicability” to any thread bonding manufacturing facility with total uncontrolled exhaust emissions from nylon thread coating process collection hoods and drying ovens of volatile organic compounds (VOC) equal to or greater than 100 tons per year.

(c) Annual VOC emissions from each nylon thread coating process shall be determined by multiplying the hourly amount of VOC consumed by the total scheduled operating hours per year.

(d) Emissions from each nylon thread coating process subject to this Regulation shall be reduced:

- (1) by at least 95 percent by weight,
or
- (2) by installing a thermal incinerator with a temperature of at least 1600° F and a residence time of at least 0.75 seconds.

(e) The owner or operator of any thread bonding manufacturing facility shall:

- (1) enclose the nylon thread coating process area of the plant to prevent fugitive emissions from entering other plant areas;
- (2) store all VOC containing materials in covered tanks or containers;
- (3) ensure that equipment used for transporting or storing VOC containing material does not leak and that all lids and seals used by such equipment are kept in the closed

- position at all times except when in actual use;
- (4) not cause or allow VOC containing material to be splashed, spilled, or discarded in sewers;
 - (5) hold only enough nylon solution mixture in the day tanks to accommodate daily process times measured in hours;
and
 - (6) place permanent and conspicuous labels on all equipment affected by Subparagraphs (3) through (5) of this Paragraph summarizing handling procedures described in Subparagraphs (3) through (5) of this Paragraph for VOC contaminated materials at the nylon thread coating process.

(f) The owner or operator of a thread bonding manufacturing facility shall notify the Director within 30 days after the calculated annual emissions of VOC from nylon thread coating processes equal or exceed 100 tons per year. The owner or operator shall submit within six months after such calculation a permit application including a schedule to bring the facility into compliance with this Regulation.

History Note: *Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a);
Eff. May 1, 1995.*

2.0956 GLASS CHRISTMAS ORNAMENT MANUFACTURING

(a) For the purpose of this Regulation, the following definitions apply:

- (1) **“Coating”** means the application of a layer of material, either by dipping or spraying, in a relatively unbroken film onto glass Christmas ornaments.
- (2) **“Curing ovens”** means any apparatus through which the coated glass Christmas ornaments are conveyed while drying.
- (3) **“Glass Christmas ornament”** means any glass ornament that is coated with a decorative exterior and is traditionally hung on Christmas trees.
- (4) **“Glass Christmas ornament manufacturing facility”** means a facility that coats glass Christmas ornaments through the process of interior coating or exterior coating that uses either mechanical or hand-dipping methods, drying (curing), cutting, and packaging operations.
- (5) **“Mechanical coating lines”** means equipment that facilitates mechanized dipping or spraying of a coating onto glass Christmas ornaments in which the neck of each ornament is held mechanically during the coating operation.
- (6) **“Solvent-borne coating”** means a coating that uses organic solvents as an ingredient.

(b) This Regulation applies in accordance with MCAPCO Regulation 2.0902 - “Applicability” to any curing ovens servicing the mechanical coating lines in the coating of glass Christmas ornaments at glass Christmas tree ornament manufacturing facilities with potential volatile organic compound (VOC) emissions of 100 tons per year or more.

(c) This Regulation does not apply to glass Christmas ornament manufacturing facilities that do not use solvent-borne coating materials.

(d) Emissions of VOC from each curing oven shall be reduced by at least 90 percent by weight.

(e) If the owner or operator of a facility subject to this Regulation chooses to use low VOC content, solvent-borne coatings to reduce emissions, the emission reduction from the use of these coatings shall be equivalent to that achieved using add-on controls.

(f) The owner or operator of a Christmas tree ornament manufacturing facility shall notify the Director within 30 days after the calculated annual emissions of VOC from the facility equal or exceed 100 tons per year. The owner or operator shall submit within six months after such calculation a permit application including a schedule to bring the facility into compliance with this Regulation.

History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a);
Eff. May 1, 1995.

2.0957 COMMERCIAL BAKERIES

(a) For the purpose of this Regulation, the following definitions apply:

- (1) **“Baking Oven”** means an oven used at any time for the purpose of baking yeast-leavened products, including bread and rolls.
- (2) **“Commercial Bakery”** means an establishment where bread and baked goods are produced.

(b) This Regulation applies in accordance with MCAPCO Regulation 2.0902 - “Applicability” to any baking oven at a commercial bakery with potential volatile organic compound (VOC) emissions of 100 tons per year or more . Daily volatile organic compound emissions shall be determined according to the calculation procedures in Paragraph (d) of this Regulation.

(c) Emissions of VOC from baking ovens subject to this Regulation shall be reduced by at least:

- (1) 90 percent by weight, or
- (2) 60 percent by weight, if biofiltration is used.

(d) Daily volatile organic compound emissions from each commercial baking oven shall be determined according to the following:

$$\text{EtOH} = 0.40425 + 0.444585[(Y \times T) + (S \times t)]$$

where:

- EtOH = pounds ethanol per ton of baked bread.
- Y = baker’s percent yeast in sponge to the nearest tenth of a percent.
- T = total time of fermentation in hours to the nearest tenth of an hour.
- S = baker’s percent of yeast added to dough to the nearest tenth of a percent.
- t = proof time + floor time in hours to the nearest tenth of an hour.

