

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

9 VAC 5 CHAPTER 20.

GENERAL PROVISIONS.

PART II.

Air Quality Programs.

9 VAC 5-20-206. Volatile organic compound and nitrogen oxides emissions control areas.

Emissions Control Areas are geographically defined below by locality for the pollutants indicated.

1. Volatile Organic Compounds.

a. Northern Virginia Emissions Control Area.

Arlington County

Alexandria City

Fairfax County

Fairfax City

Loudoun County

Falls Church City

Prince William County

Manassas City

Stafford County

Manassas Park City

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

b. Richmond Emissions Control Area.

Charles City County	Colonial Heights City
Chesterfield County	Hopewell City
Hanover County	Richmond City
Henrico County	

c. Hampton Roads Emissions Control Area.

James City County *	Poquoson City *
York County *	Portsmouth City
Chesapeake City	Suffolk City
Hampton City	Virginia Beach City
Newport News City	Williamsburg City *
Norfolk City	

d. Northeastern Virginia Emissions Control Area

<u>Caroline County</u>	<u>Spotsylvania County</u>
<u>Fauquier County</u>	<u>Fredericksburg City</u>

e. Western Virginia Emissions Control Area

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

Albemarle County

Roanoke County

Augusta County

Rockingham County

Botetourt County

Roanoke City

Frederick County

Salem City

Pittsylvania County

Winchester City

Page County (portions containing Shenandoah National Park)

Madison County (portions containing Shenandoah National Park)

2. Nitrogen Oxides.

a. Northern Virginia Emissions Control Area.

Arlington County

Alexandria City

Fairfax County

Fairfax City

Loudoun County

Falls Church City

Prince William County

Manassas City

Stafford County

Manassas Park City

b. Richmond Emissions Control Area.

Charles City County

Colonial Heights City

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

Chesterfield County	Hopewell City
Hanover County	Richmond City
Henrico County	

c. Hampton Roads Emissions Control Area.

James City County	Poquoson City
York County	Portsmouth City
Chesapeake City	Suffolk City
Hampton City	Virginia Beach City
Newport News City	Williamsburg City
Norfolk City	

d. Northeastern Virginia Emissions Control Area

<u>Caroline County</u>	<u>Spotsylvania County</u>
<u>Fauquier County</u>	<u>Fredericksburg City</u>

e. Western Virginia Emissions Control Area

<u>Albemarle County</u>	<u>Roanoke County</u>
<u>Augusta County</u>	<u>Rockingham County</u>

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

Botetourt County

Roanoke City

Frederick County

Salem City

Pittsylvania County

Winchester City

Page County (portions containing Shenandoah National Park)

Madison County (portions containing Shenandoah National Park)

- \* Emission standards for volatile organic compounds prescribed in 9 VAC 5 Chapter 40 (9 VAC 5-40-10 et seq.) shall not be applicable in localities marked by an asterisk. This exception is not applicable to the emission standards for volatile organic compounds prescribed in Article 37 (9 VAC 5-40-5200 et seq.) of Part II of 9 VAC 5 Chapter 40.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

9 VAC 5 CHAPTER 40.

EXISTING STATIONARY SOURCES.

PART II.

Emission Standards.

ARTICLE 4.

Emission Standards for General Process Operations (Rule 4-4).

9 VAC 5-40-240. Applicability and designation of affected facility.

A. Except as provided in subsections C and D of this section, the affected facility to which the provisions of this article apply is each process operation, each process gas stream and each combustion installation.

B. The provisions of this article apply throughout the Commonwealth of Virginia.

C. Exempted from the provisions of this article are the following:

1. Process operations with a process weight rate capacity less than 100 pounds per hour.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

2. Any combustion unit using solid fuel with a maximum heat input of less than 350,000 Btu per hour.

3. Any combustion unit using liquid fuel with a maximum heat input of less than 1,000,000 Btu per hour.

4. Any combustion unit using gaseous fuel with a maximum heat input of less than 10,000,000 Btu per hour.

D. The provisions of this article do not apply to affected facilities subject to other emission standards in this chapter.

9 VAC 5-40-250. Definitions.

A. For the purpose of the Regulations for the Control and Abatement of Air Pollution and subsequent amendments or any orders issued by the board, the words or terms shall have the meaning given them in subsection C of this section.

B. As used in this article, all terms not defined here shall have the meaning given them in 9 VAC 5 Chapter 10 (9 VAC 5-10-10 et seq.), unless otherwise required by context.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

C. Terms defined.

"Combustion installation" means all combustion units within a stationary source in operation prior to October 5, 1979.

