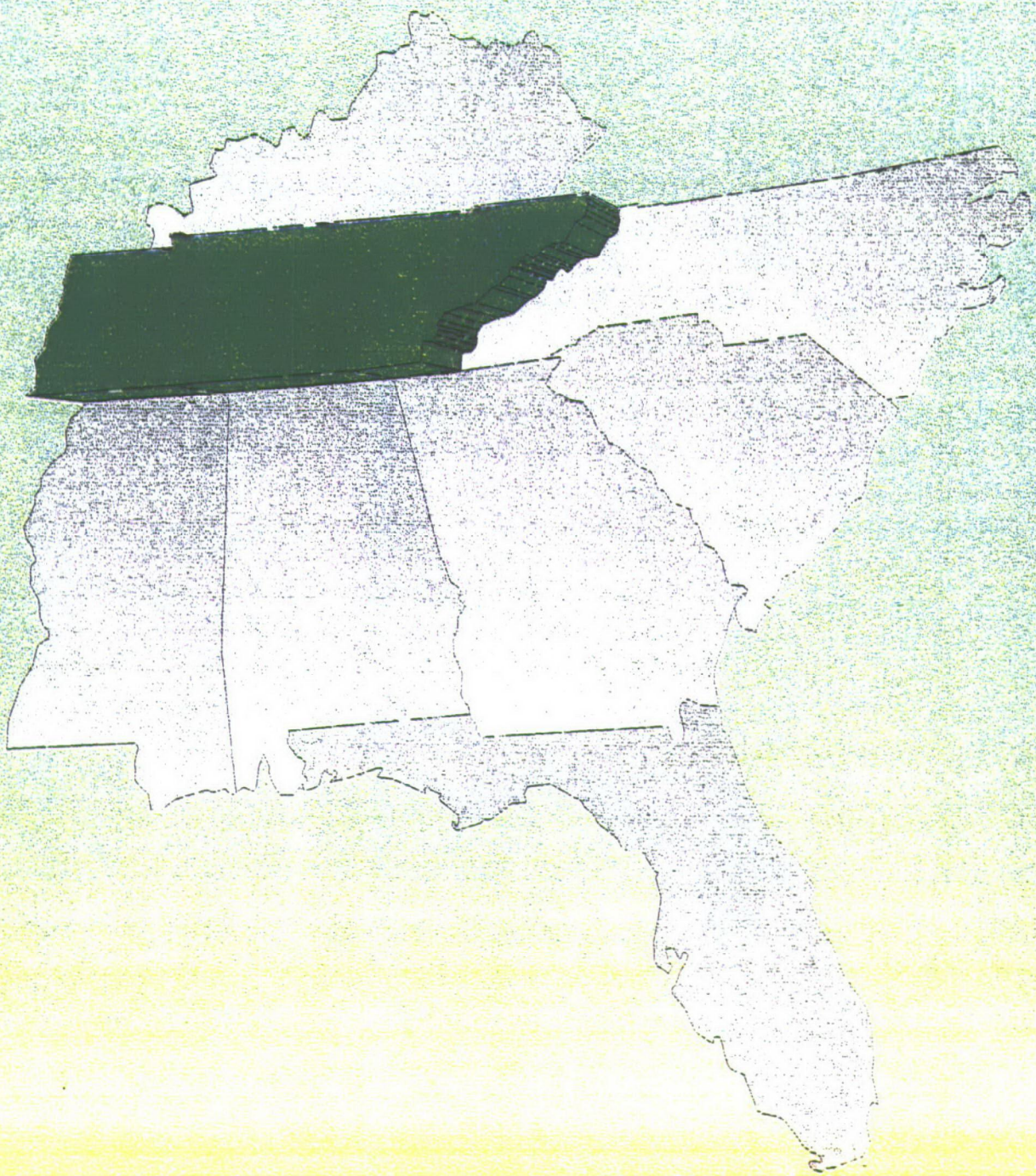
U.S. EPA

Region IV

Tennessee



State Implementation Plan

NOTE ON REGION 4 SIP COMPILATIONS

This notebook contains the most recent version of the compilations of Federally-approved regulations for Nashville and Davidson County, Tennessee. The State submission/EPA approval process is a dynamic one and therefore the diskette copy of the regulations should not be relied upon as the conclusive authority for the most recent version of federally enforceable, state effective regulations. The Regional Office provides the Office of Federal Register with the regulations being approved in a Federal Register notice for incorporation by reference into the Federally-approved SIP. These regulations are identified in the Federal Register and codified in 40 CFR Part 52. These documents are maintained by the Office of Federal Register in their office in Washington, D.C., as the official version of the Federally-approved regulations. This process goes back to the original SIP approval in the early 1970s.

The Regional Office has attempted, to the best of its ability, to compile these Federally approved regulations for each State, including local programs in North Carolina, Kentucky, and Tennessee. This compilation represents what the Regional Office believes to be the most accurate, currently effective, federally approved State regulations as of the date of this letter.

For additional information please contact Dick Schutt, Regional SIP Coordinator at the Region 4 address or call at 404/347-3555 X4206.

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Printed: January 17, 1995

NOTE: THE FEDERAL APPROVAL STATUS OF THE FOLLOWING REGULATION, AS IT APPEARS BELOW, HAS NOT BEEN DOCUMENTED

CHAPTER 1200-3-1
GENERAL PROVISIONS

S1200-3-1-.01 GENERAL RULES

(1) These regulations are intended to implement provisions of the "Tennessee Air Quality Act" (Tennessee Code Annotated, Section 68-25-101. et seq.) and shall be known and cited as the Tennessee Air Pollution Control Regulations.

(2) These regulations are based upon the premise that the basic and foremost function of the air is to sustain life and that air in its purest state is best suited for this need. It is intended that these regulations assist in maintaining an equitable balance between benefits of clean air and the economic cost of achieving clean air. More specifically, it is intended that these regulations define ambient air quality standards to be achieved and maintained and to provide an orderly and equitable regulation of air quality by limiting emissions of air contaminants.

(3) The ambient air is the air surrounding us. Ambient air quality standards determine the level of air quality in which we will live, and should be used as tools in achieving cleaner air, not as a permit to unnecessarily degrade air quality. Polluted air can be a menace to all forms of life and, therefore, the disposal of wastes into the atmosphere must be controlled.

(4) Ambient air quality standards are further intended to promote the maximum use of property. When the problems involved are aesthetic in nature, an equitable economic balance must be achieved. When a health hazard is involved, there can be no compromise.

(5) The requirements for limiting airborne contaminants must relate effects on men, animals, vegetation, and property to pollutant concentration at the point of contact. This, in turn, must be correlated with the source or sources. When multiple sources of a pollutant exist in an area, a limitation of the emission from each source must be exercised, and the individual contribution to the total pollutant load in the area must be reduced to insure compliance with the ambient air quality standards. This is accomplished by the application of emission standards.

(6) An emission standard is a limit on the amount of air contaminant emitted from s source, and is intended to bring the ambient air within acceptable air quality limits.

(7) These standards will be modified from time to time, as additional information on air contaminants and sources of air pollution are developed and evaluated.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974. Amendment to first paragraph effective date February 9, 1977, but no federal approval found*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF MAY 31, 1972.

LAST UPDATE: MAY 1988 - RRG

	Date Submitted to EPA	**Date Approved by EPA**	**Final Federal Register Notice**
Original Reg	JAN 27, 1972	MAY 31, 1972	37 FR 10840
1st Revision	FEDERAL APPROVAL OF AMENDMENT TO 1ST PARAGRAPH NOT FOUND		

S1200-3-1-.02 SEVERABILITY

The provisions of this Division 1200-3, the Tennessee Air Pollution Control Regulations, are severable and if any chapter, rule, paragraph, subparagraph, part, subpart, item, subitem, section, subsection, sentence, or phrase therein shall be adjudged to be invalid or unconstitutional by any court of competent jurisdiction, the judgment shall not effect, impair or invalidate the remainder of this Division 1200-3, but shall be confined to the chapter, rule, paragraph, subparagraph, part, subpart, item, subitem, section, subsection, sentence, or phrase of this Division that shall be directly involved in the controversy in which such judgment shall have been rendered.

Authority: *T.C.A. 68-25-105. Administrative History. Original Rule certified October 12, 1979.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF JUNE 24, 1982. IT HAS NOT BEEN REVISED SO THIS IS THE WAY THE PRESENT REG APPEARS.

LAST UPDATE: MAY 1988

	Date Submitted to EPA	Date Approved by EPA	Final Federal Register Notice
Original Reg	OCT 15, 1979	JUN 24, 1982	47 FR 27267

CHAPTER 1200-3-2
DEFINITIONS

S1200-3-2-.01 GENERAL DEFINITIONS.

The following terms shall, unless the context clearly indicates otherwise, have the following meaning:

(a) **Air Contaminant** is particulate matter, dust, fumes, gas mist, smoke, or vapor, or any combinations thereof.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

b) **Air Contaminant Source** is any and all sources of emission of air contaminants, whether privately or publicly owned or operated. Without limiting the generality of the foregoing, this term includes all types of business, commercial and industrial plants, works, shops, and stores, and heating and power plants and stations, building and other structures of all types, including multiple family residences, apartment houses, office buildings, hotels, restaurants, schools, hospitals, churches and other institutional buildings, automobiles, trucks, trucks, tractors, buses and other motor vehicles, garages and vending and service locations and stations, railroad locomotives, ships, boats and other water borne craft, portable fuel-burning equipment, incinerators of all types, indoor and outdoor, refuse dumps and piles, and all stack and other chimney outlets from any of the foregoing; provided, however, that neither automobiles, trucks, tractors, buses or other motor vehicles powered by any fuel other than diesel oil and which were manufactured prior to September 1, 1967, automobiles, trucks, tractors, buses or other motor vehicles powered by diesel oil and manufactured prior to January 1, 1970, nor automobiles, trucks, tractors, buses or other motor vehicles which are equipped to comply and do comply with the Federal "Motor Vehicle Air Pollution Control Act" shall be considered or determined to be an "air contaminant source".

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681), REVISED 4/18/94 (59 FR 18310)

(c) **Reserved.**

(d) **Air Pollution** is presence in the outdoor atmosphere of one or more air contaminants in sufficient quantities and of such characteristics and duration as to be injurious to human, plant or animal life or to property, or which unreasonably interfere with the enjoyment of life and property.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681), REVISED 4/18/94 (59 FR 18310)

(e) **Alternative Method** means any method of sampling and analyzing for an air pollutant which is not a reference method or an equivalent method but which has been demonstrated to the Technical Secretary's satisfaction to produce, in specific cases, results adequate for its determination of compliance, or any method so designated by these regulations.

(f) **Ambient Air** is that portion of the atmosphere, external to buildings.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(g) **"Best available control technology"** means an emission limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under these rules which would be emitted from any proposed new or modified air contaminant source which the Technical Secretary, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under Chapters 1200-3-11 and 1200-3-16 of these rules. If the Technical Secretary determines that technological or economic limitations on the limitations on the application of measurement methodology to a particular class of sources would make the imposition of an emission standard infeasible, a design, equipment, work practice or operational standard, or combination thereof, may be prescribed instead to require the application of best available control technology. Such standard shall, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice or operation, and shall provide for compliance by means which achieve equivalent results.

ABOVE SUBMITTED OCT 25, 1979; APPROVED JUNE 24, 1982 (47 FR 27268).

(h) **Board** is the Air Pollution Control Board of the State of Tennessee.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(i) **Commenced** means that an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time a continuous program of construction or modification.

(j) **Construction** means fabrication, erection, or installation of a stationary source or modification.

ABOVE SUBMITTED OCT 25, 1979; APPROVED JUNE 24, 1982 (47 FR 27268).

(k) **Continuous Monitoring** is sampling and analysis of air contaminants in a continuous or timed sequence, using techniques which will adequately reflect actual emission levels or ambient concentrations on a continuous basis.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(l) **Cupola** is a stack-type furnace in which fuel, metal and fluxing agents are intermixed and is used for producing molten metal. It consists primarily of, but is not limited to, furnace proper, tuyeres, fans or blowers, tapping ports, charging equipment, gas cleaning devices and other auxiliary equipment. Cupolas are further categorized for the purpose of these regulations as follows:

(1) **Ferrous** - a cupola in which the major component of the metal produced is iron.

(2) **Jobbing** - a cupola used in an intermittent type operation where the process weight is not in excess of 20,000 pounds per hour and the operating (firing) time is not in excess of 4 hours per day.

(3) **Existing** - a cupola placed in operation at its present location prior to April 3, 1972.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(m) **Department** is the Department of Public Health of the State of Tennessee.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(n) **Effective Date** of these regulations is April 3, 1972.

(o) **Emission** is the release of material to the ambient air.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(p) **Equivalent Method** is any method of monitoring, sampling and analyzing for an air contaminant which can be demonstrated to the Technical Secretary's satisfaction to have a consistent and quantitatively known relationship to the reference method, under specific conditions, or any method so designated by these regulations.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(q) **Existing Source** is, with respect to any rule, any air contaminant source which is not a new source.

(r) **Fuel Burning Equipment** is any equipment, device or contrivance and all appurtenances thereto, in which fuel is burned for the primary purpose of producing thermal energy and in which the material being heated is not contacted by, and adds no substance to, the products of combustion.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(s) **Fuel Burning Installation** consists of one or more units of fuel-burning equipment where the products of combustion are discharged through a single stack or where the products of combustion are discharged through more than one stack the plumes from which tend to merge into a single plume.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(t) **Fugitive Dust** is any visible emission, other than water droplets, issuing from any source other than through a stack.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(u) **Garbage** is putrescible animal or vegetable waste.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(v) **Hazardous Air Contaminant** is any air contaminant which may cause, or contribute to, an increase in mortality or any increase in serious irreversible, or incapacitating reversible illness and has been so designated by the Board.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(w) **Incinerator** is any equipment, device or contrivance used for disposal of waste or refuse by burning, excluding wigwam burners and air curtain destructors.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(x) **Isokinetic Sampling** means sampling in which the linear velocity of the gas entering the sampling nozzle is equal to that of the undisturbed gas stream at the sampling point.

(y) **Kraft Mill** is any pulping process which uses for a cooking liquor and alkaline sulfide solution containing sodium hydroxide and sodium sulfide.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(z) **Malfunction** means any sudden and unavoidable failure of air pollution control equipment or process equipment, or for a process to operate in an abnormal and unusual manner. Failures that are caused by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

ABOVE SUBMITTED JUN 13, 1979; APPROVED JUNE 24, 1982 (47 FR 27268), REVISED APRIL 18, 1994 (59 FR 18310).

(aa) **Modification** is any physical change in, or change in the method of operation of an air contaminant source, which increases the amount of any air contaminant (to which an emission standard applies) emitted by such source or which results in the emission of any air contaminant (to which an emission standard applies) not previously emitted except that:

1. Routine maintenance, repair and replacement shall not be considered physical changes, and

2. The following shall not be considered a change in the method of operation:

   (i) An increase in the production rate, if such increase does not exceed the operating design capacity nor the stated production rate on the permit of the affected source.

(ii) An increase in hours of operation if such increase does not exceed the operating hours stipulated as a permit condition of the source.

(iii) The use of an alternative fuel if the source is designed to accommodate such alternative fuel.

(iv) Required alterations to equipment for the use of an alternative fuel or raw material by reason of an order under Section 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan in effect pursuant to the Federal Power Act.

ABOVE SUBMITTED OCT 25, 1979, APPROVED JUNE 24, 1982 (47 FR 27268)

3. The burden of proof establishing that a change is excepted under parts 1. and 2. is on the owner or operator. The Technical Secretary shall rule on whether or not a reported change is excepted in a timely fashion. Further expansions or restrictions of the definition may be listed in specific chapters or rules.

4. "Major modification" is defined in paragraph 1200-3-9-.01-(4) and shall be overriding for the purposes of that paragraph.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681), REVISED BY THE OCT 25, 1974 SUBMITTAL, APPROVED JUNE 24, 1982 (47 FR 27268), REVISED APRIL 18, 1994 (59 FR 18310).

(bb) **New Nitric Acid Plant** is any air contaminant source producing weak nitric acid (acid which is 30 to 70 percent in strength) by either the pressure or atmospheric pressure process.

(cc) **New Source** is, with respect to any rule, any air contaminant source the construction or modification of which is commenced on or after the date specified in that rule. (If no date is specified in a rule, then the effective date of the rule or the specific applicable provision of the rule is the cut off date). However, if an earlier effective date rule contained in the same provisions, then that earlier date is the cut off date whether such commencement was for an entirely or substantially new source or the modification of an existing source. The word substantially here means replacing virtually all of an existing source, excluding the foundation and utility and/or control lines to the site. As an example, installing a crusher on the foundation of an existing crusher would constitute the creation of a new source.

(dd) **New Source Performance Standard** is a standard for the emission of an air contaminant promulgated by the Administrator of the Environmental Protection Agency and published in the Federal Register.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(ee) **New Sulfuric Acid Plant** is an air contaminant source producing sulfuric acid by the contact process by burning elemental sulfur, alkylation acid, hydrogen sulfide, organic sulfides and mercaptans, or acid sludge, but does not include air contaminant sources where conversion to sulfuric acid is utilized primarily as a means of reducing emissions to the atmosphere of sulfur dioxide or other sulfur compounds.

