### 9 VAC 5 CHAPTER 20. GENERAL PROVISIONS.

### PART I. Administrative.

9 VAC 5-20-21. Documents incorporated by reference.

- A. The Administrative Process Act and Virginia Register Act provide that state regulations may incorporate documents by reference. Throughout these regulations, documents of the types specified below have been incorporated by reference.
  - 1. United States Code.
  - 2. Code of Virginia.
  - 3. Code of Federal Regulations.
  - 4. Federal Register.
  - 5. Technical and scientific reference documents.

Additional information on key federal regulations and non-statutory documents incorporated by reference and their availability may be found in subsection E of this section.

B. Any reference in these regulations to any provision of the Code of Federal Regulations (CFR) shall be considered as the adoption by reference of that provision. The specific version of the provision adopted by reference shall be that contained in the CFR (1999) (2000) in effect July 1, 1999 2000. In making reference to the Code of Federal Regulations, 40 CFR Part 35 means Part 35 of Title 40 of the Code of Federal Regulations; 40 CFR 35.20 means Section 35.20 in Part 35 of Title 40 of the Code of Federal Regulations.

- C. Failure to include in this section any document referenced in the regulations shall not invalidate the applicability of the referenced document.
- D. Copies of materials incorporated by reference in this section may be examined by the public at the headquarters central office of the Department of Environmental Quality, Eighth Floor, 629 East Main Street, Richmond, Virginia between 8:30 a.m. and 4:30 p.m. of each business day.
- E. Information on federal regulations and non-statutory documents incorporated by reference and their availability may be found below in this subsection.
  - 1. Code of Federal Regulations.
- a. The provisions specified below from the Code of Federal Regulations (CFR) are incorporated herein by reference.
- 40 CFR Part 50 National Primary and Secondary
   Ambient Air Quality Standards.
- (a) Appendix A Reference Method for the Determination of Sulfur Dioxide in the Atmosphere (Pararosaniline Method).
- (b) Appendix B Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere (High-Volume Method).
- (c) Appendix C Measurement Principle and Calibration Procedure for the Continuous Measurement of Carbon Monoxide in the Atmosphere (Non-Dispersive Infrared Photometry).
- (d) Appendix D Measurement Principle and Calibration Procedure for the Measurement of Ozone in the Atmosphere.

(e) Appendix E - Reference Method for

Determination of Hydrocarbons Corrected for Methane.

(f) Appendix F - Measurement Principle and Calibration Procedure for the Measurement of Nitrogen Dioxide in the Atmosphere (Gas Phase Chemiluminescence).

(g) Appendix G - Reference Method for the

Determination of Lead in Suspended Particulate Matter Collected from Ambient Air.

(h) Appendix H - Interpretation of the National Ambient Air Quality Standards for Ozone.

- (i) Appendix I Reserved.
- (j) Appendix J Reference Method for the

Determination of Particulate Matter as PM<sub>10</sub> in the Atmosphere.

(k) Appendix K - Interpretation of the National Ambient Air Quality Standards for Particulate Matter.

(2) 40 CFR Part 51 - Requirements for Preparation, Adoption, and Submittal of Implementation Plans.

Appendix M - Recommended Test Methods for State Implementation Plans.

Appendix S - Emission Offset Interpretive Ruling.

Appendix W - Guideline on Air Quality Models

(Revised).

(3) 40 CFR Part 58 - Ambient Air Quality Surveillance.

Appendix B - Quality Assurance Requirements for Prevention of Significant Deterioration (PSD) Air Monitoring.

(4) 40 CFR Part 60 - Standards of Performance for New Stationary Sources.

The specific provisions of 40 CFR Part 60 incorporated by reference are found in Article 5 (9 VAC 5-50-400 et seq.) of Part II of Chapter 50, Rule 5-5, Environmental Protection Agency Standards of Performance for New Stationary Sources.

(5) 40 CFR Part 61 - National Emission Standards for Hazardous Air Pollutants.

The specific provisions of 40 CFR Part 61 incorporated by reference are found in Article 1 (9 VAC 5-60-60 et seq.) of Part II of Chapter 60, Rule 6-1, Environmental Protection Agency National Emission Standards for Hazardous Air Pollutants.

(6) 40 CFR Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories.

The specific provisions of 40 CFR Part 63 incorporated by reference are found in Article 2 (9 VAC 5-60-90 et seq.) of Part II of Chapter 60, Rule 6-2, Environmental Protection Agency National Emission Standards for Hazardous Air Pollutants for Source Categories.

b. Copies may be obtained from: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 P.O. Box 371954, Pittsburgh,

Pennsylvania 15250-7954; phone (202) 783-3238.