"Combustion unit" means any type of stationary equipment in which solid, liquid or gaseous fuels and refuse are burned, including, but not limited to, furnaces, ovens, and kilns.

"Heat input" means the total gross calorific value of all fuels burned.

"Manufacturing operation" means any process operation or combination of physically connected dissimilar process operations which is operated to effect physical or chemical changes or both in an article.

"Materials handling equipment" means any equipment used as a part of a process operation or combination of process operations which does not effect a physical or chemical change in the material or in an article, such as, but not limited to, conveyors, elevators, feeders or weighers.

"Physically connected" means any combination of process operations connected by materials handling equipment and designed for simultaneous

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

complementary operation.

"Process operation" means any method, form, action, operation or treatment of manufacturing or processing, including any storage or handling of materials or products before, during or after manufacturing or processing.

"Process unit" means any step in a manufacturing or process operation which results in the emission of pollutants to the atmosphere.

"Process weight" means total weight of all materials introduced into any process unit which may cause any emission of pollutants. Process weight includes solid fuels charged, but does not include liquid and gaseous fuels charged or combustion air for all fuels.

"Process weight rate" means a rate established as follows:

a. For continuous or long-run steady-state process operations, the total process weight for the entire period of continuous operation or for a typical portion of it, divided by the number of hours of such period or portion of it.

b. For cyclical or batch process operations, the total weight for a period that covers a complete operation or an integral number of cycles, divided by the

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

hours of actual process operation during such a period.

"Reasonably available control technology" means the lowest emission limit that a particular source is capable of meeting by the application of control technology that is reasonably available, considering technological and economic feasibility.

"Rated capacity" means the capacity as stipulated in the purchase contract for the condition of 100% load, or such other capacities as mutually agreed to by the board and owner using good engineering judgment.

"Total capacity" means with reference to a combustion installation, the sum of the rated capacities (expressed as heat input) of all units of the installation which must be operated simultaneously under conditions of 100% use load.

9 VAC 5-40-300. Standard for volatile organic compounds.

A. No owner or other person shall cause or permit to be discharged from any affected facility any volatile organic compound emissions in excess of that resultant from using reasonably available control technology.

B. The provisions of this section apply to all facilities that (i) are within a stationary source in the Northern Virginia or ~~Richmond, Northeast, or Western~~ Emissions

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

Control Area (see 9 VAC 5-20-206) and (ii) are within a stationary source that has a theoretical potential to emit 25 tons per year or greater in the Northern Virginia, Northeast, or Western Emissions Control Area or 100 tons per year or greater in the Richmond Emissions Control Area. Theoretical potential to emit shall be based on emissions at design capacity or maximum production and maximum operating hours (8,760 hours/year) before add-on controls, unless the facility is subject to state and federally enforceable permit conditions which limit production rates or hours of operation. Emissions from all facilities, including facilities exempt from any other emission standard for volatile organic compounds in this chapter, shall be added together to determine theoretical potential to emit.

C. For facilities subject to the provisions of this section, the owners shall within three months of the effective date of this emission standard (i) notify the board of their applicability status, (ii) commit to making a determination as to what constitutes reasonably available control technology for the facilities and (iii) provide a schedule acceptable to the board for making this determination and for achieving compliance with the emission standard as expeditiously as possible but no later than the following dates:

1. For facilities in the Northern Virginia Emissions Control Area with a theoretical potential to emit 50 tons per year or greater, May 31, 1995.

2. For facilities in the Northern Virginia Emissions Control Area with a

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

theoretical potential to emit 25 tons per year or greater, but less than 50 tons per year, May 31, 1996.

3. For facilities in the Richmond Emissions Control Area with a theoretical potential to emit 100 tons per year or greater, May 31, 1995.

4. For facilities in the Northeastern Virginia Emissions Control Area and the Western Virginia Emissions Control Area with a theoretical potential to emit 25 tons per year or greater, November 15, 2005.

9 VAC 5-40-310. Standard for nitrogen oxides.

A. No owner or other person shall cause or permit to be discharged from any affected facility any nitrogen oxides emissions in excess of that resultant from using reasonably available control technology.

B. Unless the owner demonstrates otherwise to the satisfaction of the board, compliance with the provisions of subsection A of this section shall be achieved for the applicable source types by the use of reasonably available control technology as defined in 9 VAC 5-40-311.