(ff) **Opacity** is the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681), THEN REVISED AGAIN

(gg) **Reserved.**

(hh) **Owner or Operator** is any person who owns, leases, operates, controls, or supervises an air contaminant source.

(ii) **Particulate Matter** is any material, except uncombined water, that exists in a finely divided form as a liquid or a solid.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(jj) **Part Per Billion (ppb)** is a term describing parts of an air contaminant per billion parts of gas by volume (1 ppb equals 0,0000001 percent by volume).

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(kk) **Parts Per Million (ppm)** is a term describing parts of an air contaminant per million parts of gas by volume (1 ppm equals 0.0001 percent by volume).

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(ll) **Person** is any individual, partnership, copartnership, firm, company, corporation, association, joint stock company, trust, estate, political subdivision, an agency, authority, commission or department of the United States government or of the State of Tennessee government; or any other legal entity, or their legal representative, agent, or assigns.

ABOVE SUBMITTED DEC 19, 1981; APPROVED JUNE 14, 1982

(mm) **Point Source** shall have the same meaning as defined in Part 51 of Title 40 of the Code of Federal Regulations.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(nn) **Political Subdivision** is any municipality, city, incorporated town, county, district or authority, or any portion or combination of two or more thereof.

(oo) **Portland Cement Plant** is any air contaminant source manufacturing portland cement by either the wet or dry process.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(pp) **Process Emission** is any emission of an air contaminant to the ambient air other than that from fuel burning equipment, incinerator, wigwam burners, or open burning.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(qq) **Process Emission Source** is one or more units of processing equipment which may be operated independently of other parts of the operations at any given manufacturing or processing facility; also, where it is common practice to group more than one unit of like or similar processing equipment together and to apply a single or combined unit of air pollution equipment to the emissions of the entire group, such group of units shall be construed as a process emission source.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(rr) **Process Weight** means the total weight of all materials introduced into any specific process that may cause any emission of particulate matter. Solid fuels charged are considered as part of the process weight, but liquid and gaseous fuels and combustion-air are not.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(ss) **Process Weight Rate** is a rate established as follows:

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

(2) For cyclical or batch source operations, it is the total process weight for a period which covers a complete or an integral number of cycles, divided by the hours of actual process operation during such period.

(3) Where the nature of any process or operation or the design of any equipment is such as to permit more than one interpretation of this definition, that interpretation which results in the minimum value for allowable emissions shall apply.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(tt) **Proportional sampling** means sampling at a rate that produces a constant ratio of sampling rate to stack gas flow rate.

(uu) **Reference Method** is a method of monitoring, sampling, and analyzing for an air contaminant as described in these regulations.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(vv) **Reserved.**

(ww) **Salvage Operation** is any business, trade or industry engaged in whole or in part, in reclaiming one or more items of value.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(xx) **Shutdown** means the cessation of operation of an air contaminant source for any purpose.

(yy) **Smoke** is small gas-borne particles resulting from incomplete combustion, consisting predominantly, but not exclusively, of carbon and other combustible material. It does not include water vapor or water droplets.

ABOVE SUBMITTED ON OR BEFORE 6/22/78, APPROVED 6/7/79 (44 FR 32681)

(zz) **Reserved.**

(aaa) **Stack** is any chimney, flue, duct, conduit, exhaust, vent or opening of any kind whatsoever capable of, or used for, the emission of air contaminants.

(bbb) **Standard** means a standard of performance promulgated under these regulations.

(ccc) **Startup** is the setting in operation of an air contaminant source for production of product for sale or use as raw materials or stream or heat production.

REVISED APRIL 18, 1994 (59 FR 18310)

(ddd) **Stationary source** means any building, structure, facility, or installation which emits or may emit any air contaminant.

(eee) **Suspended Particulates** is particulate matter which will remain suspended in air for an appreciable period of time.

(fff) **Technical Secretary** is the Technical Secretary of the Air Pollution Control Board of the State of Tennessee.

(ggg) **Wigwam Burner** is a type of burner commonly known as tepee, truncated cone, conical burner, or silo burner.

(hhh) **Excess Emissions** means an emission rate which exceeds any applicable emission limitation prescribed by subsequent chapters of these regulations. The averaging time and test procedures for determining such excess emissions shall be as specified as part of the applicable emission limitation.

ABOVE SUBMITTED JUNE 13, 1979; APPROVED JUNE 24, 1982 (47 FR 27267)

(iii) **Liquid sulfur dioxide plants** are any plants designed to produce compressed liquid sulfur dioxide as a final product.

ABOVE SUBMITTED OCT 25, 1979; APPROVED JUNE 24, 1982 (47 FR 27267)

(jjj) **Pellet Plants** are plants designed to produce iron oxide pellets for manufacture of iron or prereduction utilizing iron calcines produced from a natural bearing iron ore source.

ABOVE SUBMITTED OCT 25, 1979; APPROVED JUNE 24, 1982 (47 FR 27267)

(kkk) **Mine shaft heaters** are fuel burning equipment used during cold weather to prevent icing from forming in a mine shaft with the primary purpose of safety assurance for miners and protection of shaft equipment.

(lll) **Reserved.**

(mmm) **Reserved.**

(nnn) **Reasonably Available Control Technology (RACT)** is 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.

ABOVE SUBMITTED FEB 19, 1980; APPROVED JUNE 24, 1982 (47 FR 27267)

(ooo) **Recovery Furnace Stack** means the stack from which the products of combustion are emitted to the ambient air from the recovery furnace.

ABOVE SUBMITTED JAN 22, 1982; APPROVED JUNE 24, 1982 (47 FR 27267)

(ppp) **Total reduced sulfur (TRS)** means the sum of the listed compounds: hydrogen sulfide, mercaptans, dimethyl sulfide, and dimethyl disulfide.

ABOVE SUBMITTED JAN 22, 1982; APPROVED JUNE 24, 1982 (47 FR 27267)

(qqq) **Lime kiln** means a unit used to calcine lime mud, which consists primarily of calcium carbonate, into quicklime, which is calcium oxide.

ABOVE SUBMITTED JAN 22, 1982; APPROVED JUNE 24, 1982 (47 FR 27267)

(rrr) **Smelt dissolving tank** means a vessel used for dissolving the smelt collected from the recovery furnace.

ABOVE SUBMITTED JAN 22, 1982; APPROVED JUNE 24, 1982 (47 FR 27267)

(sss) **Digester system** means each continuous digester or each batch digester used for the cooking of wood in white liquor, and associated flash tank(s), blow tank(s), chip streamer(s) and condenser(s).

ABOVE SUBMITTED JAN 22, 1982; APPROVED JUNE 24, 1982 (47 FR 27267)

(ttt) **Black liquor solids** means the dry weight of the solids which enter the recovery furnace in the black liquor.

ABOVE SUBMITTED JAN 22, 1982; APPROVED JUNE 24, 1982 (47 FR 27267)

(uuu) **Multiple-effect evaporator system** as it applies to the paper industry in paragraph 1200-3-7-.07-(4) means the multiple-effect evaporators, associated condenser(s) and hotwell(s) used to concentrate the spent cooking liquid that is separated from pulp (black liquor).

ABOVE SUBMITTED JAN 22, 1982; APPROVED JUNE 24, 1982 (47 FR 27267)

(vvv) **Primary aluminum reduction plant** means any source manufacturing aluminum by electrolytic reduction.

ABOVE SUBMITTED JAN 22, 1982; APPROVED JUNE 24, 1982 (47 FR 27267)

(www) **Potroom** means a building unit which houses a group of electrolytic cells in which aluminum is produced.

ABOVE SUBMITTED JAN 22, 1982; APPROVED JUNE 24, 1982 (47 FR 27267)

(xxx) **Potroom group** means an uncontrolled potroom, a potroom which is controlled individually or a group of potrooms or potroom segments ducted to a common control system.

ABOVE SUBMITTED JAN 22, 1982; APPROVED JUNE 24, 1982 (47 FR 27267)

(yyy) **Roof monitor** means that portion of the roof of a potroom where gases not captured at the cell exit from the potroom.

ABOVE SUBMITTED JAN 22, 1982; APPROVED JUNE 24, 1982 (47 FR 27267)

(zzz) **Total fluorides** means the particulate and gaseous fluorides generated and emitted from a potroom at a primary aluminum reduction plant.

ABOVE SUBMITTED JAN 22, 1982; APPROVED JUNE 24, 1982 (47 FR 27267)

(aaaa) **Center worked prebake** means a cell in a potroom that can be worked from the end or internally without removing the side covers.

ABOVE SUBMITTED JAN 22, 1982; APPROVED JUNE 24, 1982 (47 FR 27267)

(bbbb) **Side work prebake** means a cell in potroom that must be worked manually along both sides with the side covers removed.

ABOVE SUBMITTED JAN 22, 1982; APPROVED JUNE 24, 1982 (47 FR 27267)

(cccc) **Soda Recovery Boiler** is a boiler used in the soda pulping process for the purpose of converting concentrated black liquor, by incineration, into sodium bicarbonate (Na_2CO_3) where the remaining organic matter from the sodium salts is burned to produce heat for steam generation.

ABOVE SUBMITTED JAN 22, 1982; APPROVED JUNE 24, 1982 (47 FR 27267)

(dddd) **Calendar quarter** means a period of time beginning at the first minute of the first date and ending at midnight of the second date of each of the following intervals: January 1 to March 31, April 1 to June 30, July 1 to September 30, or October 1 to December 31.

ABOVE SUBMITTED OCT 17, 1984; APPROVED MARCH 29, 1985 (50 FR 12539)

(eeee) **A Continuous Emission Monitor** is an instrument capable of measuring and recording emissions of various pollutants and meeting the performance specifications stated by Rule 1200-3-10-.02.

(ffff) **Nonattainment Area** is any of the following areas for the pollutant listed. The meaning may be expanded to be more inclusive for any one Chapter by definition in that Chapter.

1. TSP (Total Suspended Particulate)

(i) Nashville Nonattainment Areas - (Davidson County)

(I) Area bounded by I-65 on the east, I-265 on the north, I-40 on the west and
I-40/I-65 on the south.

(II) Area bounded by 44th Avenue North extended to the Cumberland River on the east, I-40 on the south, Morrow Road to 63rd Avenue and 63rd Avenue extended to the Cumberland River on the west, and the Cumberland River on the north.

(ii) Chattanooga Nonattainment Area - (Hamilton County) - Area beginning at a point, said point being the original point of the composite description of the corporate limits of the City of Chattanooga, Hamilton County, Tennessee, as of September 28, 1967, described thus; proceed from a point on the line between Townships 2 and 3, Range 4, west of the Basis Line, Ocoee District, where said line crosses the low water mark on the east side of the Tennessee River at this point, thence proceed down the said river on said low water mark to a point one hundred feet (100') westwardly from the low water mark of Chattanooga Creek. This last designated point in the low water mark of the existing south side of the Tennessee River, being designated as the point of beginning of the above-name corporate limits description and the beginning point of the nonattainment area. Thence, proceed south following the corporate city limits of Chattanooga as defined in the composite description of September 28, 1967, to the State Line between Tennessee and Georgia; thence eastwardly with said State Line to a point of intersection with the center line of Waheela Street, from said point in a generally north direction

to South Crest Road, thence in a generally north, northeast direction to North Crest Road, thence in a generally north, northeast direction to a point of intersection, said point of intersection being between North Crest Road and Campbell Street, thence in a generally northwest direction to Glass Street, thence in a generally west, and then southwest direction to the intersection of Glass Street with Roanoke Avenue, thence in a generally south direction along Roanoke Avenue to the intersection of Roanoke Avenue with the intersection of Sherman Street, thence in generally west direction to the intersection of Sherman Street with Hawthorne, thence in a generally north direction along Hawthorne to its intersection with Sholar Avenue, thence follow the Sholar Avenue loop north and the west through the Boone Hysinger Homes subdivision, proceed along the center line of Sholar Avenue to its nearest point to the southernmost corner of the apartment at 2001 Sholar Avenue, Boone Hysinger Homes (near the railroad tracks); from said point at 2001 Sholar Avenue, Boone Hysinger Homes subdivision, proceed generally in a northwest direction as if a line were extended from said point across the Southern railroad tracks to a point, said point being the intersection of the center lines of Riverside Drive and Elena Drive, thence proceed in a generally northwest and then north direction along the center line of Elena Drive to Queen's Drive, thence in a generally west and then north direction along Queen's Drive to its intersection with Crutchfield Street, thence in a generally west direction continue along Crutchfield Street to its intersection with Amnicola Highway, thence in generally west direction as if a line were extended from said point across the Tennessee River to the intersection of the center lines of Hillcrest Road and Lexington Street, thence in a generally northwest direction along Lexington Street to Falmouth Street, thence in a generally south, southwest direction along Falmouth Street to Hixson Pike, thence in a generally south direction along Hixson Pike to Tremont Street, thence in a generally northwest direction and then a southwest direction along Tremont Street to Mississippi Avenue, thence in a generally northwest and the southwest direction along Mississippi Avenue to Forrest Street, thence in a generally south direction along Forrest Street to Sylvan Street, thence in a generally northwest direction along Sylvan Street to Dallas Road, thence in a generally southwest direction along Dallas Road to North Market Street, thence in southward direction along North Market Street to Chambliss Street, thence in a generally west direction along Chambliss Street to Pine Ridge Trail, thence in a generally west direction along Pine Ridge Trail to Gurley Street, thence in a generally southward direction along Gurley Street to Cherokee Boulevard, thence in generally northwest direction to East Elmwood Drive, thence in a generally south direction along East Elmwood Drive to the intersection of East Elmwood Drive with Beason Drive crossing the railroad tracks to West Elmwood Drive to Pineville Road, thence in a generally south direction along Pineville Road, to Moccasin Bend Road (a portion of which is titled Moccasin County Road), thence in a generally south direction along Moccasin Bend Road to its end at the Hospital Loop, thence in a generally south direction as if a line were extended across the Hospital property and the Tennessee River to the original point of beginning, which is the at the low water mark of the existing south side of the Tennessee River as described above.

2. SO_2 (Sulfur Dioxide)

(i) Reserved.

3. O_3 (Ozone)

(i) All of Davidson, Williamson, Wilson, Rutherford, Sumner Counties.

(ii) Reserved.

(iii) Reserved.

(iv) All of Shelby County

4. CO (Carbon Monoxide)

(i) Knox County, Area #1 - Limited to an area starting at I-40 and the Cedar Bluff interchange proceeding northward along Cedar Bluff Road to Middlebrook Pike, east on Middlebrook Pike to I-40, east on I-40 to U.S. 129, south on U.S. 129 to the Southern Railway track, southwest along the Southern Railway track to Peters Road, northwest on Peters Road to Kingston Pike, then west on Kingston Pike to Cedar Bluff Road, an north on Cedar Bluff Road back to I-40, rural.

(ii) Knox County, area #2 - Starting at the intersection of I-40 and I-640 near Arble City Community northward along I-640 for a distance of 1.5 miles to Sharps Ridge, proceeding along the crest of Sharps Ridge northeastward for a distance of about 6.1 miles to intersection with I-640, then southeast along I-640 for a distance of 2.3 miles to the intersection of I-640 and I-40, near Holston Hills Community, east along I-40 about 1.9 miles to the Holston River, southward, a distance of 5.5 miles along the Holston River to its intersection with the Tennessee River at mile 652, then west along the Tennessee River to the intersection with the U.S. 129 bridge, north on U.S. 129 to the Southern Railway track. At this point, Area 2 joins Area 1 completing the boundary of the nonattainment area, rural.

(iii) The Metropolitan Nashville and Davidson County's Carbon Monoxide Nonattainment Area is the area encompassed by the following: starting at the intersection of I-40 west and I-265, proceeding along I-265 to I-65, north proceeding north along I-65 to Manskers Creek, proceeding along Manskers Creek south to the Cumberland River, proceeding south on the Cumberland River to the L & N Railroad Bridge, south along the L & N Railroad Bridge to I-40 east, then extending east along I-40 to Donelson Pike, proceeding south along Donelson Pike to Murfeesboro Road, then go west to Battery Lane, proceeding west along Battery to Harding Place continue west along Harding Place to Harding Road, proceeding north on Harding Road to Hillwood Boulevard, proceeding west on Hillwood Boulevard to I-40 west proceeding northeast on I-40 west to intersection with I-265.

(iv) Shelby County area starting on the west at the I-40 bridge, north along the Mississippi River to the Wolf River, east to the I-240 bridge. I-240 bounds the area on the north, east and south to the point at which it meets I-55 then west and north along I-55 to the point that I-55 meets the Mississippi Riverat the I-55 bridge. The Mississippi River bounds the west to the I-40 bridge.

(gggg) **"PM10"** means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by a reference method based on Appendix J, as referenced in the Federal Register, July 1, 1987, Vol. 52, No. 126, pp 24664-24666 and designated in accordance with 40 CFR 53 as amended on July 1, 1987, Federal Register, Vol. 52, No. 126, pp 24727-24735, or by an equivalent method designated in accordance with 40 CFR 53.