- 2. U.S. Environmental Protection Agency.
- a. The following documents from the U.S. Environmental Protection Agency are incorporated herein by reference:
- (1) Reich Test, Atmospheric Emissions from Sulfuric AcidManufacturing Processes, Public Health Service Publication No. PB82250721, 1980.
- (2) Compilation of Air Pollutant Emission Factors (AP-42). Volume I: Stationary and Area Sources, Publication No. PB95196028, 1995; Volume II: Supplement A, Publication No. PB96192497, 1996 stock number 055-000-00500-1, 1995; Supplement A, stock number 055-000-00551-6, 1996; Supplement B, stock number 055-000-00565, 1997; Supplement C, stock number 055-000-00587-7, 1997; Supplement D, available online, 1998; Supplement E, available online, 1999.
- b. Copies of Volume I and Supplements A through C may be obtained from: U.S. Department of Commerce, National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161; phone (703) 487-4650 1-800-553-6847. Copies of Supplements D and E may be obtained online from EPA's Technology Transfer Network at http://www.epa.gov/ttn/chief/ap-42supp.html.
  - 3. U.S. government.
- a. The following document from the U.S. government is incorporated herein by reference: Standard Industrial Classification Manual, 1987 (U.S. Government Printing Office stock number 041-001-00-314-2).
  - b. Copies may be obtained from: Superintendent of Documents,

- U.S. Government Printing Office, Washington, D.C. 20402 P.O. Box 371954, Pittsburgh, Pennsylvania 15250-7954; phone (202) 512-1800.
  - 4. American Society for Testing and Materials (ASTM)
- a. The documents specified below from the American Society for
   Testing and Materials are incorporated herein by reference.
- (1) D323-94 99a, "Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method)." from Section 5, Volume 05.01 of the 1985 Annual Book of ASTM Standards.
- (2) D97-93 96a, "Standard Test Method for Pour Point of Petroleum Oils Products." from Section 5, Volume 05.01 of the 1989 Annual Book of ASTM Standards.
- (3) D129-91 00, "Standard Test Method for Sulfur in Petroleum Products (General Bomb Method)<del>," 1991</del>."
- (4) D388-<del>95</del> <u>99</u>, "Standard Classification of Coals by Rank," 1995."
- (5) D396-<del>92</del> <u>98</u>, "Standard Specification for Fuel Oils,"

  1992."
- (6) D975-<del>94</del> <u>98b</u>, "Standard Specification for Diesel Fuel Oils<del>," 1994</del>."
- (7) D1072-90(1999), "Standard Test Method for Total Sulfur in Fuel Gases," 1990, reapproved 1994."
  - (8) D1265-92 97, "Standard Practice for Sampling

Liquified Liquefied Petroleum (LP) Gases (Manual Method)," 1992."

- (9) D2622-94 98, "Standard Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-Ray Spectrometry," 1994."
- (10) D4057-<del>88</del> <u>95(2000)</u>, "Standard Practice for Manual Sampling of Petroleum Products<del>," 1988</del>."
- (11) D4294-<del>90</del> <u>98</u>, "Standard Test Method for Sulfur in Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectroscopy," 1990."
- b. Copies may be obtained from: American Society for Testing Materials, 1916 Race Street, Philadelphia, 100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19103 19428-2959; phone (610) 832-9585.
  - 5. American Petroleum Institute (API)
- a. The following document from the American Petroleum Institute is incorporated herein by reference: API Publication 2517, Evaporation Loss from External Floating Roof Tanks, Third Edition, 1989 API MPMS Chapter 192, April 1, 1997.
- b. Copies may be obtained from: American Petroleum Institute, 2101 1220 L Street, Northwest, Washington, D.C. 20037 20005; phone (202) 682-8000.
  - 6. American Conference of Governmental Industrial Hygienists (ACGIH)
- a. The following document from the ACGIH is incorporated herein
   by reference: 1991-1992 Threshold Limit Values for Chemical Substances and Physical
   Agents and Biological Exposure Indices (ACGIH Handbook).
- b. Copies may be obtained from: ACGIH, 6500 Glenway Avenue,

  Building D-7, 1330 Kemper Meadow Drive, Suite 600, Cincinnati, Ohio 45211-4438

45240; phone (513) 742-2020.