C. The provisions of this section apply to all facilities that (i) are within a

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

stationary source in the Northern Virginia, Northeast, or Western Emissions Control Area (see 9 VAC 5-20-206) and (ii) are within a stationary source that has a theoretical potential to emit ~~50~~ 25 tons per year or greater. Theoretical potential to emit shall be based on emissions at design capacity or maximum production and maximum operating hours (8,760 hours/year) before add-on controls, unless the facility is subject to state and federally enforceable permit conditions which limit production rates or hours of operation. Emissions from all facilities, including facilities exempt from any other emission standard for nitrogen oxides in this chapter, shall be added together to determine theoretical potential to emit.

D. For facilities subject to the provisions of subsection A of this section, the owners shall within three months of the effective date of the emission standard (i) notify the board of their applicability status, (ii) commit to making a determination as to what constitutes reasonably available control technology for the facilities and (iii) provide a schedule acceptable to the board for making this determination and for achieving compliance with the emission standard as expeditiously as possible but no later than ~~May 31, 1995~~. the following dates:

1. For facilities in the Northern Virginia Emissions Control Area with a theoretical potential to emit 50 tons per year or greater, May 31, 1995.

2. For facilities in the Northern Virginia, Northeast, or Western Emissions

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

Control Area with a theoretical potential to emit 25 tons per year or greater, but less than 50 tons per year, November 15, 2005.

E. For facilities to which the provisions of subsection B of this section are applicable, the owners shall within three months of the effective date of the emission standard (i) notify the board of their applicability status, (ii) commit to accepting the emission standard as reasonably available control technology for the applicable facilities or to submitting a demonstration as provided in subsection B of this section and (iii) provide a schedule acceptable to the board for submitting the demonstration no later than ~~January 1, 1994~~ the dates specified in subdivisions 1, 2 and 3 of this subsection, and for achieving compliance with the emission standard as expeditiously as possible but no later than ~~May 31, 1995~~ the dates specified in subdivisions 4, 5, and 6 of this subsection.

1. For facilities in the Northern Virginia Emissions Control Area with a theoretical potential to emit 50 tons per year or greater, January 1, 1994.

2. For facilities in the Northern Virginia Emissions Control Area with a theoretical potential to emit 25 tons per year or greater, but less than 50 tons per year, January 1, 2004.

3. For facilities in the Northeastern Virginia Emissions Control Area and the Western Virginia Emissions Control Area with a theoretical potential to emit 25 tons per

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

year or greater, January 1, 2004.

4. For facilities in the Northern Virginia Emissions Control Area with a theoretical potential to emit 50 tons per year or greater, May 31, 1995.

5. For facilities in the Northern Virginia Emissions Control Area with a theoretical potential to emit 25 tons per year or greater, but less than 50 tons per year. November 15, 2005.

6. For facilities in the Northeastern Virginia Emissions Control Area and the Western Virginia Emissions Control Area with a theoretical potential to emit 25 tons per year or greater, November 15, 2005.

F. No owner or other person shall cause or permit to be discharged from any facility any nitrogen oxides emissions in excess of those necessary to achieve emissions reductions identified in any attainment or maintenance plan or any other legally enforceable document submitted to the U.S. Environmental Protection Agency as a revision to the state implementation plan.

1. The facilities to which the provisions of this subsection apply are facilities within the Richmond Emissions Control Area (see 9 VAC 5-20-206) identified in any attainment or maintenance plan submitted to the U.S. Environmental Protection

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

Agency as a revision to the state implementation plan.

2. The board may establish case-by-case emission limits and other requirements as may be necessary to achieve the required emission reductions via permits, consent orders, or other legally enforceable means.

3. Facilities subject to this subsection shall be in compliance with any limits and other requirements established pursuant to subsection F 2 of this section within the timeframes established in any state plan revision, permit, or other legally enforceable document.

4. The provisions of subsections A through E of this section shall not apply to facilities within the Richmond Emissions Control Area (see 9 VAC 5-20-206).

9 VAC 5-40-311. Reasonably available control technology guidelines for stationary sources of nitrogen oxides.

A. General.

Unless otherwise approved by the board, this section defines reasonably available control technology for the purposes of compliance with 9 VAC 5-40-310 A for the source types specified here.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

B. Definitions.

1. For the purpose of this section and subsequent amendments or any orders issued by the board, the words or terms shall have the meaning given them in subdivision B 3 of this section.