(iiii) **"Total Suspended Particulate (TSP)"** means particulate matter as measured by the method described in Appendix B, 40 CFR 53.

Authority: *T.C.A. Section 68-25-105 and 4-5-202. Original rule certified June 7, 1974. Amendment filed January 10, 1977; effective February 9, 1977. Amendment filed February 28, 1978; effective March 30, 1978. Amendment filed May 17, 1978; effective June 16, 1978. Amendment filed February 5, 1979; effective March 21, 1979. Amendment filed May 7, 1979; effective June 21, 1979. Amendment filed September 10, 1979; effective October 25, 1979. Amendment filed December 31, 1979; effective February 14, 1980. Amendment filed May 13, 1980; effective June 27, 1980. Amendment filed December 8, 1981; effective January 22, 1982. Amendment filed December 18, 1981; effective February 1, 1982. Amendment file July 3, 1984; effective August 1, 1984. Amendment filed September 22, 1988; effective November 6, 1988. Amendment filed April 18, 1990; effective June 2, 1990. Amendment filed May 17, 1990; effective July 1, 1990. Amendment filed April 18, 1990; stay of effective date filed May 23, 1990; effective August 1, 1990.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF APRIL 18, 1994.

LAST UPDATE: OCTOBER 13, 1995.

	Date Submitted to EPA	Date Approved by EPA	Final Federal Register Notice
Original Reg	JAN 27, 1972	MAY 31, 1972	37 FR 10840
1st Revision	JUN 22, 1978	JUN 7, 1979	44 FR 32681
2nd Revision	JUN 13, 1979	JUN 24, 1982	47 FR 27267
3rd Revision	OCT 15, 1979	JUN 24, 1982	47 FR 27267
4th Revision	OCT 25, 1979	JUN 24, 1982	47 FR 27267
5th Revision	FEB 19, 1980	JUN 24, 1982	47 FR 27267
6th Revision	DEC 9, 1981	JUNE 24, 1982	47 FR 27267
7th Revision	JAN 22, 1982	JUN 24, 1982	47 FR 27267
8th Revision	JAN 22, 1982	JUN 21, 1982	47 FR 26621
9th Revision	OCT 17, 1984	MAR 29, 1985	50 FR 12539
10th Revision	JUN 25, 1992	APR 18, 1994	59 FR 18310

NOTE: *THE OCT 25, 1979; JUN 13, 1979; and DEC 9, 1981, SUBMITTALS ARE MISSING.*

NOTE: *THE FEDERAL APPROVAL STATUS OF THIS REGULATION HAS NOT BEEN DOCUMENTED*

S1200-3-2-.02--ABBREVIATIONS

(1) The following abbreviations shall, unless the context clearly indicated otherwise, have the following meaning:

(a) ASTM = American Society for Testing and Materials

(b) B.t.u. = British thermal unit

(c) °C = degrees Centigrade

(d) cal = calorie

(e) CO = carbon monoxide

(f) CO_2 = carbon dioxide

(g) dscf = dry cubic foot at standard conditions

(h) dscm = dry cubic meter at standard conditions

(i) °F = degrees Fahrenheit

(j) g = gram

(k) gr = grain

(l) H_2S = hydrogen sulfide

(m) H_2SO_4= Sulfuric acid

(n) Hg = Mercury

(o) hr = hour

(p) kg = kilogram

(q) lb = pound

(r) mg = milligram

(s) mm = millimeter

(t) MW = megawatt

(u) NO = nitric oxide

(v) NO_2 = nitric dioxide

(w) NO_x = nitric oxides

(x) ppb = parts per billion

(y) ppm = parts per million

(z) psia = pounds per square inch absolute

(aa) sec = second

(bb) SO_2 = sulfur dioxide

(cc) ug = microgram

Authority: *T.C.A. Section 68-25-105 and 4-5-202. Administrative History. Original Rule filed January 10, 1977: effective date February 9, 1977*

NOTE: *THE FEDERAL APPROVAL STATUS OF THIS REGULATION HAS NOT BEEN DOCUMENTED*

LAST UPDATE:

	Date Submitted to EPA	Date Approved by EPA	Final Federal Register Notice
Original Reg	#UNKNOWN		

THESE FILES CONTAIN A REPRODUCTION OF THE REGULATIONS SUBMITTED BY THE STATE AGENCY TO EPA. THESE REGULATIONS HAVE BEEN APPROVED BY EPA, BUT EPA DOES NOT GUARANTEE EITHER THE COMPLETENESS OR ACCURACY OF THE DISKETTE COPY OF THE REGULATIONS, OR THAT THE DISKETTE CONTAINS THE MOST UP-TO-DATE VERSION OF THE REGULATIONS.

Printed: January 17, 1995

CHAPTER 1200-3-3
AIR QUALITY STANDARDS

S1200-3-3-.01 PRIMARY AIR QUALITY STANDARDS

Primary ambient air quality standards define levels of air quality believed adequate, with an appropriate margin of safety, to protect public health.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original rule certified June 7, 1974. Amended effective February 9, 1977*

*** **NOTE: THE FEDERAL APPROVAL STATUS OF THIS REGULATION AS AMENDED HAS NOT BEEN DOCUMENTED**

THIS IS THE FEDERALLY APPROVED REGULATION AS OF MARCH 29, 1985
LAST UPDATE: MARCH 5, 1987

	Date Submitted to EPA	Date Approved by EPA	Final Federal Register Notice
Original Reg	JAN 27, 1972	MAY 31, 1972	37 FR 10840
1st Revision	DEC 05, 1984	MAR 29, 1985	50 FR 12540
2nd Revision			

S1200-3-3-.02 SECONDARY AIR QUALITY STANDARDS

Secondary Ambient air quality standards define levels of air quality believed adequate, with an appropriate margin of safety, to protect the public welfare from any known anticipated adverse effects of the pollutant.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original rule certified June 7, 1974. Amended effective February 9, 1977*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF
LAST UPDATE: May 1988

	Date Submitted to EPA	Date Approved by EPA	Final Federal Register Notice
Original Reg	JAN 27, 1972	MAY 31, 1972	37 FR 10840
1st Revision			

S1200-3-3-.03 TENNESSEE'S AMBIENT AIR QUALITY STANDARDS

Ambient air quality standards as given in tables I and II are applicable throughout Tennessee.

TABLE I

TENNESSEE AMBIENT AIR QUALITY STANDARDS for Suspended Particulates, Sulfur Dioxide, Carbon Monoxide, Ozone, Non-Methane Hydrocarbons, Nitrogen Dioxide, and Lead.

All values other than annual values are maximum concentrations not to be exceeded more than once per year. Parts per million (PPM) values are approximately only. All concentrations relate to air at standard conditions of 25 degrees centigrade temperature and 760 millimeter mercury pressure.

ug/m^3 - Micrograms per cubic meter
AGM - Annual geometric mean
AAM - Annual Arithmetic mean

contaminants	Primary Standard Concentration		Averaging Interval	Secondary Standard Concentration		Averaging Interval
	ug/m^3	ppm by vol.		ug/m^3	ppm by vol.	
Suspended Particulates	75	--	AGM	60	--	AGM[1]
	260	--	24 hr.	150	--	24 hr.
Sulfur Dioxide	80	0.03	AAM	1,300	0.5	3 hr.
	365	0.14	24 hr.			
Carbon Monoxide	10,000	9.0	8 hr.	10,000	9.0	8 hr.
	40,000	35.0	1 hr.	40,000	35.0	1 hr.
Ozone[2]	235	0.12	1 hr.	235	0.12	1 hr.
Nitrogen Dioxide	100	0.05	AAM	100	0.05	AAM
Lead	1.5	--	calendar quarter	1.5	--	calendar quarter

Note: 1. This value of 60 for an AGM for particulate matter is a guide to be used in addressing implementation plans to achieve the 24 hour standard.

Note: 1. This value of 60 for an AGM for particulate matter is a guide to be used in addressing implementation plans to achieve the 24 hour standard.

2. The standard is attained when the expected number of days per calendar year with maximum hourly concentration above 0.12 ppm (235 ug/m^3) is equal to or less than 1 as determined by the Federal Register, Volume 44, No. 28, February 8, 1979, Part V, Appendix H.

TABLE 2

Tennessee Ambient Air Quality Standards for Gaseous Fluorides Expressed as HF

Primary Standards			Secondary Standards		
Concentration ug/m^3	ppb by vol.	Averaging Interval	Concentration ug/m^3	ppb by vol.	Averaging Interval
1.2	1.5	30 days	1.2	1.5	30 days
1.6	2.0	7 days	1.6	2.0	7 days
2.9	3.5	24 hr.	2.9	3.5	24 hr.
3.7	4.5	12 hr.	3.7	4.5	12 hr.

Notes

1. All values are maximum not to be exceeded more than once per year.

2. Concentrations in micrograms per cubic meter (ug/m 3) are approximately[sic] only.

3. All conditions relate to air at standard conditions of 25 °C temperature and 760 millimeters of mercury pressure.

4. All averaging intervals are consecutive time periods.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original rule certified June 7, 1974. Amended effective February 9, 1977. Amended effective December 5, 1984.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF MAR 29, 1985.
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Original Reg	JAN 27, 1972	MAY 31, 1972	37 FR 10840
1st Revision	DEC 5, 1984	MAR 29, 1985	50 FR 12539
2nd Revision			
3rd Revision			

S1200-3-3-.04 NONDEGRADATION

These ambient air quality standards shall not be construed, applied or interpreted to allow any significant deterioration of the existing air quality in any portion of the state.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original rule certified June 7, 1974. Amended effective February 9, 1977.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF LAST UPDATE:

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Original Reg	JAN 27, 1972	MAY 31, 1972	37 FR 10840
1st Revision			
2nd Revision			
3rd Revision			

S1200-3-3-.05 ACHIEVEMENT

(1) The nitrogen dioxide standard in this chapter is to be achieved statewide by July 1, 1975 and maintained thereafter. The total suspended particulate and sulfur dioxide standards, with the exception of those areas identified in Chapter 1200-3-19, are to be achieved by July 1, 1975 and maintained thereafter. For those total suspended particulate and sulfur dioxide areas identified in Chapter 1200-3-19 the primary standards are to be achieved by December 31, 1982 and maintained thereafter. The standard for lead is to be achieved by October 31, 1981 and maintained thereafter. The standards for ozone and carbon monoxide are to be achieved by December 31, 1982 and maintained thereafter except for areas where a five year extension has been granted. The standards in the areas where the extension has been granted are to be achieved by December 31, 1987 and maintained thereafter. For the New Johnsonville nonattainment area for sulfur dioxide, the secondary standard is to be achieved by December 31, 1987 and maintained thereafter.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule filed October 2, 1979; certified June 7, 1974. Amended effective February 9, 1977. Amended in its entirety June 21, 1979. Amended in its entirety November 16, 1979. Amended December 13, 1982. Amended August 2, 1983 federally approved April 7, 1993.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF LAST UPDATE:

	Date Submitted to EPA	Date Approved by EPA	Final Federal Register Notice
Original Reg	JAN 27, 1972	MAY 31, 1972	37 FR 10840
1st Revision	OCT 25, 1979	JUN 24, 1982	47 FR 27268
2nd Revision	AUG 02, 1983	APR 07, 1993	58 FR 18011
3rd Revision			

Printed: January 17, 1995

CHAPTER 1200-3-4
OPEN BURNING

S1200-3-4-.01 PURPOSE

It is the purpose of this Chapter to establish controls on open burning so as to prevent undesirable levels of air contaminants in the atmosphere.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original rule certified June 7, 1974. Amended effective February 9, 1977.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF MAY 31, 1972

LAST UPDATE: MARCH 1987

	Date Submitted to EPA	Date Approved by EPA	Final Federal Register Notice
Original Reg	JAN 27, 1972	MAY 31, 1972	37 FR 10840
1st Revision	1977? [Same as original Regulation.]		
2nd Revision			

S1200-3-4-.02 OPEN BURNING PROHIBITED

No person shall cause, suffer, allow or permit open burning:

(a) in any particulate matter nonattainment area nor at any location Within one-half mile of the boundary of a particulate matter nonattainment area (except for the matters listed in paragraph 1200-3-4-.03-(1)) *[Added June 13, 1979.]*

(b) in other areas, except as specifically permitted in this Chapter.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original rule certified June 7, 1974. Amended effective February 9, 1977. Amended March 21, 1979.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF JUN 24, 1982.
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1st Revision	JUN 13, 1979	JUN 24, 1982	47 FR 27268
2nd Revision			

S1200-3-4-.03 EXCEPTIONS TO PROHIBITION

(1) Open burning, as listed below, may be conducted without permits, subject to specified limitations and provided further that no public nuisance is or will be created by such open burning. This grant of exemption shall in no way relieve the person responsible for such burning from the consequences or the damages, injuries, or claims resulting from such burning.

(a) Domestic burning, exclusive of garbage, at a property consisting of not more than four (4) dwelling units, and used exclusively as private residences where collection services for such material is not available. Collection service will be considered available if provided as a public service, or is such may be obtained at a reasonable cost other than as a public service.

(b) Fire used for cooking of food or ceremonial or recreational purposes, including barbecues and outdoor fireplaces. This exception does not include commercial food preparation facilities and their operation. *[This section is not in the original reg, no approval found]*

(c) Fires used to clear land of materials grown on land for agricultural, forest, or game management purposes provided no land, air, or water traffic hazard is created.

(d) Fires set by or at the direction of responsible fire control agencies for the prevention, elimination, or reduction of a fire hazard.

(e) Smokeless flares of safety flares for the combustion of waste gases, provided other remaining applicable conditions of the regulations are met.

(f) The burning of the bodies of diseased animals, if required by Tennessee Code Annotated, Section 44-428 and/or 44-703. *[This section is not in the original reg, no approval found]*

(2) None of the exceptions listed in Paragraph (1) above are to be construed to allow the open burning of rubber tires or similar materials. *[This section is not in the original reg, no approval found]*

(3) Open burning, as listed below, may be conducted only when authorized by a specific permit, and then only when done in conformity with the following conditions and any special conditions and terms of the permit.

(a) Open burning of trees, limbs, brush, lumber, excelsior, dunnage, and other items of comparable combustion characteristics, for a one-time occurrence, such as the clearing of a construction site, provided the following conditions are met:

1. The site of such burning is not nearer than one-half mile to an airport, school nursing home, and/or hospital. *[This section is not in the original reg, no approval found. The original regulation said "one mile"]*

2. The site of such burning is not nearer than one thousand (1000) feet of a designated primary or secondary highway, national reservation, national or state park, wildlife area, national or state forest, schools and/or residents not on the same property as the burning site. Where three or less residences are located within one thousand (1000) feet of the proposed burning site a permit may still be approved under this part if the occupants give written consent. *[Certain minor changes to this section are not in the original reg, no approval found for the minor changes]*

3. The site of such burning is not nearer than five hundred (500) feet to any registered sanitary landfill, other land disposal site for combustible solid waste, or other similar facility.

4. Burning is conducted with time periods and in accordance with other requirements designated by the Technical Secretary. As a general rule, open burning will not be permitted except between the hours of 9:00 a.m. and 3:30 p.m.

(b) Open burning of trees, limbs, brush,lumber, excelsior, dunnage, and other items of comparable combustion characteristics, for repetitive burning at the same site, provided the following conditions are met:

1. The site of such burning is not nearer than one (1) mile to an airport, hospital, nursing home, school and/or designated primary highways.

2. The site of such burning is not nearer than one-half mile of the designated secondary highway, national reservation, national or state park, wildlife area, national or state forest, and/or residences except such residences as may be located on the same property as the burning site.

3. The site of such burning is not nearer than five hundred (500) feet to any registered sanitary landfill, other land disposal sites for combustible solid waste, or other similar facilities.

4. Burning is conducted within time periods and in accordance with the requirements designated by the Technical Secretary. As a general rule, open burning will not be permitted except between the hours of 9:00 a.m. and 3:30 p.m.

(c) Open burning of the materials specified in subparagraphs (a) and (b) above, is not allowed where the conditions specified in subparagraph (a) and/or (b) are not met, unless an air curtain destructor (or equivalent disposal method as determined by the Technical Secretary) is to be used. Even when an air curtain destructor is used, the following conditions must be met: *[This section is not in the original reg, no approval found]*

1. When the burning is to be a one-time occurrence, the site of the air curtain destructor must not be nearer than:

   (i) one hundred (100) feet to national or state park, national or state forest, residence not on the same property as the air curtain destructor, and designated primary and secondary highways.

(ii) five hundred (500) feet to any airport, school, registered sanitary landfill, other land disposal site for combustible solid waste, or other similar facilities. *[This section is not in the original reg, no approval found]*

(iii) one thousand (1000) feet to a nursing home or hospital.

2. When there will be repetitive burnings at the same site, the air curtain destructor must not be located nearer than:

(i) five hundred (500) feet to any registered sanitary landfill, other similar facilities, and/or designated primary and secondary highways.

(ii) one thousand (1000) feet to any school, national or state park, national reservation, national or state forest, wildlife area, and/or residence not on the same property as the air curtain destructor.