- 7. National Fire Prevention Association (NFPA)
- a. The documents specified below from the National Fire Prevention Association are incorporated herein by reference.
- (1) NFPA 385, Standard for Tank Vehicles for Flammable and Combustible Liquids, <del>1990</del> 2000 Edition.
- (2) NFPA 30, Flammable and Combustible Liquids Code, 1993 1996 Edition.
- (3) NFPA 30A, Automotive and Marine Service Station Code, <del>1993</del> 1996 Edition.
- b. Copies may be obtained from the National Fire Prevention Association, One Batterymarch Park, P.O. Box 9101, Quincy, Massachusetts 02269-9101; phone (617) 770-3000.
  - 8. American Society of Mechanical Engineers (ASME).
- a. The documents specified below from the American Society of Mechanical Engineers are incorporated herein by reference.
- (1) ASME Power Test Codes: Test Code for SteamGenerating Units, Power Test Code 4.1--1964 (R1991).
- (2) ASME Interim Supplement 19.5 on Instruments and Apparatus: Application, Part II of Fluid Meters, 6th edition (1971) (1972).
- (3) Standard for the Qualification and Certification of Resource Recovery Facility Operators, ASME QRO-1-1994.

- b. Copies may be obtained from the American Society of Mechanical Engineers, 2<del>2 Law Drive, Fairfield, New Jersey, 07004</del> Three Park Avenue, New York, New York, 10016; phone (800) 843-2763.
  - 9. American Hospital Association (AHA)
- a. The following document from the American Hospital

  Association is incorporated herein by reference: An Ounce of Prevention: Waste

  Reduction Strategies for Health Care Facilities, AHA Catalog no. W5-057007, 1993.
- b. Copies may be obtained from: American Hospital Association, P.O. Box 92683, One North Franklin, Chicago, IL 60675-2683 60606; phone (800) 242-2626.

### 9 VAC 5 CHAPTER 10. GENERAL DEFINITIONS.

9 VAC 5-10-20. Terms defined.

"Reid vapor pressure" means the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids except liquified liquefied petroleum gases as determined by American Society for Testing and Materials publication, Standard D323-82, "Test Method for Vapor Pressure of Petroleum Products (Reid Method)" (see 9 VAC 5-20-21).

"True vapor pressure" means the equilibrium partial pressure exerted by a petroleum liquid as determined in accordance with methods described in American Petroleum Institute (API) Publication 2517 publication, "Evaporation Loss from External Floating-Roof Tanks" (see 9 VAC 5-20-21). The API procedure may not be applicable to some high viscosity or high pour crudes. Available estimates of true vapor pressure may be used in special cases such as these.

"Vapor pressure," except where specific test methods are specified, means true vapor pressure, whether measured directly, or determined from Reid vapor pressure by use of the applicable nomograph in API Publication 2517 American Petroleum Institute publication, "Evaporation Loss from External Floating-Roof Tanks" (see 9 VAC 5-20-21).

### 9 VAC 5 CHAPTER 40. EXISTING STATIONARY SOURCES.

## PART II. Emission Standards.

# ARTICLE 5. Emission Standards for Synthesized Pharmaceutical Products Manufacturing Operations (Rule 4-5).

9 VAC 5-40-460. Control technology guidelines.

C. Filling of storage tanks.

The tank should be a pressure tank maintaining working pressure sufficient at all times to prevent vapor loss to the atmosphere, or be designed and equipped with one of the following vapor control systems:

- 3. A vapor control system with the vapor balance portion meeting the following criteria:
- b. The pressure relief valves on storage containers and tank trucks should be set to release at no less than 0.7 psi or the highest possible pressure (in accordance with the following National Fire Prevention Association Standards: NFPA 385, "Standard for Tank Vehicles for Flammable and Combustible Liquids," ; NFPA 30, "Flammable and Combustible Liquids Code," ; NFPA 30A, "Automotive and Marine Service Station Code" (see 9 VAC 5-20-21).

# ARTICLE 21. Emissions Standards For Sulfuric Acid Production Units (Rule 4-21).

9 VAC 5-40-2930. Monitoring.

E. The owner shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (lb/short ton). The conversion factor shall be determined, as a minimum, three times daily by measuring the concentration of sulfur dioxide entering the converter using suitable methods (e.g., the Reich Test, "Atmospheric Emissions from Sulfuric Acid Manufacturing Processes," Public Health Service Publication No. 999-AP-13 (see 9 VAC 5-20-21)) and calculating the appropriate conversion factor for each eight-hour period as follows:

$$CF = k \left[ \frac{1.000 - 0.15r}{r - s} \right]$$

where:

CF = conversion factor (lb/short ton per ppm).