2. As used in this section, all terms not defined here shall have the meaning given them in 9 VAC 5 Chapter 10 (9 VAC 5-10-10 et seq.), unless otherwise required by context.

3. Terms defined.

"Capacity factor" means the ratio of the average load on a machine or equipment for the period of time considered to be the capacity rating of the machine or equipment.

"Combustion modification" means any change to the configuration of the burners or the firing method or mechanism of any combustion equipment for the purpose of reducing the emissions of nitrogen oxides. Acceptable combustion equipment changes within the context of this term include, but are not limited to, reburning, burners out of service, flue gas recirculation, fuel substitution, engine adjustments, engine

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

modifications, fuel modifications and the addition of over fire air and low nitrogen oxides burner systems.

"Fossil fuel" means natural gas, petroleum, coal and any form of solid, liquid or gaseous fuel derived from such materials for the purpose of creating useful heat.

"Fuel burning equipment" means any furnace, with fuel burning equipment appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat to be utilized by indirect heat transfer or producing power. This includes facilities that are designed as boilers to produce steam or heated water and are designed to burn either fossil fuel or refuse derived fuel. It does not include such facilities if designed primarily to burn raw refuse.

"Gas turbine" means a rotary internal combustion engine fueled by liquid or gaseous fuel.

"Heat input" means the total gross calorific value of all fuels burned.

"Incinerator" means any device, apparatus, equipment, or structure using combustion or pyrolysis for destroying, or reducing the volume of any material or substance.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

"Internal combustion engine" means a reciprocating engine which is fueled by liquid or gaseous fuel.

"Process heater" means any fuel burning equipment which is used to produce heat for use in a manufacturing process. This term includes boilers which use a heat transfer medium other than water, but does not include drying ovens, steam generating units, or other drying apparatus.

"Rated capacity" means the capacity as stipulated in the purchase contract for the condition of 100% load, or such other capacities as mutually agreed to by the board and owner using good engineering judgment.

"Refuse derived fuel (RDF)" means fuel produced from solid or liquid waste (includes materials customarily referred to as refuse and other discarded materials) or both which has been segregated and classified, with the useable portions being put through a size reduction and classification process which results in a relatively homogeneous mixture.

"Steam generating unit" means any furnace, boiler or other device used for combusting fuel for the purpose of producing steam.

C. Definition of reasonably available control technology.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

1. For the source types listed below, reasonably available control technology is defined as the emission limits specified below based upon the application of combustion modification; however, owners may elect to use any alternative control technology, provided such alternative is capable of achieving the prescribed emission limits.

a. Steam generating units and process heaters. The maximum allowable emission rate for nitrogen oxides from steam generating units and process heaters is as follows:

TABLE 4-4C

Maximum Allowable Emission Rates for Nitrogen Oxides Emissions from Steam  
Generating Units and Process Heaters (pounds per million Btu heat input)

Fuel Type	Firing Method		
	Face* and Tangential	Cyclone	Stokers
Coal – wet bottom	1.0	.55	N/A

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

Coal – dry bottom	.38	N/A	0.4
Oil or Gas or both	.25	.43	N/A
Gas only	.20	N/A	N/A

\* Includes wall, opposed and vertical firing methods

b. Gas turbines. The maximum allowable emission rate for nitrogen oxides from gas turbines is as follows:

TABLE 4-4D

Maximum Allowable Emission Rates for Nitrogen Oxides Emissions from Gas Turbines  
(parts per million by dry volume corrected to 15% oxygen)

Fuel Type	Turbine Type	
	Simple Cycle	Combined Cycle
Gas	42	42
Oil	65/77*	65/77*

\* Limit shall be 65 ppm for fuel bound nitrogen (FBN) < 0.015% and 77 ppm for FBN ≥ .015%.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

2. Any demonstration of compliance with the limits in subdivision C 1 of this section shall be on a daily basis.

3. For the source types and sizes listed below, a demonstration of reasonably available control technology is not required as provided in 9 VAC 5-40-310 B.

a. Any steam generating unit, process heater or gas turbine with an annual capacity factor of less than 5.0%, except that three months following any calendar year during which the capacity factor is 5.0% or greater, the facility shall be subject to 9 VAC 5-40-310 A or B, as applicable, and the owner shall comply with 9 VAC 5-40-310 D or E, as applicable, except the compliance date shall be two years after approval of the schedule by the board. Time periods during which a stand-by unit is used to provide replacement services for a unit being altered to comply with the provisions of 9 VAC 5-40-310 A or B shall not be used as the basis for a determination that the stand-by unit exceeded the annual capacity factor criteria of 5.0%.

b. Any stationary internal combustion engine with a rated capacity of less than 450 hp of output power.

c. Any incinerator with a maximum capacity of less than 50 tons of waste per day.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

d. Any incinerator or thermal or catalytic oxidizer used exclusively as air pollution control equipment.

e. Any generator used solely to supply emergency power to buildings during periods when normal power supplies are interrupted and during periods of scheduled maintenance.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

ARTICLE 37.