(iii) one-half mile to any nursing home or hospital.

3. The plume from the air curtain destructor must meet the visible emission standards specified in Rule 1200-3-5-.01-(1), however, for certain materials the Technical Secretary may allow one startup period per day, not to exceed 25 minutes in 24 hours. *[This section is not in the original reg, no approval found]*

4. An air curtain destructor may be operated at any time of day provided it meets the conditions outlined in this subparagraph (c), but the startup period allowed in part 3, above, must occur between the hours of 7:00 a.m. and 3:30 p.m., as a general rule.

(d) Burning at the site of origin of waste hydrocarbons from oil explorations, development or production, or from materials spilled or lost from pipeline breaks where, because of the isolated location, the materials cannot be reclaimed, recovered or disposed of lawfully in some other manner, provided however, that any such burning shall not be nearer than ten (10) miles to any municipality having a population of more than 25,000 nor nearer than five (5) miles from any municipality with a population of 2,500 to 25,000. Such populations are to be those of the latest available federal census.

(e) Such open burning as may be approved by the Technical Secretary where there is no other practical, safe and lawful method of disposal.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original rule certified June 7, 1974. Amended effective February 9, 1977.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF JULY 24, 1974.

LAST UPDATE: May 6, 1988

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1st Revision	JUN 8, 1973	JUL 24, 1974	39 FR 28528
2nd Revision			

S1200-3-4-.04 PERMITS FOR OPEN BURNING

(1) Any person having a valid operating permit to conduct open burning on February 9, 1977, may continue such open burning as authorized by the permit until the expiration date of the permit. *[Certain minor changes to this section are not in the original reg, no approval found for the minor changes]*

(2) Any person proposing to conduct open burning not authorized by a valid permit on February 9, 1977, shall make application for, and have in his possession a valid open burning permit before such open burning is commenced. *[Certain minor changes to this section are not in the original reg, no approval found for the minor changes]*

(3) Application for an open burning permit shall be made on forms supplied by the Department. Failure to submit completed forms or to supply requested supplementary information concerning a proposed open burning operation shall constitute just cause for refusing issuance of a permit. Failure to adhere to substantive provisions of any permits shall be just cause for revocation of a permit by the Technical Secretary. *[This section is not in the original reg, no approval found]*

(4) The distances specified in Rule 1200-3-4-.03 assumes material to be burned is dry and in all other respects is in a state to sustain good combustion. Where this is not the case, the Technical Secretary may specify any special conditions necessary to comply with the intent of this Chapter. To this end, one other condition specified may be that the material may be given sufficient time to dry out before any burning is conducted. *[This section is not in the original reg, no approval found]*

(5) No permit shall be issued for a site within 500 feet of the boundary of a registered sanitary landfill except for the burning of material grown on that site. A registered landfill is one that is approved by the Tennessee Department of Public Health, Division of Solid Waste Management, to which a registration number has been assigned. *[This section is not in the original reg, no approval found]*

(6) Where there are extremely large quantities of materials to be burned, or other conditions indicate a nuisance is likely to be created, special conditions to reduce emissions or limit the nuisance the emissions can cause may be made a part of the granted permit. *[This section is not in the original reg, no approval found]*

(7) The Technical Secretary may deny open burning permits if such burning is of a continuous nature or may issue an open burning permit with stipulation, that will lead to an alternative method of disposal. *[This section is not in the original reg, no approval found]*

(8) The Technical Secretary shall not grant any application for an open burning permit that would interfere with the attainment or maintenance of the air quality standards. No open burning permit shall be issued to any particulate matter nonattainment area nor any location within one-half mile of the boundary of a particulate matter nonattainment area. *[Added June 13, 1979.]*

(9) Any person proposing to conduct open burning not authorized by a valid permit on March 1, 1978, shall be subject to the provisions in paragraph 1200-3-9-.01-(4) as applicable. *[Added October 25, 1979.]*

(10) Obtaining an open burning permit as required in this chapter does not relieve any person of the responsibility to obtain a permit required by any other agency or complying with other requirements of such agencies. Particular attention is directed to Tennessee Code Annotated, Section 39-518.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974. Amended effective February 9, 1977. Amended effective March 21, 1979. Amended effective June 21, 1979.*

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2nd Revision	OCT 25, 1979	JUN 24, 1982	47 FR 27268
3rd Revision			

PRINTED

CHAPTER 1200-3-5
VISIBLE EMISSIONS

NOTE: This entire chapter has been submitted to EPA for approval. For information on approval status, contact Steve Scofield of EPA Region 4 at (404) 347-3555 x4189.

CHAPTER 1200-3-6
NON-PROCESS EMISSION STANDARDS

1200-3-6-.01 GENERAL NON-PROCESS EMISSIONS

(1) No person shall cause, suffer, allow or permit emissions in excess of the standards in this Chapter.

(2) In any county where one or more sources are emitting particulates at rates in conformity with applicable maximum allowable emission rates and the ambient air quality standard for particulate matter is being exceeded, the Board shall be responsible for setting an appropriate emission standard for each source contributing to the particulate matter in the ambient air of the county, at such value as the Board may consider necessary to achieve the desired air quality.

The Tennessee Air Pollution Control Board has found that the ambient air quality standards for particulate matter are being violated in portions of those counties identified in Chapter 1200-3-19 of these regulations. The Board has set emission standards for certain existing sources located in these areas that are in addition to the standards in this Chapter or any less stringent local emission standards. Applicable non-process emission standards for sources located in or significantly impacting the non-attainment areas are to be found in Chapter 1200-3-19 of these regulations.

(3) The owner or operator of an existing fuel burning installation proposing to make a modification of this source or to rebuild or replace it shall only take such action if it will result in the source meeting the maximum allowable emission standards for a new fuel burning installation.

(4) As used in this Chapter, existing installations or equipment shall mean such as were under construction or in operation prior to the effective date of these regulations.

(5) For the purpose of determining the applicable emission standards in this chapter, a change in fuel from natural gas, propane, butane and/or fuel oil to any of these herein named fuels and any required alterations to existing fuel burning equipment to accommodate these fuels shall not be considered a modification. This shall not apply to sources identified in rule 1200-3-9- .01(4). However, the allowable emissions for the source will not change unless Best Available Control Technology is required.

(6) Regardless of the specific emission standards contained in this Chapter a new or modified non-process source locating in or significantly impacting upon a nonattainment area shall comply with the provisions of rule 1200-3-9-.01 (5) prior to receiving a construction permit.

(7) Upon mutual agreement of the owner or operator of any air contaminant source and the Technical Secretary, an emission limit more restrictive than that otherwise specified in this Chapter may be established. The emission limit shall be stated as a special condition for any permit or order issued concerning the source. Violation of this agreed to, more stringent emission standard is grounds for revocation of the issued permit and/or other enforcement measures provided for in the Tennessee Air Quality Act.

(8) Regardless of the specific emission standards contained in this chapter, all non-process sources identified in rule 1200-3-9-.01- (4) if these regulations shall comply with the standards set pursuant to rule 1200-3-9.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974. Amended effective date February 9, 1978. Amended June 16, 1978. Amended effective March 21, 1979. Amended June 21, 1979.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF JUNE 24, 1982

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3rd Revision	OCT 25, 1979	JUN 24, 1982	47 FR 27268

1200-3-6-.02 NON-PROCESS PARTICULATE EMISSION STANDARDS

(1) Existing Fuel Burning Equipment

The maximum hour allowable particulate emissions for a fuel burning installation commenced before April 3, 1972, shall be determined from the following equations:

$E = 0.600$	for	Q 10.0×10^6 Btu/hr
$E = 0.600\ 10^{0.2594}$	for	10.0×10^6 Btu/hr Q 10.0×10^9 Btu/hr
$E = 0.100$	for	Q 10.0×10^9 Btu/hr

E = allowable particulate emissions in lb. per million Btu.

Q = total installation heat input in million Btu per hour.

(2) New Fuel Burning Equipment

(a) The maximum allowable particulate emissions for a fuel burning installation commenced on or after April 3, 1972, shall be determined from the equation:

$E = 0.600$	for	Q 10.0×10^6 Btu/hr
$E = 0.600\ 10/Q^{0.5566}$	for	10.0×10^6 Btu/hr Q 250×10^6 Btu/hr
$E = 0.100$	for	Q 250×10^6 Btu/hr

where, E and Q are as defined in paragraph (1) above.

(b) Where only part of the fuel burning equipment in a fuel burning installation is constructed or modified on or after April 3, 1972, the maximum allowable particulate emissions is determined by the following equation:

$$Et = Qx \times Ex + Qy \times Ey$$

Where,

Et	=	Allowable particulate emission in lb/hr,
Qx	=	total heat input for existing equipment in million Btu/hr,
Ex	=	allowable emissions for installation of size Qx as determined by paragraph (1) above in million Btu,
Qy	=	total heat input for new equipment in million Btu/hr.
Ey	=	allowable emissions for installation of size Qy as determined by subparagraph (a) above in lb. per million Btu.

(3) Incinerators

(a) The maximum allowable particulate emissions from incinerators is 0.200 per cent of the charging rate for incinerators with a 2000 pound per hour charging rate or less and 0.100 per cent of the charging rate for incinerators with a charging rate greater than 2000 pounds per hour.

(b) Incinerators having 2.50 cubic feet of furnace volume or less solely for the disposal of ineffective dressings and other similar material shall not be required to meet the emission standards of this chapter.

(4) Deleted. (Effective September 8, 1980).

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974. Amended effective February 9, 1977. Amended effective March 21, 1979. Amended effective September 8, 1980.*

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3rd Revision			

1200-3-6-.03 GENERAL NON-PROCESS GASEOUS EMISSIONS.

(1) No person shall cause, suffer, allow or permit gaseous emissions in excess of the standards in this Chapter.

(2) Any person constructing or otherwise establishing an air contaminant source emitting gaseous air contaminants after April 3, 1972, shall install and utilize the best equipment and technology currently available for controlling such gaseous emission.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974. Amended June 21, 1979.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF JUNE 7, 1979

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1200-3-6-.04 (DELETED) Effective June 29, 1979.

DELETION WAS FEDERALLY APPROVED AS OF JUNE 24, 1982 47 FR 27268

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1st Revision *(Repealed)*	FEB 6, 1979	JUN 24, 1982	47 FR 27268
2nd Revision			

1200-3-6-.05 WOOD FIRED FUEL BURNING EQUIPMENT

(1) Any wood fired fuel burning equipment commenced before the effective date of this rule, must comply with the following emission standards shown below:

(a) 0.330 grains of particulate matter per standard dry cubic foot of exhaust gases, corrected to 12% carbon dioxide for fuel burning equipment up to and including 50 million Btu per hour heat input.

(b) 0.300 grains of particulate matter per standard dry cubic foot of exhaust gases, corrected to 12% carbon dioxide for fuel burning equipment of 100 million Btu per hour heat input or in excess thereof.

(c) The allowable emissions for wood-fired fuel burning equipment between 50 million and 100 million Btu per hour heat input is that determined by linear interpolation between the values in subparagraphs (a) and (b).

(d) 0.56 grains of particulate matter per dry standard cubic foot of exhaust gases, corrected to 12% carbon dioxide for fuel burning equipment up to and including 50 million Btu per hour heat input for counties identified in paragraph (8) (d) of this rule.
[Added June 13, 1979].

(e) The allowable for wood fired fuel burning equipment between 50 million and 100 million Btu per hour heat input is that determined by linear interpolation between the values in subparagraphs (d) and (b) for counties identified in paragraph (8) (d) of this rule.
[Added June 13, 1979].

(2) Any wood fired fuel burning equipment commenced on or after the effective date of this rule must comply with the emission standards shown below:

(a) 0.330 grains of particulate matter per standard dry cubic foot of exhaust gases, corrected to 12% carbon dioxide for fuel burning equipment up to, and including 25 million Btu per hour heat input.

(b) 0.200 grains of particulate matter per standard dry cubic foot of exhaust gases, corrected to 12% carbon dioxide for fuel burning equipment of 100 million Btu per hour heat input or n excess thereof.

(c) The allowable emissions for wood-fired fuel burning equipment between 25 million and 100 million Btu per hour heat input is that determined by linear interpolation between the value in subparagraphs (a) and (b).

(3) Wood as used in this rule means:

(a) Bark.

(b) Sawdust or other woody plant tissues (lignified xylem) mechanically reduced n size, but not chemically changed.

(c) Any combination of the materials in (a) and (b).

(4) Any fuel burning installation with wood fired fuel burning equipment such that said wood fired fuel burning equipment has 100 million Btu heat input per hour or in excess thereof, shall install, calibrate, maintain and operate a photoelectric or any other type opacity monitor and recorder that has been approved by the Technical Secretary and is of the type referred to in the Federal Register, Volume 48, Number 62, March 30, 1983, beginning on page 13327. This paragraph does not apply where the moisture content of the exhaust is so high that condensation occurs in the stack.

(5) This rule only applies to that fuel burning equipment designed to burn wood and when the burning of wood provides at least 30% of the heat input of the unit. At other times the unit will revert to being regulated by Rule 1200-3-6-.02. This rule 1200-3-6-.05 does not apply to units burning coal or liquid fuels other than fuel oils.

(6) Where fuel burning equipment units in the same fuel burning installation are subject to this rule and are regulated by two different grain loading limits, an average weighted directly on the flow rates will determine the allowable emission limit.

(7) When a wood fired fuel burning equipment is on a common stack with other air contaminant sources, then the wood fired units shall be considered independent of the other air contaminant sources.

(8) The applicability of this rule shall be as follows:
[Added June 13, 1979]

(a) Paragraph (2) of this rule shall apply to all wood fired fuel burning equipment commenced on or after March 1, 1978 except for those units in Davidson, Hamilton, Knox, and Shelby counties.

(b) Paragraph (1) subparts (a) and (c) shall apply to all wood fired fuel burning equipment commenced on or after March 1, 1978 in Madison, Bedford, Hamblen and Coffee counties.

(c) Paragraph (1) subpart (b) shall apply to wood fired fuel burning equipment commenced before March 1, 1978 except for units in Davidson, Hamilton, Knox, and Shelby counties.

(d) Paragraphs (1) (d) and (e) shall apply to all wood fired fuel burning equipment commenced before March 1, 1978 in Bradley, Claiborne, Cocke, Cumberland, Dickson, Fentress, Franklin, Gibson, Giles, Grainer, Greene, Henry, Jefferson, Lawrence, Loudon, Macon, Marion, Marshall, McMinn, Montgomery, Polk, Putnam, Rhea, Rutherford, Scott, Sevier, Sumner, Warren, Wayne, Weakley, White, Williamson, and Wilson.

(9) Except as mentioned in paragraph (8) of this rule, all existing wood-fired fuel burning equipment of 50 million Btu per hour heat input or less shall be regulated by Rule 1200-3-6-.02.

Authority: *T.C.A. 68-25-105. Administrative History. Effective June 16, 1978. Amended effective March 21, 1979. Amended June 21, 1979. Amended June 29, 1979. Amended December 6, 1979 Amended May 30, 1987.*

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3rd Revision	JAN 06, 1988	NOV 23, 1988	53 FR 47530
4th Revision			

CHAPTER 1200-3-7
PROCESS EMISSION STANDARDS

1200-3-7-.01 GENERAL PROCESS PARTICULATE EMISSION STANDARDS

(1) No person shall cause, suffer, allow or permit particulate emissions in excess of the standards in this Chapter.

(2) In any county where one or more sources are emitting particulates at rates in conformity with applicable maximum allowable emission rates and the ambient air quality standard for particulate matter is being exceeded, the Board shall be responsible for setting an appropriate emission standard for each source contributing to the particulate matter in the ambient air of the county, at such value as the Board may consider necessary to achieve the desired air quality. The Tennessee Air Pollution Control Board has found that the ambient air quality standards for particulate matter are being violated in portions of those counties identified in Chapter 1200-3-19 of these regulations. The Board has set emission standards for existing sources located in these areas that are in addition to the standards contained in this Chapter or any less stringent local regulations. Applicable standards for process emission sources located in or significantly impacting the nonattainment areas are to be found in Chapter 1200-3-19 of these regulations.

(3) The owner or operator of an existing process emission source proposing to make a modification of this source or to rebuild or to replace it shall only take such action if it will result in the source meeting the maximum allowable particulate emission standard for a new process emission source.

(4) Limiting the Effect of the Definition of Modification. For the purpose of determining the applicable particulate matter emission standards in this chapter, a change in fuel from natural gas, propane, butane and/or fuel oil to any of these herein named fuels required alterations to existing fuel burning equipment to accommodate these fuels, shall not be considered a modification.