(e) The owner or operator of a commercial bakery shall notify the Director within 30 days after the calculated emissions of VOC from the bakery equal or exceed 100 tons per year. The owner or operator shall submit within six months after such calculation a permit application including a schedule to bring the facility into compliance with this Regulation.

History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a); Eff. May 1, 1995.

2.0958 WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS

- (a) This Regulation applies to all facilities that use volatile organic compounds as solvents, carriers, material processing media, or industrial chemical reactants, or in other similar uses or that mix, blend, or manufacture volatile organic compounds, or emit volatile organic compounds as a product of chemical reactions.
- (b) This Regulation does not apply to:
- (1) architectural or maintenance coating, or
 - (2) sources subject to 40 CFR Part 63, Subpart JJ (National Emissions Standards For Wood Furniture Manufacturing).
- (c) The owner or operator of any facility subject to this Regulation shall:
- (1) store all material, including waste material, containing volatile organic compounds in containers covered with a tightly fitting lid that is free of cracks, holes, or other defects, when not in use,
 - (2) clean up spills as soon as possible following proper safety procedures,
 - (3) store wipe rags in closed containers,
 - (4) not clean sponges, fabric, wood, paper products, and other absorbent materials,
 - (5) drain solvents used to clean supply lines and other coating equipment into closable containers and close containers immediately after each use,
 - (6) clean mixing, blending, and manufacturing vats and containers by adding cleaning solvent, closing the vat or container before agitating the cleaning solvent. The spent cleaning solvent shall then be poured into a closed container.
- (d) When cleaning parts, the owner or operator of any facility subject to this Regulation shall:
- (1) flush parts in the freeboard area,
 - (2) take precautions to reduce the pooling of solvent on and in the parts,
 - (3) tilt or rotate parts to drain solvent and allow a minimum of 15 seconds for drying or until all dripping has stopped, whichever is longer,
 - (4) not fill cleaning machines above the fill line,
 - (5) not agitate solvent to the point of causing splashing.
- (e) The owner or operator of a source on which a control device has been installed to comply with MCAPCO Regulation 2.0518 - "Miscellaneous Volatile Organic Compound Emissions" Paragraph (d) shall continue to maintain and operate the control device unless the Director determines that the removal of the control device shall not cause or contribute to a violation of the ozone ambient air quality standard (MCAPCO Regulation 2.0405 - "Ozone").
- (f) The owner or operator of a source that has complied with MCAPCO 2.0518 - "Miscellaneous Volatile Organic Compound Emissions" by complying with a Regulation in this Section, shall continue to comply with that Regulation unless the Director determines that if the source ceases to comply with that Regulation, it shall not cause or contribute to a violation of the ozone ambient air quality standard (MCAPCO Regulation 2.0405 - "Ozone").

(g) All sources at a facility subject to this Regulation shall be permitted unless they are exempted from permitting by MCAPCO Regulation 1.5211 - “Applicability”.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. July 1, 2000.*

2.0959 PETITION FOR SUPERIOR ALTERNATIVE CONTROLS

(a) This Regulation applies to all sources covered under this Section.

(b) If the owner or operator of any source of volatile organic compounds subject to the requirements of this Section, can demonstrate that an alternative operational or equipment control is superior to the required control, he may petition the Director to allow the use of alternative operational or equipment controls for the reduction of volatile organic compound emissions. The petition shall be made for each source to the Director.

(c) The petition shall contain:

- (1) the name and address of the company and the name and telephone number of a company officer over whose signature the petition is submitted;
- (2) a description of all operations conducted at the location to which the petition applies and the purpose that the volatile organic compound emitting equipment serves within the operations;
- (3) reference to the specific operational and equipment controls under the Regulations of this Section for which alternative operational or equipment controls are proposed;
- (4) a detailed description of the proposed alternative operational or equipment controls, the magnitude of volatile organic compound emission reduction that will be achieved, and the quantity and composition of volatile organic compounds that will be emitted if the alternative operational or equipment controls are instituted; and
- (5) certification that emissions of all other air contaminants from the subject source are in compliance with all applicable local, state and federal laws and regulations.

The petition may include a copy of the permit application and need not duplicate information in the permit application.

(d) The Director shall approve a petition for alternative control if:

- (1) The petition is submitted in accordance with Paragraph (c) of this Regulation;
- (2) The Director determines that the proposed alternative operational or equipment control is superior to the required controls;
- (3) All other air contaminant emissions from the facility are in compliance with, or under a schedule for compliance as expeditiously as practicable with, all applicable local, state, and federal regulations; and
- (4) The petition contains a schedule for achieving and maintaining reduction of volatile organic compound emissions to the maximum extent feasible and as expeditiously as practicable.

(e) When controls different from those specified in the appropriate emission standards in this Section are approved by the Director, the permit shall contain a condition stating such controls.

*History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. April 1, 2003.*