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

9 VAC 5-40-5200. Applicability and designation of affected facility.

A. Except as provided in subsection C of this section, the affected facility to which the provisions of this article apply is each operation involving the storage or transfer of petroleum liquids or both.

B. ~~Except as provided in subdivisions 1 and 2 of this subsection,~~ the provisions of this article apply to sources of volatile organic compounds in volatile organic compound emissions control areas designated in 9 VAC 5-20-206. ~~The provisions of this article shall apply in localities outside the volatile organic compound emissions control areas according to the following schedule of effective dates:~~

1. ~~On January 1, 1993, for facilities subject to~~ The emission standards in 9 VAC 5-40-5220 A, B, and C and associated tank trucks that load at these facilities C, D, E, F and G shall not apply to affected facilities in the following localities: Albemarle County, Augusta County, Botetourt County, Caroline County, Fauquier County, Frederick County, Pittsylvania County, Rockingham County, Spotsylvania County, Fredericksburg City, Winchester City, Page County (portions containing Shenandoah National Park), and

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

Madison County (portions containing Shenandoah National Park).

2. ~~On January 1, 1996, for facilities subject to~~ The emission standard in 9 VAC 5-40-5220 ~~D~~ and associated account trucks that load or unload at these facilities ~~E~~ shall apply only to affected facilities in the Northern Virginia and Richmond Volatile Organic Compound Emissions Control Areas.

3. ~~On January 1, 1999, for facilities subject to the emission standard in 9 VAC 5-40-5220 E.~~

~~For the purposes of this subsection the term "localities outside the volatile organic compound emissions control areas" means the following localities: Charles City County, James City County, Roanoke County, York County, Poquoson City, Roanoke City, Salem City and Williamsburg City.~~

C. The provisions of this article do not apply to affected facilities using petroleum liquids with a vapor pressure less than 1.5 pounds per square inch absolute under actual storage conditions or, in the case of loading or processing, under actual loading or processing conditions. (Kerosene and fuel oil used for household heating have vapor pressures of less than 1.5 pounds per square inch absolute under actual storage conditions; therefore, kerosene and fuel oil are not subject to the provisions of this article when used or stored at ambient temperatures).

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

D. The burden of proof of eligibility for exemption from this article is on the owner. Owners seeking such an exemption shall maintain adequate records of average monthly throughput and furnish these records to the board upon request.

9 VAC 5-40-5220. Standard for volatile organic compounds.

A. Petroleum liquid storage – fixed roof tanks.

1. No owner or other person shall use or permit the use of any fixed roof tank of more than 40,000 gallons capacity for storage of petroleum liquids, unless such tank is equipped with a control method which will remove, destroy or prevent the discharge into the atmosphere of at least 90% by weight of volatile organic compound emissions.

2. Achievement of the emission standard in subdivision A 1 of this section by use of methods in 9 VAC 5-40-5230 A will be acceptable to the board.

3. The provisions of subsection A of this section shall not be applicable to fixed roof tanks having capacities less than 400,000 gallons for crude oil or condensate stored, processed or treated at a drilling and production facility prior to custody transfer.

4. The owner of a fixed roof tank subject to the provisions of subdivision

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

A 1 of this section shall:

a. When the fixed roof tank is equipped with an internal floating roof, perform a visual inspection annually of the floating cover through roof hatches, to ascertain compliance with the specifications in subdivisions A 4 a (1) and (2).

(1) The cover should be uniformly floating on or above the liquid and there should be no visible defects in the surface of the cover or liquid accumulated on the cover.