(5) Upon mutual agreement of the owner or operator of any air contaminant source and the Technical Secretary, an emission limit more restrictive than that otherwise specified in this Chapter may be established. This emission limit shall be stated as a special condition for any permit or order issued concerning the source. Violation of this agreed to, more stringent emission standard is grounds for revocation of the issued permit and/or other enforcement measures provided for in the Tennessee Air Quality Act.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974. Amended effective June 16, 1978. Amended effective March 2, 1979.*

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3rd Revision			

1200-3-7-.02 CHOICE OF PARTICULATE EMISSION STANDARDS-EXISTING PROCESS

(1) For any process emission source operating within the State of Tennessee, which was in operation or under construction prior to August 9, 1969, the allowable emission standard shall be obtained from either the diffusion equations presented in 1200-3-7-.02(3) below or the process weight table presented in 1200-3-7-.02(4) below. The owner or operator of such a process emission source shall make known, in writing, to the Technical Secretary by July 1, 1972, his choice of emission standard. If no choice is so indicated, the Technical Secretary shall designate the emission standard of 1200-3-7-.02(4) below as the applicable standard. The emission standard chosen, either by the owner or operator or by the Technical Secretary, must be attained on or before August 9, 1973.

(2) For any process emission source operating within the State of Tennessee, construction of which began on or after August 9, 1969, and before the effective date of these regulations, the allowable emission standard shall be the diffusion equations presented in 1200-3-7-.02(3) below This standard must have been attained at the time such process emission source first commences operation. The owner or operator of such al source shall make known in writing to the Technical Secretary by July 1, 1972, whether he wishes to continue under the diffusion equations standard or the switch to the process weight table standard presented in 1200-3-7-.02(4). If no choice is so indicated, the Technical Secretary shall designate the emission standard of 1200-3-7-.02(4) below as the applicable standard. If the process weight table standard is chosen by such owner or operator or by the Technical Secretary, then such owner or operator shall have until August 9, 1973 to convert fully to the process weight table standard. It is expressly stipulated that in the interim period such a process emission source shall continue to observe the diffusion equations standard originally applicable.

(3) For those owners or operators of process emission sources who elect to have their process emission regulated by diffusion equations, the maximum allowable particulate emissions from such sources shall be determined by the procedures defined in (a), (b) and (c) below.

(a) Stack gas exit temperature less than 100° F (See Note)

$$Q = (3.02 \times 10^{-4})\ (V_s)\ (h_s^2)\ \ (d_s^{0.71}/h_s)$$

(b) Stack gas exit temperature of 125°F or greater (see note)

1. Stacks less than 500 feet in height

$$Q = 0.2h_s[QT \times 0.02 \times (T_s^{-60})]^{0.25}$$

(c) 1. For stack gas exit temperatures from 100°F to 124°F calculate allowable emissions as in (a) and either (b) 1., or (b) 2., depending upon stack height (using T_s of 125°F), and make linear interpolation based upon actual stack gas exit temperature.

2. The terms of the preceding equation shall have the following meaning and units:

(i) d_s - inside diameter or equivalent diameter of stack tip in feet

(ii) h_s - stack height in feet (Vertical distance above grade directly below tip of stack) equal to the weight in existence or approved pursuant to (State) review as of January 31, 1972 except as follows:

(I) In cases where the actual height is less than that stated above, the actual height shall be used.

(II) In cases where the actual height is greater than that stated above, and the stack height increase was constructed (grading and pouring of concrete was done) prior to February 8, 1974, the actual height shall be used up to two and one half times the height of the facility it serves.

(iii) Q - maximum allowable emission rate n pounds per hour

(iv) Q_T- volume rate of stack gas flow in cubic feet per second calculated to 60°F.

(v) T_s - temperature of stack gases at stack tip in °F

(vi) V_s - velocity of stack gases at stack tip in feet per second.

(vii) NOTE: In determining applicability of equations in this paragraph based upon the exit gas temperature, the actual exit gas temperature must equal or exceed the stated temperature during ninety (90) percent or more of the operating time.

(4) For those owners or operators of process emission sources who elect to have their process emissions regulated by the Process Weight Table, the maximum allowable particulate emission source shall be determined by Table 1.

(5) Whichever standard is chosen, all sources at the same facility must be regulated by that standard.

(6) The owner or operator of a facility having elected to be regulated under the diffusion equations in paragraph (3) of this rule may apply to the Technical Secretary for having said facilities regulated under the process weight table specified in paragraph k(4) of this rule. Once said application is approved the facility cannot return to being regulated by the diffusion equations.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974. Amended April 12, 1978.*

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2nd Revision			

1200-3-7-.03 NEW PROCESSES

(1) The allowable emission level of particulate matter from any process emission source beginning operation on or after April 3, 1972, shall be determined by Table 2.

(2) Regardless of the specific emission standards for particulate matter in other places in these Regulations, the Board may require any new or modified air contaminant source constructing in a nonattainment area to apply best available control technology for control of particulate emissions as determined by the Technical Secretary at the time the application for the construction permit is approved.

(3) Regardless of the specific emission standards contained in this Chapter a new or modified process emission source locating in or significantly impacting upon a nonattainment area shall comply with the provisions of rule 1200-3-9-.01 (5) prior to receiving a construction permit.

(4) Regardless of the specific emission standards contained in this Chapter, all sources identified in rule 1200-3-9-.01-4 of these regulations shall comply with the standards set pursuant to rule 1200-3-9.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974. Amended effective February 9, 1977. Amended effective March 21, 1979. Amended effective June 21, 1979.*

[FEDERAL APPROVAL STATUS FOLLOWS TABLES.]

TABLE I
EXISTING PROCESS EMISSION SOURCES
ALLOWABLE RATE OF EMISSION BASED ON
PROCESS WEIGHT RATE[a]

Process Weight Rate		Rate of Emission	Process Weight Rate		Rate of Emission
Lb/Hr	Tons/Hr	Lb/Hr	Lb/Hr	Tons/Hr	Lb/hr
100	0.05	0.551	16,000	8.00	16.5
200	0.10	0.877	18,000	9.00	17.9
400	0.20	1.40	20,000	10.00	19.2
600	0.30	1.83	30,000	15.	25.2
800	0.40	2.22	40,000	20.	30.5
1,000	0.50	2.58	50,000	25.	35.4
1,500	0.75	3.38	60,000	30.	40.0
2,000	1.00	4.10	70,000	35.	41.3
2,500	1.25	4.76	80,000	40.	42.5
3,000	1.50	5.38	90,000	45.	43.6
3,500	1.75	5.96	100,000	50.	44.6
4,000	2.00	6.52	120,000	60.	46.3
5,000	2.50	7.58	140,000	70.	47.8
6,000	3.00	8.56	160,000	80.	49.0
7,000	3.50	9.49	200,000	100.	51.2
8,000	4.00	10.4	1,000,000	500.	69.0
9,000	4.50	11.2	2,000,000	1,000.	77.6
10,000	5.00	12.0	6,000,000	3,000.	92.7
12,000	6.00	13.6			

[a] *Interpolation of the data in this table for process weight rates up to 6,000 lb/hr shall be accomplished by using the equation* $E = 4.10\ P^{0.67}$ *and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lb/hr shall be accomplished by use of the equation:*

$E = 55.0P^{0.11} - 40$, *where* E = *rate of emission in lb/hr*
P = *process weight rate in tons/hr*

TABLE 2
NEW PROCESS EMISSION SOURCES
ALLOWABLE RATE OF EMISSION BASED ON
PROCESS WEIGHT RATE[a]

Process Weight Rate		Rate of Emission	Process Weight Rate		Rate of Emission
Lb/Hr	Tons/Hr	Lb/Hr	Lb/Hr	Tons/Hr	Lb/Hr
50	0.025	0.36	16,000	8.00	13.0
100	0.05	0.55	18,000	9.00	14.0
200	0.10	0.86	20,000	10.	15.0
400	0.20	1.32			
600	0.30	1.70	30,000	15.	19.2
800	0.40	2.03	40,000	20.	23.0
1,000	0.50	2.34	50,000	25.	26.4
1,500	0.75	3.00	60,000	30.	29.6
2,000	1.00	3.59	70,000	35.	30.6
2,500	1.25	4.12	80,000	40.	31.2
3,000	1.50	4.62	90,000	45.	31.8
3,500	1.75	5.08	100,000	50.	32.4
4,000	2.00	5.52	120,000	60.	33.3
5,000	2.50	6.34	140,000	70.	34.2
6,000	3.00	7.09	160,000	80.	34.9
7,000	3.50	7.81	200,000	100.	36.1
8,000	4.00	8.5	1,000,000	500.	46.7
9,000	4.50	9.1			
10,000	5.00	9.7			
12,000	6.00	10.9			

[a] *Interpolation of the data in Table 2 for the process weight rates up to 60,000 lbs/hr shall be accomplished by the use of the equation:*

$$E = 3.59\ P^{0.62} \quad P \quad 30 \text{ tons/hr}$$

and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lbs/hr shall be accomplished by the use of the equation:

$$E = 17.31\ P^{0.16} \quad P \quad 30 \text{ tons/hr}$$

Where: E = Emissions in pounds per hour
P = Process weight rate in tons per hour

THIS IS THE FEDERALLY APPROVED REGULATION AS OF JUNE 24, 1982

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2nd Revision	JUN 13, 1979	JUN 24, 1982	47 FR 27269
3rd Revision	OCT 25, 1979	JUN 24, 1982	47 FR 27269
4th Revision			

1200-3-7-.04 LIMITING ALLOWABLE EMISSIONS

(1) Irrespective of the maximum allowable emission as determined by any of the preceding equations or Process Weight Tables in this Chapter, the concentration of particulate process emissions shall not be required to be less than 0.02 grain per cubic foot of stack gases corrected to 70° F and 1 atmosphere unless a lesser concentration is found by the Board to be necessary.

(2) Irrespective of the maximum allowable emission as determined by any of the preceding equations or Process Weight Tables in this Chapter, the maximum allowable concentration of particulate process emissions shall be 0.25 grains per cubic foot of stack gases corrected to 70°F and 1 atmosphere. This shall be achieved by all air contaminant sources on or before August 9, 1973. Air contaminant sources constructed after August 9, 1969, shall meet the above emission standard when they commence operation. This paragraph shall not apply to vents from storage tanks for liquids.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974. Amended effective March 21, 1979.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF JUNE 7, 1979

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2nd Revision			

1200-3-7-.05 SPECIFIC PROCESS EMISSION STANDARDS

The emission limits set forth in Rules 1200-3-7-.02, .03, and .04 will apply unless a specific process emission standard for a specifically designated type of process emission source is contained in a subsequent rule of this chapter.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974.*

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2nd Revision			

1200-3-7-.06 STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

The Board shall from time to time, after public hearing, designate additional standard(s) of performance for new stationary sources as promulgated by the Environmental Protection Agency and published in the Federal Register.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF JUNE 7, 1979

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2nd Revision			

1200-3-7-.07 GENERAL PROVISIONS AND APPLICABILITY FOR PROCESS GASEOUS EMISSION STANDARDS.

(1) No person shall cause, suffer, allow or permit gaseous emissions in excess of the standards in this Chapter.

(2) Any person constructing or otherwise establishing an air contaminant source emitting gaseous air contaminants after April 3, 1972, shall install and utilize equipment and technology which is deemed reasonable and proper by the Technical Secretary.

(3) (Reserved)

(4) Total Reduced Sulfur Emissions from Kraft Mills

The owner or operator of a draft mill constructed or modified prior to September 24, 1976 shall meet the emission standards listed in subparagraphs (a), (b), (c) and (d) of this paragraph no later than six years for recovery furnaces; two years for digesters, multiple effect evaporators, smelt dissolving tanks and four years for lime kilns.

(a) Total reduced sulfur emissions from the recovery furnace shall not exceed 20 ppm by volume, expressed as H_2S, on a dry basis, corrected to 8 percent oxygen on a 12 hour averaging basis.

(b) Total reduced sulfur emissions from the lime kiln shall not exceed 40 ppm by volume, expressed as H_2S, on a dry basis, corrected to 10 percent oxygen on a 12-hour averaging basis.

(c) Total reduced sulfur emissions from any digester system or multiple effect evaporator system shall not exceed 5 ppm by volume, expressed as H_2S, on a dry basis, corrected to 10 percent oxygen on a 24-hour averaging basis.

(d) Total reduced sulfur emissions from any smelt dissolving tank shall not exceed 0.0084 grams/kilogram black liquor solids on a 24-hour averaging basis. In lieu of meeting the emission standard the use of fresh water on the particulate control system will be deemed as being in compliance.

(5) Total Fluoride Emissions From Potrooms at Primary Aluminum Reduction Plants

The owner operator of a primary aluminum reduction plant constructed or modified prior to October 23, 1974 shall meet the standards listed n paragraph (b) for a center worked pre baked operation or (c) for a side worked pre baked operation. Compliance with the applicable standard shall be attained in no later than three years except in such cases where the Board grants an extension of time. Such an extension shall not exceed eighteen months. A compliance schedule for meeting the applicable emission standard shall be filed within 120 days of the effective date of this rule.

(a) Said compliance schedule shall contain the following additional increments of progress:

1. Date the contract will be awarded.

2. Date initial construction will commence.

3. Date construction will be completed.

4. Date final compliance will be achieved.

(b) Center Worked Pre Bake Operations

1. The primary collection system shall be designed to have an average collection efficiency of 95%. This determination shall be made by the Technical Secretary based on the design criteria provided by the source.

2. The system shall be maintained to assure operation at the efficiency required. Pot hood covers will be n good repair and properly positioned. When hood covers are removed for working of the pots, they will be replaced in a minimum amount o time. The removal system must be maintained on a regular basis in accordance with the program approved by the Technical Secretary.

3. The control system shall be designed to remove 98.5% of the fluorides collected and operate at a minimum removal efficiency of 95% of the fluorides collected. Compliance with this operational standard shall be determined by utilizing the test methods and procedures contained in 1200-3-12-.03(i).

(c) Side Worked Pre Bake Operations

1. The primary collection system shall be designed to have an average collection efficiency of 80%. This determination shall be made by the Technical Secretary based on the design criteria provided by the source.

2. The system shall be maintained to assure operation at the efficiency required. Pot hood covers will be in good repair and properly positioned. When hood covers are removed for working of the pots, they will be replaced in a minimum amount of time. The removal system must be maintained on a regular basis in accordance with the program approved by the Technical Secretary.

3. The control system shall be designed to remove 98.5% of the fluorides collected and operate at a minimum removal efficiency of 95% of the fluorides collected. Compliance with this operational standard shall be determined by utilizing the test methods and procedures contained in 1200-3-12-.03(i).

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974. Amended effective January 22, 1982.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF AUGUST 12, 1996.

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1st Revision	JAN 22, 1982	JUN 24, 1982	47 FR 27268
2nd Revision	JUN 25, 1993	JUN 12, 1996	61 FR 29666

1200-3-7-.08 SPECIFIC PROCESS EMISSION STANDARDS

(1) Existing Ferrous Jobbing Cupolas.

No later than August 9, 1973, the maximum particulate emission rate from existing ferrous jobbing cupolas shall be as given in Table 3.

TABLE 3

ALLOWABLE RATE OF PARTICULATE EMISSION BASED ON PROCESS WEIGHT RATE
EXISTING FERROUS JOBBING CUPOLAS

Process Weight (lb/hr)	Maximum Weight Discharge (lb/hr)
1,000	3.05
2,000	4.70
3,000	6.35
4,000	8.00
5,000	9.58
6,000	11.30
7,000	12.90
8,000	14.30
9,000	15.50
10,000	16.65
12,000	18.70
16,000	21.60
18,000	23.40
20,000	25.10

The emission rate for a process weight intermediate to those shown in the Table shall be determined by linear interpolation.

(2) Emissions From Nitric Acid Plants

(a) Existing Nitric Acid Plants

After July 1, 1975, no person shall cause, suffer, allow or permit the emission into the air on nitrogen oxide from any nitric acid plant under construction or n operation prior to April 3, 1972, which are:

1. in excess of 5.5 lbs. per ton of acid produced, maximum 2 hour average, expressed as NO_2; or

2. 400 ppm (0.04% by volume dry basis) of nitrogen oxides, measured as NO_2, whichever is the more restrictive.

(3) New and Existing Cotton Gins

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

1. "Cotton Gin" means any facility or plant which removes seed, lint, and trash from raw cotton and bales the lint cotton for further processing. All individual pieces of equipment located at a cotton gin shall be considered as being a single process emission source.

2. "Cotton Gin Site or Gin Site" means the land upon which a cotton gin is located and all contiguous land having an identical ownership.

3. "High Efficiency Cyclone" means any cyclone type collector of the 2D-2D or 1D-3D configuration. The 2D-2D design for small diameter cyclones is set forth in Agricultural Handbook 503, U.S. Dept. of Agriculture, Cotton Ginners Handbook, 1977 Edition, pages 81-84. The 1D-3D design for small diameter cyclones is the Texas A & M University long-cone cyclone design. Design specifics of this type of cyclone are set forth in Figure 6 of the article titled, "Air Utilization", by E. P. Columbus, which was presented at the Cotton Ginners Shortcourse which was held on July 27-31, 1987 at Stoneville, Mississippi.

4. "Low Pressure Exhausts" means the exhaust air systems at a cotton gin which handles air from the cotton lint handling system and battery condenser.

5. "High Pressure Exhausts" means all other air systems located at a cotton gin which are not defined as "low pressure exhausts".