- k = constant derived from material balance. For determining CF in English units,k = 0.1306.
- r = percentage of sulfur dioxide by volume entering the gas converter.
   Appropriate corrections must be made for air injection plants subject to the approval of the board.
- s = percentage of sulfur dioxide by volume in the emission to the atmosphere determined by the continuous monitoring system.

# ARTICLE 37. Emission Standards For Petroleum Liquid Storage and Transfer Operations (Rule 4-37).

9 VAC 5-40-5210. Definitions.

C. Terms defined.

"Waxy, heavy pour crude oil" means a crude oil with a pour point of 50°F or higher as determined by the American Society for Testing and Materials <u>publication</u>

Standard D97-66, "Test for Pour Point of Petroleum Oils" (see 9 VAC 5-20-21).

9 VAC 5-40-5230. Control technology guidelines.

C. Gasoline bulk loading – bulk terminals.

The control system should consist of the following:

- 2. A vapor collection and disposal system with the vapor collection portion meeting the following criteria:
- b. The pressure relief valves on storage containers and tank trucks should be set to release at no less than 0.7 psi or the highest possible pressure (in accordance with the following National Fire Prevention Association Standards: NFPA 385, "Standard for Tank Vehicles for Flammable and Combustible Liquids," ; NFPA 30, "Flammable and Combustible Liquids Code," ; NFPA 30A, "Automotive and Marine Service Station Code," (see 9 VAC 5-20-21);
  - D. Gasoline bulk loading bulk plants.
- 2. The control system in subdivisions D 1 a and b of this section should meet the following equipment specifications and operating procedures:
  - b. For the balance system:

- (2) The pressure relief valves on storage tanks, account trucks and tank trucks should be set to release at no less than 0.7 psi or the highest possible pressure (in accordance with the following National Fire Prevention Association Standards: NFPA 385, "Standard for Tank Vehicles for Flammable and Combustible Liquids," ; NFPA 30, "Flammable and Combustible Liquids Code," ; NFPA 30A, "Automotive and Marine Service Station Code" (see 9 VAC 5-20-21).
- E. Transfer of gasoline gasoline dispensing facilities stage I vapor control systems.

The control system should consist of the following:

- 3. A vapor control system with the vapor balance portion meeting the following criteria:
- b. The pressure relief valves on storage containers and tank trucks should be set to release at no less than 0.7 psi or the highest possible pressure (in accordance with the following National Fire Prevention Association Standards: NFPA 385, "Standard for Tank Vehicles for Flammable and Combustible Liquids," ; NFPA 30, "Flammable and Combustible Liquids Code," ; NFPA 30A, "Automotive and Marine Service Station Code," (see 9 VAC 5-20-21);

# ARTICLE 46. Emission Standards for Municipal Waste Combustors (Rule 4-46).

9 VAC 5-40-8130. Operator training and certification.

- A. Each chief facility operator and shift supervisor of an affected facility shall obtain and maintain one of the following:
- 1. A current provisional operator training certification from the American Society of Mechanical Engineers (QRO-1-1994) as provided in the "Standard for the Qualification and Certification of Resource Recovery Facility Operators" (see 9 VAC 5-20-21) in conjunction with licensing requirements of the Board for Waste Management Facility Operators as required by 18 VAC 155 Chapter 20 (18 VAC 155-20-10 et seq.); or
- B. Each chief facility operator and shift supervisor of an affected facility shall have:
- 1. Completed full certification or scheduled a full certification exam with the American Society of Mechanical Engineers (QRO-1-1994) certification program as provided in the "Standard for the Qualification and Certification of Resource Recovery Facility Operators (see 9 VAC 5-20-21) in conjunction with the Board for Waste Management Facility Operators as required by 18 VAC 155 Chapter 20 (18 VAC 155-20-10 et seq.); or
- 9 VAC 5-40-8150. Monitoring.
- C. The procedures specified in subsections C 1 through C 12 of this section shall be used for determining compliance with the operating requirements under 9 VAC 5-40-8120.