(2) The seal must be intact and uniformly in place around the circumference of the cover between the cover and tank wall.

b. Perform a complete inspection of the cover and seal and record the condition of the cover and seal when the tank is emptied for nonoperational reasons such as maintenance, an emergency, or other similar purposes.

c. Maintain records of the throughput quantities and types of petroleum liquids stored, the average monthly storage temperature and true vapor pressure of the liquid as stored, and the results of the inspections performed under the provisions of subdivisions A 4 a and b of this section.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

B. Petroleum liquid storage – floating roof tanks.

1. No owner or other person shall use or permit the use of any floating roof tank of more than 40,000 gallons capacity for storage of petroleum liquids, unless such tank is equipped with a control method which will remove, destroy or prevent the discharge into the atmosphere of at least 90% by weight of volatile organic compound emissions.

2. Achievement of the emission standard in subdivision B 1 of this section by use of methods in 9 VAC 5-40-5230 B will be acceptable to the board.

3. The provisions of subsection B of this section shall not be applicable to the following:

a. Floating roof tanks having capacities less than 400,000 gallons for crude oil or condensate stored, processed or treated at a drilling and production facility prior to custody transfer.

b. Floating roof tanks storing waxy, heavy pour crude oil.

4. The owner of a floating roof tank subject to the provisions of subdivision B 1 of this section shall:

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

a. Perform routine inspections annually which shall include a visual inspection of the secondary seal gap.

b. When the floating roof is equipped with a vapor-mounted primary seal, measure the secondary seal gap annually in accordance with subdivisions B 4 b (1) and (2) of this section.

(1) Physically measuring the length and width of all gaps around the entire circumference of the secondary seal in each place where a 1/8-inch uniform diameter probe passes freely (without forcing or binding against the seal) between the seal and tank wall; and

(2) Summing the area of the individual gaps.

c. Maintain records of the types of petroleum liquids stored, the maximum true vapor pressure of the liquid as stored, and the results of the inspections performed under the provisions of subdivisions B 4 a and b of this section.

C. Gasoline bulk loading – bulk terminals.

1. No owner or other person shall cause or permit the discharge into the atmosphere from a bulk gasoline terminal (including any appurtenant equipment necessary

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

to load the tank truck compartments) any volatile organic compound in excess of .67 pounds per 1,000 gallons of gasoline loaded.

2. Achievement of the emission standard in subdivision C 1 of this section by use of methods in 9 VAC 5-40-5230 C will be acceptable to the board.

D. Gasoline bulk loading – bulk plants.

1. No owner or other person shall use or permit the use of any bulk gasoline plant (including any appurtenant equipment necessary to load or unload tank trucks and account trucks) unless such plant is equipped with a vapor control system that will remove, destroy or prevent the discharge into the atmosphere of at least 77% by weight of volatile organic compound emissions.

2. Achievement of the emission standard in subdivision D 1 of this section by use of methods in 9 VAC 5-40-5230 D will be acceptable to the board.

3. The provisions of subsection D of this section shall not be applicable to facilities whose average daily throughput of gasoline is less than 4,000 gallons per working day when based on a 30-day rolling average. Average daily throughput means the average daily amount of gasoline pumped at a gasoline dispensing facility during the most recent 30-day period. Average daily throughput shall be calculated for the two most recent

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

consecutive calendar years. If during this two-year period or any period thereafter, the average daily throughput exceeds 4,000 gallons per working day, the facility is no longer exempt from the provisions of subdivision D 1 of this section.

E. Transfer of gasoline – gasoline dispensing facilities – Stage I vapor control systems.

1. No owner or other person shall transfer or permit the transfer of gasoline from any tank truck into any stationary storage tank unless such tank is equipped with a vapor control system that will remove, destroy or prevent the discharge into the atmosphere of at least 90% by weight of volatile organic compound emissions.

2. Achievement of the emission standard in subdivision E 1 of this section by use of methods in 9 VAC 5-40-5230 E will be acceptable to the board.

3. The provisions of subsection E of this section shall not apply to the following:

a. Transfers made to storage tanks that are either less than 250 gallons in capacity or located at facilities whose average monthly throughput of gasoline is less than 10,000 gallons.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

b. Transfers made to storage tanks equipped with floating roofs or their equivalent.

F. Transfer of gasoline – gasoline dispensing facilities – Stage II vapor recovery systems.

1. No owner or other person shall transfer or permit the transfer of gasoline into the fuel tank of any motor vehicle at any affected gasoline dispensing facility unless the transfer is made using a certified Stage II vapor recovery system that is designed, operated, and maintained such that the vapor recovery system removes, destroys or prevents the discharge into the atmosphere of at least 95% by weight of volatile organic compound emissions.

2. Achievement of the emission standard in subdivision F 1 of this section by use of methods in 9 VAC 5-40-5230 F will be acceptable to the board.