6. "Dust House" means a gravity settling chamber utilized for the control of particulate emissions from a cotton gin and meeting the specifications set forth in Agriculture Handbook 260, U.S.Dept of Agriculture, Handbook for Cotton Ginners, 1964 Edition, page 93.

(b) The following conditions apply to owners and operators of cotton gins subject to the provisions of this paragraph:

1. Reserved

2. The owner or operator of a cotton gin which was in operation or under construction on or prior to July 16, 1990, shall meet the standards set forth in Table 4 of rule 1200-3-7-.08(3) no later than July 1, 1991.

3. The owner or operator of a cotton gin for which construction begins after July 16, 1990 shall meet the standards set forth in Table 4 at the time the cotton gin commences operation.

4. In lieu of demonstrating compliance with the applicable emission standard contained in Table 4 of this rule the following control devices may be utilized:

(i) for emission control from low pressure exhausts, the use of screens with a mesh size of 80 by 80 or finer, or the use of perforated condenser drums with holes not exceeding .045 inches in diameter, or the use of a dust house.

(ii) for emission control from high pressure exhausts the use of high efficiency cyclones shall be deemed as demonstrating compliance.

5. If compliance with the emission standard specified in Table 4 is required, then the testing methodology to be utilized shall be that specified in Chapter 2 of the Department of Health and Environment's Source Sampling Manual (dated December 10, 1987).

6. Effective July 1, 1991, the burning of cotton gin waste at the gin site in a wigwam or any other type of enclosed burner shall be prohibited.

(c) The allowable particulate emission standards for new and existing cotton gins shall be determined by Table 4.

TABLE 4
ALLOWABLE RATE OF PARTICULATE EMISSIONS BASED ON PROCESS WEIGHT RATE FOR NEW AND EXISTING COTTON GINS

Process Weight Rate Lb/Hr	Rate of Emission Lb/Hr	Process Weight Rate Lb/Hr	Rate of Emission Lb/Hr
1,000	1.6	9,000	13.7
1,500	2.4	10,000	15.2
2,000	3.1	12,000	18.2
2,500	3.9	14,000	21.2
3,000	4.7	16,000	24.2
3,500	5.4	18,000	27.2
4,000	6.2	20,000	30.1
5,000	7.7	30,000	44.9
6,000	9.2	40,000	59.7
7,000	10.7	50,000	64.0
8,000	12.2	60,000 or more	67.4

The allowable emission rate for a cotton gin with process weight rates intermediate to those shown in Table 4 shall be determined by linear interpolation.

(4) New and existing Kraft Mills

The owner or operator of a kraft mill on which construction begins after January 1, 1973, shall meet the standards listed in subparagraphs (a), (b), and (c) of this paragraph at the time the operation of such mill commences. After August 9, 1973, no person shall cause, suffer, allow or permit particulate emissions from a kraft mill under construction or operation prior to the effective date of these regulations in excess of the standard chosen in Rules 1200-3-7-.02(1) or 1200-3- 7-.02 (2) provided, however, that after July 1, 1977, said emissions are as follows:

(a) Particulate matter from all recovery stacks shall not exceed three pounds per ton of equivalent air-dried kraft pulp.

(b) Particulate matter from all lime kilns shall not exceed one pound per ton of equivalent air dried kraft pulp.

(c) Particulate matter from all smelt tanks shall not exceed one-half pound per ton of equivalent air dried draft pulp.

(5) Existing Asphalt Plants.

After August 9, 1973, no person shall cause, suffer, allow or permit the discharge of particulate emissions from any asphalt plant under construction or in operation prior to April 3, 1972, in excess of the standard selected in accordance with the provisions of Rule 1200-3-7-.02(1) or 1200-3-7-.02(2). It is expressly provided that no later than July 1, 1975, these emissions shall not be in excess of the standards set forth in Table I of Chapter 1200-3-7, entitled "Existing Process Emission Sources: Allowable Rate of Emission Based on Process Weight Rate." It is further stipulated that after that date, the rate of emission for existing asphalt plants with a process weight rate in excess of 200,000 pounds (100 tons) per hour shall not exceed 51.2 pounds per hour.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974. Amended effective June 16, 1974. Amended September 22, 1980.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF

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2nd Revision	APR 18, 1995	JAN 31, 1996	61 FR 3318

1200-3-7-.09 SULFURIC ACID MIST

(1) Sulfuric acid plants of any type commenced on or before April 3, 1972, must not emit more than 0.500 pounds of sulfuric acid mist per ton of 100% of$_2SO_4$ produced, maximum one hour average expressed as H_2SO_4.

(2) Sulfuric acid plants of any type commenced after April 3, 1972, must not emit more than 0.150 pounds of sulfuric acid mist per ton of 100% H_2SO_4 produced, maximum one hour average expressed as H_2SO_4.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified February 9, 1977.*

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Original Reg	?		
1st Revision			

1200-3-7-.10 GRAIN LOADING LIMIT FOR CERTAIN EXISTING SOURCES

(1) A certificate of validation shall be issued by the Technical Secretary to air contaminant sources meeting the conditions of Paragraphs (2) and (3) below. The applicable standard for a source with a certificate of validation is 1.0 grains per dry standard cubic foot of stack gases corrected to 70°F and 1 atmosphere in lieu of Rule 1200-3-7-.04-(2).

(2) The owner or operator of the air contaminant source must demonstrate to the satisfaction of the Technical Secretary that the following conditions exist:

(a) The air contaminant source was commenced before April 3, 1972; and no modification has been made to the source since that date.

(b) The air contaminant source meets all applicable emission standards outside or Paragraph 1200-3-7-.04-(2). Demonstration of this compliance with other regulations will require as a minimum an acceptable stack test report for particulate matter mass emissions (lbs/hr.) and verification of meeting the requirements of Chapter 1200-3-5.

(c) The particulate matter ambient air quality standards are being met in the vicinity of the air contaminant source, and no deterioration in air quality will result from the granting of a certificate of validation. The Technical Secretary may require this achievement of air quality to be demonstrated.

(d) A fee of $500 has been paid to the Department of Public Health to cover the cost of review of the request for the certificate of validation.

(e) The owner or operator shall submit an engineering report demonstrating that the investment cost of attaining 0.25 grains per dry standard cubic foot (gr/dscf) will exceed $50,000 per pound of particulate matter emissions prevented from entering the atmosphere per hour; or demonstrate attainment of 0.25 gr/dscf is technically unfeasible. The investment cost per pound hour shall be calculated by the following formula.

$$\frac{\text{Investment Cost}}{\text{lbs/hr}} = \frac{\text{Capitol Cost}}{\dfrac{(\text{Present Grain Loading} - .25)}{\text{DCSF}} \; \dfrac{(\text{SCFH})}{\text{DSCF}} \; \dfrac{}{7000}}$$

Where:

DSCHFH = dry standard cubic ft. per hour

capitol cost = expenditures covering the procurement and erection of air pollution control or necessary process modifications.

(f) The particulate matter emissions emitted from the process emission source do not exceed 100 lbs/hr.

(3) The owner or operation of the air contaminant source must, in addition:

(a) Post on the operating premises the certificate of validation.

(b) Keep the air pollution control equipment in good operating condition and utilize said equipment at all times.

(4) Upon receipt of information by the Technical Secretary that any of the requirements of Paragraph 2 have been violated and any requirement of Paragraph 3 has been violated three times in any two year period, the Technical Secretary shall call an administrative hearing pursuant to T.C.A. 53-3414(H) to inquire into the alleged violations. After hearing sufficient proof and making findings of fact, the Technical Secretary shall revoke the certificate of validation previously granted to the offending air contaminant source. After the certificate of validation has been revoked, the offending source shall comply with Rule 1200--3-7-.04(2) as expeditiously as possible in a compliance schedule contained in an administrative order.

(5) After granting of a construction permit for the modification of an air contaminant source for which a certificate of validation has been issued, the certificate of validation shall become void on the date of expiration of the construction permit and Rule 1200-3-7-.04(2) shall apply.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original rule effective March 21. 1979.*

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1200-3-7-.11 CARBON MONOXIDE, ELECTRIC ARC FURNACES

Electric arc furnaces used in producing iron or steel and located in Knox County shall emit no more than 18.0 pounds of carbon monoxide per ton of metal produced, one hour average.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original rule effective October 25, 1979.*

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1200-3-7-.12 CARBON MONOXIDE, CATALYTIC CRACKING UNITS

After July 1, 1980, all catalytic cracking units at petroleum refineries located in Shelby County must not discharge to the atmosphere carbon monoxide in excess of 0.050 per cent by volume.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original rule effective January 22, 1982.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF JUN 21, 1982

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CHAPTER 1200-3-8
FUGITIVE DUST

1200-3-8-.01 FUGITIVE DUST

(1) No person shall cause, suffer, allow, or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, but not be limited to, the following:

(a) Use, where possible, of water or chemicals for control of dust in demolition of existing buildings or structures, construction operations, grading of roads or the clearing of land:

(b) Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stock piles, and other surfaces which can create airborne dusts:

(c) Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations.

(2) No person shall cause, suffer, allow or permit fugitive dust to be emitted in such manner to exceed five (5) minutes per hour or twenty (20) minutes per day as to produce a visible emission beyond the property line of the property on which the emission originates, excluding malfunction of equipment as provided in Chapter 1200-3-20. ***[Minor change submitted January 22, 1982.]***

(3) Compliance Schedule.

(a) For those operations in existence before April 3, 1972, fugitive dust control must be achieved by August 9, 1973.

(b) For those operations, the construction of which commences after April 3, 1972, fugitive dust control must be achieved at the time operation commences.

(4) Regardless of the specific emission standards contained in this Chapter, all sources identified in rule 1200-3-9-.01-(4) of these regulations shall comply with the standards set pursuant to Chapter 1200-3-9. ***[Added October 25, 1979.]***

Authority: *T.C.A. Section 68-25-105. Administrative History. Original rule certified June 7, 1974. Amended June 16, 1978. Amended March 21, 1979. Amended June 21, 1979. Amended July 11, 1980.*

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2nd Revision			

1200-3-8-.02 SPECIAL NONATTAINMENT AREA FUGITIVE DUST REQUIREMENTS

(1) The Tennessee Air Pollution Control Board has found that the particulate ambient air quality standards are being violated in those areas identified in Rule 1200-3-19-.02 of these regulations. The Board has set specific fugitive dust standards for those process related fugitive dust sources and non- traditional fugitive dust sources for these non-attainment areas. These standards are in addition to any other standards contained in these or any less stringent local regulations.

(2) Regardless of the fugitive dust standards contained in this Chapter new and/or modified fugitive dust sources locating in or significantly impacting upon a non-attainment area shall comply with the provisions of Rule 1200-3-9-.01(5) prior to receiving a construction permit.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original rule certified March 21, 1979.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF JUNE 24, 1979.

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CHAPTER 1200-3-9
CONSTRUCTION AND OPERATING PERMITS

1200-3-9-.01 CONSTRUCTION PERMITS

(1) Application for Construction Permit

(a) Except as specifically exempted in Rule 1200-3-9-.04, no person shall begin the construction of a new air contaminant source or the modification of an air contaminant source which may result in the discharge of air contaminants without first having applied for and received from the Technical Secretary a construction permit for the construction or modification of such air contaminant source.

(b) The application for a construction permit shall be made on forms available from the Technical Secretary not less than ninety (90) days prior to the estimated starting date of construction. Sources identified in paragraph 1200-3-9-.01- (4) shall make application for a construction permit not less than one hundred twenty (120) days prior to the estimated date of construction.

(c) In addition to the information provided in the construction permit application forms, the Technical Secretary may require submission, by the owner or operator of a source to be constructed or modified of such information on the nature and amounts of air contaminants to be emitted by the source or emitted by associated mobile sources, and any other information necessary to insure compliance with the regulations of this Division, 1200-3, and the Board approved control strategy.

(d) Construction of a new air contaminant source or the modification of an air contaminant source which may result in the discharge of air contaminants must be in accordance with the approved construction permit application, the provisions and stipulations set forth in the construction permit, all provisions of the regulations of this Division 1200-3, any applicable measures of the control strategy, and all provisions of the Tennessee Air Quality Act.

(e) No construction permit shall be issued by the Technical Secretary if the approval to construct or modify an air contaminant source would result in a violation of the ambient air quality standards specified in Chapter 1200-3-3, would cause a violation of any other regulatory requirement under this Division, 1200-3, would result in a violation of applicable portions of the control strategy, or would interfere with attainment or maintenance of a national ambient air quality standard in a neighboring state. In the case where a source or modification was constructed without first obtaining a construction permit, a construction permit may be issued to the source or modification to establish as conditions of the permit, the necessary emission limits and requirements to assure that these regulatory requirements are met. The appropriate enforcement action shall be pursued to insure that ambient air quality standards and other regulatory requirements will be met. All emission limits and requirements of the construction permit must be met prior to issuance of an operating permit for the source or modification.

(f) In the issuance of construction permits for new air contaminant sources, or modifications, source impact analysis shall demonstrate that allowable emission increases would not cause or contribute to air pollution in violation of any ambient air quality standard in Chapter 1200-3-3, of any national ambient air quality standard, or any applicable maximum allowable increase as

defined in paragraph 1200-3-9-.01(4). As required, all estimates of ambient concentrations shall be based on applicable air quality models, and data bases acceptable to the Technical Secretary, and meeting the requirements in the EPA publication No. 450/2-78-027R, "Guidelines on Air Quality Models (revised)" (1986), Supplement A (1987), and Supplement C (1995) which are incorporated by reference. The Technical Secretary may approve use of a modified or another model on a case-by-case basis after consultation with and upon written approval from the EPA Administrator.

(g) In the issuance of construction permits for new air contaminant sources or modifications, the degree of emission limitation required of any source for control of any air contaminant must not be affected by so much of any source's stack height that exceeds good engineering practice or by any other dispersion technique except as provided for in Chapter 1200-3-24 of these regulations.

(h) The Department shall on a monthly basis notify the public, by advertisement in a newspaper of general circulation in each air quality control region in which the proposed source or modification would be constructed, of the applicants seeking to obtain a permit to construct or modify an air contaminant source. This notice shall specify the general vicinity or location of the proposed source or modification, the type of source or modification, and opportunity for public comment. Comments shall be in writing and delivered to the Technical Secretary within thirty (30) days after the publication of the public notice.

(i) Reserved

(2) **Definitions.** As used in this chapter all terms not defined herein or in subsequent parts of this chapter shall have the meaning given them in Chapter 1200-3-2.

(a) Reserved

(b) **"Control Strategy"** means a combination of measures, approved by the Board, designated to achieve the aggregate reduction of emissions necessary for attainment and maintenance of the ambient air quality standards specified in the regulations under this Division 1200-3, or of the national ambient air quality standards including, but not limited to measures such as:

1. Emission limitations.

2. State emission charges or other economic incentives or disincentives.

3. Closing or relocation of residential, commercial, or industrial facilities.

4. Changes in schedules or methods of operation of commercial or industrial facilities or transportation systems, including, but not limited to, short term changes made in accordance with standby plans.

5. Periodic inspection and testing of motor vehicle emission control systems, at such time it is determined that such programs are feasible and practicable.

6. Emission control measures applicable to in-use motor vehicles, including, but not limited to, measures such as mandatory maintenance, installation of emission control devices, and conversion of gaseous fuels.

7. Any transportation control measures considered feasible and practicable.

8. Any variation of, or alternative to any measure delineated herein.

9. Control or prohibition of a fuel or fuel additive used in motor vehicles, if such control or prohibition is necessary to achieve a primary or secondary air quality standard, or national primary or secondary standard, and is approved by the Technical Secretary.

(c) **"National Ambient Air Quality Standard"** means any ambient standard for an air contaminant promulgated by the Administrator of the Environmental Protection Agency and published in the Code of Federal Regulations.

(d) **"Best available control technology (BACT)"** means an emission limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under these rules which would be emitted from any proposed new or modified air contaminant source which the Technical Secretary, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under Chapters 1200-3-11 and 1200-3-16 of these rules. If the Technical Secretary determines that technological or economic limitations on the application of measurement methodology to a particular class of sources would make the imposition of an emission standard infeasible, a design, equipment, work practice, or operational standard, or combination thereof, may be prescribed instead to require the application of best available control technology. Such standard shall, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice, or operation, and shall provide for compliance by means which achieve equivalent results.

(e) **"Lowest achievable emission rate"** (LAER) means, for any stationary source the more stringent rate of emissions based on the following:

1. The most stringent emissions limitation which is contained in the applicable standards under this Division 1200-3, or in any State Implementation Plan for such class or category of stationary source, unless the owner or operator of the proposed source demonstrates that such limitations are not achievable; or

2. The most stringent emissions limitation which is achieved in practice by such class or category of stationary source. This limitation, when applied to a modification, means the lowest achievable emissions rate for the new or modified emissions units within the stationary source. In no event shall the application of this term permit a proposed new or modified stationary source to emit any air contaminant in excess of the amount allowable under applicable new source standards of performance.

(3) Reserved.

(4) **Prevention of Significant Air Quality Deterioration [PSD]**

(a) General Provisions

1. No major stationary source or major modification, as defined in parts (b)1. and (b)2. of this paragraph, shall begin actual construction unless the requirements of this paragraph, as applicable, have been met.