- 6. The procedures specified in subsections C 6 a through C 6 d of this section shall be used to determine compliance with load level requirements under 9 VAC 5-40-8120 A.
- Engineers Power Test Codes: Test Code for Steam Generating Units, Power Test Code
  4.1 -- 1964 (R1991)" section 4 of the American Society of Mechnical Engineers
  publication, "Power Test Codes: Steam Generating Units" (see 9 VAC 5-20-21) shall be
  used for calculating the steam (or feedwater) flow required under subsection C 6 a of this
  section. The recommendations in "American Society of Mechanical Engineers Interim
  Supplement 19.5 on Instruments and Apparatus: Application, Part II of Fluid Meters, 6th
  edition (1971)," chapter 4 of the American Society of Mechnical Engineers publication,
  "Interim Supplement 19.5 on Instruments and Apparatus: Application, Part II of Fluid
  Meters" (see 9 VAC 5-20-21) shall be followed for design, construction, installation,
  calibration, and use of nozzles and orifices except as specified in subsection C 6 c of this
  section.

## 9 VAC 5 CHAPTER 80. PERMITS FOR STATIONARY SOURCES.

## Part I. Permits for New and Modified Sources.

9 VAC 5-80-10. Permits - new and modified stationary sources.

- B. Definitions.
  - 3. Terms defined.

"Stationary source" means any building, structure, facility or installation which emits or may emit any air pollutant. A stationary source shall include all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control) except the activities of any vessel.

Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same "major group" (i.e., which have the same two-digit code) as described in the "Standard Industrial Classification Manual;" as amended by the supplement (see 9 VAC 5-20-21).

# Part II. Permit Procedures.

# ARTICLE 3. Acid Rain Operating Permits.

9 VAC 5-80-370. Definitions.

"Coal" means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society for Testing and Materials Designation

ASTM D388-92 publication, "Standard Classification of Coals by Rank" (see 9 VAC 5-20-21).

"Diesel fuel" means a low sulfur fuel oil of grades 1-D or 2-D, as defined by in the American Society for Testing and Materials ASTM D975-94 publication, "Standard Specification for Diesel Fuel Oils" (see 9 VAC 5-20-21).

"Fuel oil" means any petroleum-based fuel (including diesel fuel or petroleum derivatives such as oil tar) as defined by in the American Society for Testing and Materials publication in ASTM D396-92, "Standard Specification for Fuel Oils" (see 9 VAC 5-20-21), and any recycled or blended petroleum products or petroleum by-products used as a fuel whether in a liquid, solid or gaseous state.

9 VAC 5-80-390. New units exemption.

- D. The following provisions apply to units exempted under this section:
- 1. The owners and operators of each unit exempted under this section shall determine the sulfur content by weight of its fuel as follows:
- a. For petroleum or petroleum products that the unit burns starting on the first day on which the exemption takes effect until the exemption terminates, a

sample of each delivery of such fuel shall be tested using methods found in the following.

American Society for Testing and Materials (ASTM) publications: "Standard Practice for Manual Sampling of Petroleum and Petroleum Products" and "Standard Test Method for Sulfur in Petroleum Products (General Bomb Method)," "Standard Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-Ray Spectrometry" or "Standard Test Method for Sulfur in Petroleum Products by Energy-Dispersive X-Ray Fluorescence

Spectroscopy" methods ASTM D4057-88 and ASTM D129-91, ASTM D2622-94 or ASTM D4294-90 (see 9 VAC 5-20-21).

c. For gaseous fuel (other than natural gas) that the unit burns starting on the first day on which the exemption takes effect until the exemption terminates, a sample of each delivery of such fuel shall be tested using ASTM methods found in the following ASTM publications: "Standard Test Method for Total Sulfur in Fuel Gases" and "Standard Practice for Sampling Liquefied Petrolem (LP) Gases (Manual Method)" ASTM D1072-90 and ASTM D1265-92 (see 9 VAC 5-20-21); provided that if the gaseous fuel is delivered by pipeline to the unit, a sample of the fuel shall be tested, at least once every quarter in which the unit operates during any year for which the exemption is in effect, using the method found in ASTM method publication, "Standard Test Method for Total Sulfur in Fuel Gases" ASTM D1072-90 (see 9 VAC 5-20-21).

#### ARTICLE 8.

Permits for Major Stationary Sources and Major Modifications Locating in Prevention of Significant Deterioration Areas.

9 VAC 5-80-1710. Definitions.

#### C. Terms defined.

"Building, structure, facility or installation" means all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control) except the activities of any vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same "Major Group" (i.e., which have the same first two-digit code) as described in the Standard Industrial Classification Manual, as amended by the Supplement (see 9 VAC 5-20-21).

#### ARTICLE 9.

Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas.

9 VAC 5-80-2010. Definitions.

#### C. Terms defined.

"Building, structure, facility, or installation" means all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control) except the activities of any vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same "major group" (i.e., which have the same two-digit code) as described in the "Standard Industrial Classification Manual;" as amended by the supplement (see 9 VAC 5-20-21).

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