3. ~~The provisions of subsection F of this section shall apply to affected facilities in the Northern Virginia and Richmond Volatile Organic Compound Emissions Control Areas designated in 9 VAC 5-20-206.~~ The affected gasoline facilities shall be in compliance with the emissions standard in subdivision F 1 of this section according to the following schedule:

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

a. Facilities which begin actual construction on or after January 1, 1993, must comply upon startup unless the facility can prove it is exempt under the provisions of subdivision F 4 of this section.

b. Facilities which begin actual construction after November 15, 1990, and before January 1, 1993, must comply by May 15, 1993.

c. Facilities which begin actual construction on or before November 15, 1990, and dispense an average monthly throughput of 100,000 gallons or more of gasoline must comply by November 15, 1993.

d. All other affected facilities which begin actual construction on or before November 15, 1990, must comply by November 15, 1994.

4. The provisions of subsection F of this section shall not apply to the following facilities:

a. Gasoline dispensing facilities with an average monthly throughput of 10,000 gallons or less.

b. Gasoline dispensing facilities owned by independent small business gasoline marketers with an average monthly throughput of 50,000 gallons or less.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

c. Gasoline dispensing devices that are used exclusively for refueling marine vehicles, aircraft, farm equipment, and emergency vehicles.

5. Any gasoline dispensing facility subject to the provisions of subsection F of this section shall also comply with the provisions of subsection E of this section (Stage I vapor controls).

6. In accordance with the provisions of AQP-9, Procedures for Implementation of Regulations Covering Stage II Vapor Recovery Systems for Gasoline Dispensing Facilities (see 9 VAC 5-20-121), owners of affected gasoline dispensing facilities shall:

a. Register the Stage II system with the board and submit Stage II vapor recovery equipment specifications at least 90 days prior to installation of the Stage II vapor recovery system. Owners of gasoline dispensing facilities in existence as of January 1, 1993, shall contact the board by February 1, 1993, and register the Stage II vapor recovery system according to the schedule outlined in AQP-9. Any repair or modification to an existing Stage II vapor recovery system that changes the approved configuration shall be reported to the board no later than 30 days after completion of such repair or modification.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

b. Perform tests, before the equipment is made available for use by the public, on the entire Stage II vapor recovery system to ensure the proper functioning of nozzle automatic shut-off mechanisms and flow prohibiting mechanisms where applicable, and perform a pressure decay/leak test, a vapor space tie test, and a liquid blockage test. In cases where use of one of the test methods in AQP-9 is not feasible for a particular Stage II vapor recovery system, the owner may, upon approval of the board, use an alternative test method.

c. No later than 15 days after system testing is completed, submit to the board documentation showing the results of the tests outlined in subdivision F 6 b of this section.

d. Ensure that the Stage II vapor recovery system is vapor tight by performing a pressure decay/leak test and a liquid blockage test at least every five years, upon major system replacement or modification, or if requested by the board after evidence of a system malfunction which compromises the efficiency of the system.

e. Notify the board at least two days prior to Stage II vapor recovery system testing as required by subdivisions F 6 b and F 6 d of this section.

f. Conspicuously post operating instructions for the vapor recovery system on each gasoline dispensing pump which includes the following

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

information:

(1) A statement, as described in Part III F 1 of AQP-9 (see 9 VAC 5-20-121), describing the benefits of the Stage II vapor recovery system.

(2) A clear description of how to correctly dispense gasoline with the vapor recovery nozzles.

(3) 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.

(4) A telephone number to report problems experienced with the vapor recovery system to the board.

g. Promptly and conspicuously post "Out Of Order" signs on any nozzle associated with any part of the vapor recovery system which is defective if use of that nozzle would allow escape of gasoline vapors to the atmosphere. "Out of order" signs shall not be removed from affected nozzles until said system has been repaired.

h. Provide adequate training and written instructions for facility personnel to assure proper operation of the vapor recovery system.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

i. Perform routine maintenance inspections of the Stage II vapor recovery system on a daily and monthly basis and record the monthly inspection results as specified in Part III E of AQP-9 (see 9 VAC 5-20-121).

j. Maintain records on site, in a form and manner acceptable to the board, of operator training, system registration and equipment approval, and maintenance, repair and testing of the system. Original documents may be maintained at a centralized location only if copies of these documents are maintained on-site according to the requirements set forth in AQP-9. Records shall be retained for a period of at least two years, unless specified otherwise, and shall be made immediately available for inspection by the board upon request.