2. The requirements of this paragraph shall only apply to a proposed major stationary source, or major modification with respect to any pollutant which is emitted in significant amounts, or would result in a significant net emissions increase of the pollutant respectively. Also, the requirements of this paragraph do not apply to proposed pollutant emission sources or modifications in a nonattainment area as defined in Chapter 1200-3-2 for any pollutant to be emitted by the proposed source or modification for which the area is classified nonattainment.

3. Any owner or operator who constructs or operates a source or modification not in accordance with the application submitted pursuant to this paragraph or with the terms of any approval to construct, or any owner or operator of a source or modification subject to this paragraph who commences construction after the effective date of these regulations without applying for and receiving approval hereunder, shall be subject to appropriate enforcement action.

4. Approval to construct shall become invalid if construction is not commenced within 18 months after issuance of an approved permit, if construction is discontinued for a period of 18 months or more, or if construction is not completed within 18 months of the completion date specified on the construction permit application. The Tennessee Air Pollution Control Board may grant an extension to complete construction of the source provided adequate justification is presented. An extension shall not exceed 18 months in time. The provision does not apply to the time period between construction of the approved phases of a phased construction project; each phase must commence construction within 18 months of the projected and approved commencement date.

5. Approval to construct shall not relieve any owner or operator of the responsibility to comply fully with applicable provisions under this Division 1200-3 and any other requirements under local, State, or Federal law.

6. If a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of this paragraph shall apply to the source or modification as though construction had not yet commenced on the source or modification.

7. Permit Rescission

(i) Any permit for a prevention of significant air quality deterioration (PSD) source or modification that was issued according to the rules and regulations contained in paragraph 1200-3-9-.01-(6) will remain in effect and binding until such time as the permittee files a completed application to obtain rescission. This application for rescission may be filed at any time by the permittee.

(ii) The Technical Secretary shall approve any application for rescission if the application shows that this paragraph 1200-3-9-.01-(4), would not apply to the source or modification.

(iii) If requested by the permittee, the Technical Secretary may rescind only certain elements required in a PSD permit issued on or before the effective date of this paragraph, 1200-3-9-.01-(4).

(iv) Those sources subject to PSD review before August 7, 1977 shall not be allowed to apply for a PSD permit rescission if construction has "commenced" by August 7, 1977.

(v) If a source or modification whose permit is rescinded were later found to be causing or contributing to an increment violation, additional control might be necessary as determined by the Technical Secretary.

(vi) If the Technical Secretary rescinds a permit under this paragraph, the public shall be given adequate notice of the rescission. Publication of an announcement of rescission in a newspaper of general circulation in the affected region within 60 days of the rescission shall be considered adequate notice.

(b) **Definitions.** As used in this paragraph, all terms not defined herein shall have the meaning given them in Chapter 1200-3-2.

1. **"Major stationary source"** means:

(i) Any of the following stationary sources, which emit or have the potential to emit, 100 tons per year or more of any air pollutant regulated under this Division 1200-3.

(I) Fossil-fuel fired steam electric plants of more than 250 million BTU per hour heat input.

(II) Municipal incinerators capable of charging more than 250 tons of refuse per day.

(III) Fossil-fuel boilers (or combinations thereof) totaling more than 250 million BTU per hour heat input.

(IV) Petroleum storage and transfer facilities with a total storage capacity exceeding 300,000 barrels.

(V) Coal cleaning plants (with thermal dryers)

(VI) Kraft pulp mills

(VII) Portland cement plants

(VIII) Primary zinc smelters

(IX) Iron and steel mill plants

(X) Primary aluminum ore reduction plants

(XI) Primary copper smelters

(XII) Hydrofluoric acid plants

(XIII) Sulfuric acid plants

(XIV) Nitric acid plants

(XV) Petroleum refineries

(XVI) Lime plants

(XVII) Phosphate rock processing plants

(XVIII) Coke oven batteries

(XIX) Sulfur recovery plants

(XX) Carbon black plants (furnace process)

(XXI) Primary lead smelters

(XXII) Fuel conversion plants

(XXIII) Sintering plants

(XXIV) Secondary metal production plants

(XXV) Chemical process plants

(XXVI) Taconite ore processing plants

(XXVII) Glass fiber processing plants

(XXVIII)Charcoal production plants

(ii) Notwithstanding the stationary source size specified in subparagraph (b)1.(i) of this paragraph, any stationary source which emits or has the potential to emit, 250 tons per year or more of any air pollutant subject to regulation under this Division 1200-3.

(iii) Any physical change that would occur at a stationary source not otherwise qualifying under paragraph (b)1. as a major stationary source if the change would constitute a major stationary source by itself.

2. **"Major modification"** means any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under this Division 1200-3.

(i) A physical change or change in the method of operation shall not include:

(I) Routine maintenance, repair, or replacement;

(II) Use of an alternative fuel or raw material by reason of any order under section 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to an applicable federal statute;

(III) Use of an alternative fuel by reason of an order or rule under section 125 of the Clean Air Act;

(IV) Use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste as determined by the Tennessee Division of Solid Waste Management.

(V) Use of an alternative fuel or raw material by a stationary source which the source was capable of accommodating before January 6, 1975, unless such change would be prohibited under a legally enforceable permit condition which was established after January 6, 1975, or under regulations of this Division 1200-3, or under regulation approved by the Environmental Protection Agency pursuant to 40 CFR 51.160-51.166.

(VI) An increase in the hours of operation or in the production rate, unless such change would be prohibited under legally enforceable permit which was established after January 6, 1975, or under regulations of this Division 1200-3.

(VII) Any change in ownership at a stationary source.

3. **Major sources and modifications for ozone**

(i) A source that is major for volatile organic compounds shall be considered major for ozone.

(ii) Any net emissions increase that is significant for volatile organic compounds shall be considered significant for ozone.

4. **Net emission increases**

(i) "**Net emissions increase**" means the amount by which the sum of the following exceeds zero:

(I) Any increase in actual emissions from particular physical change or change in the method of operation at a stationary source; and

(II) Any other increases and decreases in actual emissions at the source that are contemporaneous with the particular change and are otherwise creditable.

(ii) An increase or decrease in actual emissions is contemporaneous with the increase from the particular change only if it occurs between:

(I) The date five years before a completed application for the particular change is submitted and

(II) The date that the increase from the particular change occurs.

(iii) An increase or decrease in actual emissions is creditable only if the Technical Secretary has not relied on it in issuing a permit for the source under regulations approved pursuant to this rule, which permit is in effect when the increase in actual emissions from the particular change occurs.

(iv) An increase or decrease in actual emissions of sulfur dioxide, particulate matter, or nitrogen oxides which occurs before the applicable minor source baseline date is creditable only if it is required to be considered in calculating the amount of maximum allowable incremental increases remaining available.

(v) An increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level.

(vi) A decrease in actual emissions is creditable only to the extent that:

(I) The old level of actual emissions or the old level of allowable emissions, whichever is lower, exceeds the new level of actual emissions;

(II) It is legally enforceable at and after the time that actual construction on the particular change begins; and

(III) It has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change.

(vii) An increase that results from a physical change at a source occurs when the emissions unit on which construction occurred becomes operational and begins to emit a particular pollutant. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period as determined by the Technical Secretary, not to exceed 180 days.

5. **"Potential to emit"** means the maximum capacity of a stationary source to emit a 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 legally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source.

6. **"Stationary source"** means any building, structure, facility, or installation which emits or may emit any air pollutant subject to regulation under this Division 1200-3 except the activities of any vessel.

7. **"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., described by the first two digits in the code which is specified in the Standard Industrial Classification Manual, 1972, as amended by the 1977 Supplement (U.S. Government Printing Office stock numbers 4101-0066 and 003-005-00176-0, respectively)).

8. **"Emissions unit"** means any part of a stationary source which emits or would have the potential to emit any pollutant subject to regulation under this Division 1200-3.

9. **"Construction"** means any physical change or change in the method of operation (including fabrication, erection, installation, demolition, or modification of an emissions unit) which would result in a change in actual emissions.

10. **"Commence"** as applied to construction of a major stationary source or major modification means that the owner or operator has all necessary preconstruction approvals or permits and either has:

(i) Begun, or caused to begin, a continuous program of actual on-site construction of the source, to be completed within the time frame as allowed in part 1200-3-9-.01(4)(a)4.

(ii) Entered into binding agreements or contractual obligations, which cannot be cancelled or modified without substantial loss to the owner or operator, to undertake a program of actual construction of the source to be completed within the time frame as allowed in part 1200-3-9-.01-(4)(a)4.

11. **"Necessary preconstruction approvals or permits"** means all permits or approvals required under air quality control laws and regulations.

12. **"Begin actual construction"** means, in general, initiation of physical on-site construction activities on an emissions unit which are of a permanent nature. Such activities include, but are not limited to, installation of building supports and foundations, laying of underground pipework, and construction of permanent storage structures. With respect to a change in method of operation this term refers to those on-site activities, other than preparatory activities, which mark the initiation of the change.

13. **"Pollutant"** means those air contaminants which fall under the categories of criteria and non-criteria pollutants. Criteria pollutants are those for which an ambient air quality standard has been established. The non-criteria pollutants are air contaminants that are not criteria pollutants.

14. **"Baseline area"** means any intrastate area (and every part thereof) not designated as a nonattainment area in which the major source or major modification establishing the minor source baseline date would construct or would have an air quality impact equal to or greater than 1 ug/m^3 (annual average) of the pollutant for which the minor source baseline date is established.

    (i) Area redesignations under this Division 1200-3 cannot intersect or be smaller than the area of impact of any major stationary source or major modification which establishes a minor source baseline date or is subject to the regulations in this paragraph.

15. **"Baseline date"**:

    (i) **"Major source baseline date"** means in the case of particulate matter and sulfur dioxide, January 6, 1975, and in the case of nitrogen dioxide, February 8, 1988.

    (ii) **"Minor source baseline date"** means the earliest date after the trigger date on which a major stationary source or a major modification submits a complete application to the Technical Secretary or to the EPA administrator. The trigger date is:

        (I) In the case of particulate matter and sulfur dioxide, August 7, 1977, and

        (II) In the case of nitrogen dioxide, February 8, 1988.

(iii) The baseline date is established for each pollutant for which increments or other equivalent measures have been established if:

(I) The area in which the proposed source or modification would construct is not designated as a nonattainment area for the pollutant on the date of its complete application.

(II) In the case of a major stationary source, the pollutant would be emitted in significant amounts, or, in the case of a major modification, there would be a significant net emissions increase of the pollutant.

16. **"Baseline concentration"** means that ambient concentration level which exists in the baseline area at the time of the applicable minor source baseline date. A baseline concentration is determined for each pollutant for which a minor source baseline date is established and shall include:

(i) The actual emissions representative of sources in existence on the applicable baseline date, except as provided in paragraph (b)(14)(iii); and

(ii) The allowable emissions of major stationary sources which commenced construction before the major source baseline date, but were not in operation by the applicable minor source baseline date.

(iii) The following will not be included in the baseline concentration and will affect the applicable maximum allowable increment increase(s):

(I) Actual emissions from any major stationary source on which construction commenced after the major source baseline date; and

(II) Actual emissions increases and decreases at any stationary source occurring after the minor source baseline date.

17. **"Allowable emissions"** means the emissions rate of a stationary source calculated using the maximum rated capacity of the source (unless the source is subject to legally enforceable limits which restrict the operating rate, or hours of operation,or both) and the most stringent of the following:

(i) The applicable standards under this Division 1200-3 or in the State Implementation Plan, including those with a future compliance date; or

(ii) The emissions rate specified as a legally enforceable permit condition established pursuant to this rule 1200-3-9-.01, including those with a future compliance date.

18. **"Legally enforceable"** means all limitations and conditions which are enforceable by the Technical Secretary and the EPA administrator, including those under this Division 1200-3 and the State Implementation Plan, and any permit requirements established pursuant to this Rule 1200-3-9-.01.

19. **"Secondary emissions"** means emissions which occur as a result of the construction or operation of a major stationary source or major modification, but do not come from the major stationary source or major modification itself. For the purpose of this rule, secondary emissions must be specific, well defined, quantifiable, and impact the same general area as the stationary source or modification which causes the secondary emissions. Secondary emissions include emissions from any offsite support facility which would not otherwise be constructed or increase its emissions except as a result of the construction or operation of the major stationary source or major modification. Secondary emissions do not include any emissions which come directly from a mobile source, such as the emissions from the tailpipe of a motor vehicle, from a train, or from a vessel.

20. **"Innovative control technology"** means any system of air pollution control that has not been adequately demonstrated in practice, but would have a substantial likelihood of achieving greater continuous emissions reduction than any control system in current practice or of achieving at least comparable reductions at lower cost in terms of energy, economics, or non-air quality environmental impacts.

21. **"Fugitive emissions"** means those which could not reasonably pass through a stack, chimney, vent, roof monitor, or other functionally equivalent opening.

22. **"Actual emissions"** means the actual rate of emissions of a pollutant from an emissions unit, as determined in accordance with subparts (i) through (iii) below.

    (i) In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a two-year period which precedes the particular date and which is representative of normal source operation. The Technical Secretary may allow the use of a different time period upon a determination that is more representative of normal source operation. Actual emissions shall be calculated using the unit's actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period.

    (ii) The Technical Secretary may presume that source- specific allowable emissions for the unit are equivalent to the actual emissions of the unit.

    (iii) For any emissions unit which has not begun normal operations on the particular date, actual emissions shall equal the potential to emit of the unit on the date.

23. **"Complete"** means, in reference to an application for a permit, that the application contains all the information necessary for processing the application. Designating an application complete for purposes of permit processing does not preclude the Technical Secretary from requesting or accepting any additional information.

24. **"Significant"** means, in reference to a net emissions increase or the potential of a source to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following rates:

(i) Pollutant and Emissions Rates

(I) Carbon Monoxide: 100 tons per year (tpy)

(II) Nitrogen oxides: 40 tpy

(III) Sulfur dioxide: 40 tpy

(IV) Particulate matter: 25 tpy **(See endnote #1 at end of 1200-3-9-.01)**

(V) Ozone: 40 tpy of volatile organic compounds or nitrogen oxides.

(VI) Lead (elemental): 0.6 tpy

(VII) Fluorides (excluding HF): 3 tpy

(VIII) Sulfuric acid mist: 7 tpy

(IX) Total reduced sulfur (including H_2S): 10 tpy

(X) Reduced sulfur compounds (including H_2S): 10 tpy

(XI) Municipal waste combustor organics (measured as total tetra- through octa- chlorinated dibenzo-p-dioxins and dibenzofurans): 3.2 x 10^{-6} megagrams per year (3.5 x 10^{-6} tpy).

(XII) Municipal waste combustor metals (measured as particulate matter): 15 tpy

(XIII) Municipal waste combustor acid gases (measured as sulfur dioxide and hydrogen chloride): 36 megagrams per year (40 tpy)

(XIV) Ozone depleting substances (listed under Section 602 of the federal Clean Air Act): 40 tpy

(ii) **"Significant"** means, in reference to a net emissions increase or the potential of a source to emit a pollutant subject to regulations of EPA under the Clean Air Act and that subparagraph (b)24.(i) does not list, any emissions rate.

(iii) Notwithstanding subparagraph (b)-24.(i), "significant" means any emissions rate or any net emissions increase associated with a major stationary source or major modification, which would construct within 10 kilometers of a Class I area, and have an impact on such area equal to or greater than 1 ug/m 3 (24-hour average).

25. **"Federal Land Manager"** means, with respect to any lands in the United States, the Secretary of the department with authority over such lands.

26. **"High terrain"** means any area having an elevation 900 feet or more above the base of the stack of the source.

27. **"Low terrain"** means any area other than high terrain.

28. **"Adverse impact on visibility"** means visibility impairment which interferes with the management, protection, preservation or enjoyment of the visitors visual experience of the Federal Class I area. This determination must be made on a case-by-case basis taking into account the geographic extent, intensity, duration, frequency and time of visibility impairments, and how these factors correlate with the times of visitor use of the Federal Class I area, and with the frequency and timing of natural conditions that reduce visibility.

29. **"Volatile organic compounds (VOC)"** means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions.

    (i) This includes any such organic compound other than the following, which have been determined to have negligible photochemical reactivity: methane; ethane; methylene chloride (dichloromethane); 1,1,1-trichloroethane (methyl chloroform); 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113); trichlorofluoromethane (CFC-11); dichlorodifluoromethane (CFC-12); chlorodifluoromethane (HCFC-22); trifluoromethane (HFC-23); dichlorotetrafluoroethane (CFC-114); chloropentafluoroethane (CFC-115); dichlorotrifluoroethane (HCFC-123); tetrafluoroethane (HFC-134a); dichlorofluoroethane (HCFC-141b); chlorodifluoroethane (HCFC-142b); 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124); pentafluoroethane (HFC-125); 1,1,2,2-tetrafluoroethane (HFC-134); 1,1,1-trifluoroethane (HFC-143a); 1,1-difluoroethane (HFC-152a); acetone; parachlorobenzotrifluoride (PCBTF); cyclic, branched, or linear completely methylated siloxanes (VMS); and perfluorocarbon compounds which fall into these classes.