G. Tank trucks/account trucks and vapor collection systems.

1. No owner or other person shall use or permit the use of any tank truck or account truck that is loaded or unloaded at facilities subject to the provisions of subsection C, D or E of this section unless such truck is designed, maintained and certified to be vapor tight. In addition, there shall be no avoidable visible liquid leaks. Invariably there will be a few drops of liquid from disconnection of dry breaks in liquid lines even when well maintained; these drops are allowed.

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

2. Vapor-laden tank trucks or account trucks exclusively serving facilities subject to subsection D or E of this section may be refilled only at facilities in compliance with subsection C of this section.

3. Tank truck and account truck hatches shall be closed at all times during loading and unloading operations (periods during which there is liquid flow into or out of the truck) at facilities subject to the provisions of subsection C, D or E of this section.

4. During loading or unloading operations at facilities subject to the provisions of subsection C, D or E of this section, there shall be no volatile organic compound concentrations greater than or equal to 100% of the lower explosive limit (LEL, measured as propane) at 2.5 centimeters around the perimeter of a potential leak source as detected by a combustible gas detector. In addition, there shall be no avoidable visible liquid leaks. Invariably there will be a few liquid drops from the disconnection of well-maintained bottom loading dry breaks and the raising of well-maintained top loading vapor heads; these few drops are allowed. The vapor collection system includes all piping, seals, hoses, connection, pressure-vacuum vents and other possible leak sources between the truck and the vapor disposal unit and between the storage tanks and vapor recovery unit.

5. The vapor collection and vapor disposal equipment must be designed and operated to prevent gauge pressure in the tank truck from exceeding 18 inH<sub>2</sub>O and

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

prevent vacuum from exceeding 6 inH<sub>2</sub>O.

6. Testing to determine compliance with subdivision G 1 of this section shall be conducted and reported and data shall be reduced as set forth in procedures approved by the board using test methods specified there. All tests shall be conducted by, or under the direction of, a person qualified by training or experience in the field of air pollution testing, or tank truck maintenance and testing and approved by the board.

7. Monitoring to confirm the continuing existence of leak tight conditions specified in subdivision G 4 of this section shall be conducted as set forth in procedures approved by the board using test methods specified there.

8. Owners of tank trucks and account trucks subject to the provisions of subdivision G 1 of this section shall certify, each year that the trucks are vapor tight in accordance with test procedures specified in subdivision G 6 of this section. Trucks that are not vapor tight must be repaired within 15 days of the test and be tested and certified as vapor tight.

9. Each truck subject to the provisions of subdivision G 1 of this section shall have information displayed on the tank indicating the expiration date of the certification and such other information as may be needed by the board to determine the validity of the certification. The means of display and location of the above information

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

shall be in a manner acceptable to the board.

10. An owner of a vapor collection/control system shall repair and retest the system within 15 days of the testing, if it exceeds the limit specified in subdivision G 4 of this section.

11. The owner of a tank/account truck or vapor collection/control system or both subject to the provisions of this section shall maintain records of all certification testing and repairs. The records must identify the tank/account truck, 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 must be maintained in a legible, readily available condition for at least two years after the date testing or repair was completed.

12. The records of certification tests required by subdivision G 11 of this section shall, as a minimum, contain the following:

- a. The tank/account truck tank identification number;
- b. The initial test pressure and the time of the reading;
- c. The final test pressure and the time of the reading;

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

- d. The initial test vacuum and the time of the reading;
- e. The final test vacuum and the time of the reading; and
- f. Name and the title of the person conducting the test.

13. Copies of all records and reports required by this section shall immediately be made available to the board, upon verbal or written request, at any reasonable time.

14. The board may, at any time, monitor a tank/account truck, vapor collection system, or vapor control system, by the method referenced in subdivision G 6 or G 7 of this section to confirm continuing compliance with subdivision G 1 or G 4 of this section.

15. If, after over one year of monitoring (i.e., at least two complete annual checks), the owner of a truck subject to the provisions of subdivision G 6 of this section feels that modification of the requirements are in order, he may request in writing to the board that a revision be made. The request should include data that have been developed to justify any modifications in the monitoring schedule. On the other hand, if the board finds an excessive number of leaks during an inspection, or if the owner finds an excessive number of leaks during scheduled monitoring, consideration shall be given to increasing

REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION  
(9 VAC 5 CHAPTERS 20 AND 40)

the frequency of inspection.

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