        (I) Cyclic, branched, or linear, completely fluorinated alkanes;

        (II) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;

        (III) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and

        (IV) Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

(ii) For purposes of determining compliance with emissions limits, VOC will be measured by the test methods in the approved State implementation plan (SIP) or 40 CFR part 60, Appendix A, as applicable. Where such a method also measures compounds with negligible photochemical reactivity, these negligibly-reactive compounds may be excluded as VOC if the amount of such compounds is accurately quantified, and such exclusion is approved by the Technical Secretary.

(iii) As a precondition to excluding these compounds as VOC or at any time thereafter, the Technical Secretary may require an owner or operator to provide monitoring or testing methods and results demonstrating, to the satisfaction of the Technical Secretary, the amount of negligibly-reactive compounds in the source's emissions.

(iv) For purposes of enforcement for a specific source, the test methods specified in these regulations, in the approved SIP, or in a permit issued pursuant to these regulations shall be used.

30. **"Dispersion technique"** shall have the meaning as provided in Chapter 1200-3-24.

31. **"Good engineering practice"** (GEP) shall have the meaning as provided in Chapter 1200-3-24.

31. **"Welfare"** all language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.

(c) Major stationary sources, and major modifications of sources are subject to the provisions of this paragraph.

(d) Major stationary sources and major modifications are exempt from certain provisions of this paragraph in accordance with the following:

1. Major stationary sources or major modifications as defined in this paragraph shall not be subject to the requirements of this paragraph (except as provided in part (4)(a)7. of this paragraph) if:

(i) The source or modification would be a major stationary source or major modification only if fugitive emissions, to the extent quantifiable, are considered in calculating the potential to emit of the stationary source or modification and such source does not belong to any of the categories listed under subparagraph (b)1.(i), or any other stationary source category which, as of June 26, 1993, is being regulated under Chapter 1200-3-11 or Chapter 1200-3-16.

(ii) The source or modification was subject to the new construction rules and regulations as in effect before June 3, 1981, and the owner or operator:

(a) Obtained all Federal, State, and local preconstruction approvals or permits necessary before June 3, 1981.

(b) Commenced construction within 18 months of receipt of all necessary Federal, State, and local preconstruction approvals or permits; and

(c) Did not discontinue construction for a period of 18 months or more and completed construction within the time frame as allowed in part 1200-3-9-.01(4)(a)4.

(iii) The source or modification is subject to the prevention of significant deterioration rules and regulations as in effect before June 3, 1981, and the owner or operator:

(a) Submitted a completed application before June 3, 1981.

(b) Commenced construction within 18 months of receipt of all necessary Federal, State, and local preconstruction approvals or permits; and

(c) Did not discontinue construction for a period of 18 months or more and completed construction within the time frame as allowed in part 1200-3-9-.01(4)(a)4.

(iv) **Note: This section has not been submitted to EPA for federal approval. See endnote at end of 1200-3-9-.01.**

2. **Note: This section has not been submitted to EPA for federal approval. See endnote at end of 1200-3-9-.01.**

3. No major stationary source or major modification as defined in this paragraph shall be subject to the requirements of this paragraph with respect to a particular pollutant if the owner or operator demonstrates that, as to that pollutant, the source or modification is located in an area designated as nonattainment as defined in Rule 1200-3-2-.01.

4. Source impact and air quality analysis as required in parts (e)1., (e)3., and (e)7. of this paragraph shall not apply to a proposed major stationary source or major modification with respect to a particular pollutant, if the allowable emissions of that pollutant from a new source, or the net emissions increase of that pollutant from a modification, would be temporary, and impact no Class I area and no area where an applicable increment is known to be violated.

5. Source impact and air quality analysis as required in parts (e)1., (e)3., and (e)7. of this paragraph as they relate to any maximum allowable increase for a Class II area do not apply to a major modification of a stationary source that was in existence on March 1, 1978, if the net increase in allowable emissions of each pollutant from the modification after the applications of best available control technology would be less than 50 tons per year.

6. Air quality analysis as required in this paragraph may be exempted with respect to preconstruction monitoring for a particular pollutant by the Technical Secretary if:

   (i) The emissions increase of the pollutant from a new stationary source or the net emissions increase of the pollutant from a modification would cause, in any area, air quality impacts less than the following amounts:

      (I) Carbon monoxide - 575 ug/m^3, 8-hour average;

      (II) Nitrogen dioxide - 14 ug/m^3, annual average;

      (III) Total suspended particulates - 10 ug/m^3, 24- hour average; **(See endnote at end of 1200-3-9-.01)**

      (IV) Sulfur dioxide - 13 ug/m^3, 24-hour average;

      (V) Ozone - no de minimis air quality level has been established.

      (VI) Lead (elemental) - 0.1 ug/m^3, 3-month average;

      (VII) Fluorides (excluding HF) - 0.25ug/m^3, 24-hour average;

      (VIII) Total reduced sulfur - 10ug/m^3, 1-hour average;

      (IX) Reduced sulfur compounds - 10 ug/m^3, 1-hr. average; or:

   (ii) The pollutants are not listed in subparagraph (d)6.(i);or

   (iii) Representative existing ambient air quality data consistent with the requirements of Ambient Monitoring Guideline for Prevention of Significant Deterioration (PSD), EPA-450/4-87-007, are available for any pollutant as emitted by a major stationary source, or major modification; or

   (iv) The existing air pollutant levels are conservatively estimated to be less than the concentrations listed in subpart (i) of this part, and a monitoring network may not reliably measure the predicted background concentrations.

7. A portable stationary source which has previously received construction approval under the requirements of this paragraph may relocate if:

(i) Emissions from the source would be temporary and would not exceed its allowable emissions; and

(ii) The emissions from the source would impact no Class I area and no area where an applicable increment is known to be violated; and

(iii) Notice shall be given to the Technical Secretary 30 days prior to the relocation, giving the new temporary location and the probable length of operation at the new location.

8. Exclusions from Increment Consumption

(i) Maximum allowable increases (ambient air increments) as specified in subparagraph 1200-3-9-.01(4)(f) shall not apply to concentrations as described below.

(I) Concentrations attributable to the increase in emissions from stationary sources which have converted from the use of petroleum products, natural gas, or both by reason of an order in effect under sections 2 (a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) over the emissions from such sources before the effective date of such an order;

(II) Concentrations attributable to the increase in emissions from sources which have converted from using natural gas by reason of a natural gas curtailment plan in effect pursuant to an applicable Federal law over the emissions from such sources before the effective date of such plan;

(III) Concentrations of particulate matter attributable to the increase in emissions from construction or other temporary emissions-related activities of new or modified sources;

(IV) Concentrations attributable to the temporary increase in emissions of sulfur dioxide or particulate matter from stationary sources which are affected by plan revisions approved as meeting the criteria specified in subpart 7.(iii).

(ii) No exclusion of such concentrations shall apply more than five years after the effective date of the order to which item 7.(i)(I) refers or the plan to which item 7.(i)(II) refers, whichever is applicable. If both such order and plan are applicable, no such exclusion shall apply more than five years after the later of such effective dates.

(iii) For purposes of excluding concentrations pursuant to item 7.(i)(IV), the proposed plan revision shall:

(I) Specify the time over which the temporary emissions increase of sulfur dioxide or particulate matter would occur. Such time is not to exceed two years in duration.

(II) Specify that the time period for excluding certain contributions in accordance with item 7.(iii)(I) is not renewable.

(III) Allow no emission increase from a stationary source which would:

I. Impact a Class I area or an area where an applicable increment is known to be violated; or

II. Cause or contribute to the violation of a national ambient air quality standard;

(IV) Require limitations to be in effect at the end of the time period specified in accordance with item 7.(iii)(I) which would ensure that the emissions levels from stationary sources affected by the plan revision would not exceed those levels occurring from such sources before the plan revision was approved.

9. **Note: This section has not been submitted to EPA for federal approval. See endnote at end of 1200-3-9-.01.**

10. **Note: This section has not been submitted to EPA for federal approval.**

(e) The owner or operator of the proposed major stationary source or major modification:

1. Shall demonstrate by performing source impact analysis that allowable emission increases from the proposed source or modification, in conjunction with all other applicable emissions increases or reduction (including secondary emissions) would not cause or contribute to air pollution in violation of:

(i) Any Tennessee ambient air quality standard in the source impact area.

(ii) Any applicable maximum allowable increase over the baseline concentration in any area.

2. Shall submit all data necessary to make the analyses and determinations required under this paragraph.

(i) The data shall include:

(I) A description of the nature, location, design capacity, and typical operating schedule of the source or modification, including specifications and drawings needed for the review showing its design and plant layout.

(II) A detailed proposed schedule for construction of the source or modification.

(III) A detailed description as to what system of continuous emission reduction is planned for the source or modification, emission estimates and any other information necessary to determine that best available control technology would be applied where required by this paragraph.

(IV) Additional impact analysis

I. The impairment of visibility, soils, and vegetation that would occur as a result of the source or modification and the associated general commercial, residential, industrial, and other growth. Vegetation having no significant commercial or recreational value may be excluded from the analysis.

II. The air quality impact projected for the area as a result of general commercial, residential, industrial, and other growth associated with the source or modification.

III. **Note: This paragraph has not been federally approved.**

(ii) Upon request by the Technical Secretary, the owner or operator shall also provide information on:

(I) The air quality impact of the source or modification, including meteorological and topographical data.

(II) The air quality impacts, and the nature and extent of any or all general commercial, residential, industrial, and other growth which has occurred since the PSD baseline in the area the source or modification would affect. Such data in the possession of the Division shall be made available to the owner or operator.

3. Shall, after construction of the stationary source or modification, conduct such post-construction monitoring as the Technical Secretary determines is necessary to determine the effect emissions from the stationary source or modification may have, or are having, on air quality in any area.

4. Shall meet the quality assurance requirements as specified in the Code of Federal Regulations, Title 40, Part 58, Appendix B, as published July 1, 1991, during the operation of monitoring stations for purposes of satisfying parts (e)3. and (e)7. of this paragraph.

5. Shall insure that the stationary source or the major modification be in compliance with all applicable emission limitations of this Division 1200-3.

6. Shall pay the cost of all publications required under this paragraph.

7. Shall perform the preapplication air quality analysis as outlined below:

(i) Any application for a construction permit pursuant to the regulations of this paragraph shall contain an analysis of ambient air quality as required by the Technical Secretary in the area that the major stationary source or major modification would affect for each of the following pollutants:

(a) For the source, each pollutant that it would have the potential to emit in a significant amount;

(b) For the modification, each pollutant for which it would result in a significant net emissions increase.

(ii) For a pollutant for which an ambient air quality standard exists in these regulations (other than non-methane hydrocarbons), the analysis shall contain continuous air quality monitoring data gathered for purposes of determining whether emissions of that pollutant would cause or contribute to a violation of the standard or any maximum allowable increase unless specifically exempted in subparagraph 1200-3-9-.01(4)(d).

(iii) In general, the continuous air monitoring data that is required shall have been gathered over a period of one year and shall represent the year preceding receipt of the application, except that, the Technical Secretary determines that a complete and adequate analysis can be accomplished with monitoring data gathered over a period shorter than one year (but not to be less than four months), the data that is required shall have gathered over at least that shorter period.

(iv) (Reserved)

(v) With respect to any pollutant for which no Tennessee Ambient Air Quality Standard exists, the analysis shall contain such air quality monitoring data as is determined by the Technical Secretary and EPA to be necessary to assess ambient air quality for that pollutant in any area that the emissions of the pollutant would affect.

(vi) **Note: This paragraph has not been submitted to EPA for federal approval. See endnote at end of 1200-3-9-.01.**

(vii) **Note: This paragraph has not been submitted to EPA for federal approval. See endnote at end of 1200-3-9-.01.**

(f) **Ambient Air Increments.** In areas designated as class I, II, or III, increases in pollutant concentration over the baseline concentration shall be limited to the following:

Maximum Allowable Increase
(Micrograms per cubic meter)

Pollutant	Class I	ug/m³
PM_{10}:		
	PM_{10} Annual arithmetic mean	4
	PM_{10} 24-hour maximum	8
Sulfur dioxide:		
	Annual arithmetic mean	2
	24-hour maximum	5
	3-hour maximum	25
Nitrogen Dioxide:		
	Annual arithmetic mean	2.5

Class II

PM_{10}:		
	PM_{10} Annual arithmetic mean	17
	PM_{10} 24-hour maximum	30
Sulfur dioxide:		
	Annual arithmetic [mean]	20
	24-hour maximum	91
	3-hour maximum	512
Nitrogen Dioxide:		
	Annual arithmetic mean	25

Class III

PM_{10}:		
	PM_{10} Annual geometric mean	34
	PM_{10} 24-hour maximum	60
Sulfur dioxide:		
	Annual arithmetic mean	40
	24-hour maximum	182
	3-hour maximum	700
Nitrogen Dioxide:		
	Annual arithmetic mean	50

For any period other than an annual period, the applicable maximum allowable increase may be exceeded during one such period per year at any one location.

(g) **Area classifications** - For the purpose of this paragraph, the following classifications shall apply:

1. Class I Areas - Great Smoky Mountains National Park, Joyce Kilmer Slickrock National Wilderness Area, and the Cohutta Wilderness Area.

2. Class III Areas - None

3. Class II Areas - Remainder of the state

Areas in surrounding states are classified as specified in the EPA approved implementation plan for each adjoining state.

(h) **Restrictions on area classifications**

1. All of the following areas which were in existence on August 7, 1977, shall be Class I areas and may not be redesignated:

   (i) International parks,

   (ii) National wilderness areas which exceed 5,000 acres in size.

   (iii) National memorial parks which exceed 5,000 acres in size and

   (iv) National parks which exceed 6,000 acres in size.

2. Areas which were redesignated as Class I before August 7, 1977, shall remain Class I, but may be redesignated as provided in this section.

3. Any other area, unless otherwise specified in the legislation creating such as area, initially designated Class II, but may be redesignated as provided in this section.

4. The following areas may be redesignated only as Class I or II:

   (i) An area which as of August 7, 1977, exceeded 10,000 acres in size and was a national monument, a national primitive area, a national preserve, a national recreational area, a national wild and scenic river, a national wildlife refuge, a national lakeshore or seashore; and

   (ii) A national or national wilderness area established after August 7, 1977, which exceeds 10,000 acres in size.

5. In redesignation, the procedures specified in 40 CFR 51.166(g) as of July 1, 1992, shall be applied.

(i) **Ambient air ceilings.**

1. No concentration of a pollutant shall exceed the concentration permitted under the Tennessee secondary ambient air quality standard (Chapter 1200-3-3, Table l), or the concentration permitted under the Tennessee primary ambient air quality standard (Chapter 1200-3-3, Table l), whichever concentration is lowest for the pollutant for a period of exposure.

2. Except as permitted by Section 123 of the Clean Air Act Amendments of 1977, dispersion techniques which exceed good engineering practice, and which were implemented after December 31, 1970, will not be considered when determining the emission limitations required for control of any pollutant.

(j) **Control Technology Review.**

1. A major stationary source or major modification shall meet each applicable emissions limitation under this Division 1200-3 and the State Implementation Plan.

2. A new major stationary source shall apply best available control technology for any pollutant that it would have the potential to emit in significant amounts.

3. A major modification shall apply best available control technology for any pollutant for which it would result in a significant net emissions increase at the source. This requirement applies to each proposed emissions unit at which a net emissions increase in the pollutant would occur as a result of a physical change or change in the method of operation in the unit.

4. For phased construction projects, the determination of best available control technology shall be reviewed and modified as appropriate at the latest reasonable time which occurs no later than 18 months prior to commencement of construction of each independent phase of the project. At such time, the owner or operator of the applicable stationary source may be required to demonstrate the adequacy of any previous determination of best available control technology for the source.

(k) **Air Quality Models.**

All estimates of ambient concentrations required under this paragraph shall be based on the applicable air quality models and data bases, and other requirements specified in the "Guideline on Air Quality Models (Revised)" (1986) and Supplement A (1987) which are incorporated by reference. Where an air quality impact model specified in the "Guideline on Air Quality Models (Revised)" (1986) and Supplement A (1987) are inappropriate, the model may be modified or another model substituted by the Technical Secretary after consultation with the EPA Administrator. The use of a modified or substituted model must be subject to notice and opportunity for public comment under procedures developed in accordance with subparagraph (l) of this paragraph.

(l) **Public Participation.**

1. Within 30 days after receipt of an application to construct, or any addition to such application, the Technical Secretary shall advise the applicant of any deficiency in the application or in the information submitted. In the event of such a deficiency, the date of receipt of the application shall be, for the purpose of this section, the date on which the Technical Secretary received all required information.

2. The Technical Secretary shall make a final determination on the application no later than 6 months after receipt of a complete application. If there is a need for a longer period of time for review, it shall be agreed upon by mutual consent. In no case may this review period be longer than 1 year. The review process involves performing the following actions:

   (i) Make a preliminary determination whether construction should be approved, approved with conditions, or disapproved.

   (ii) Make available in at least one location in each air quality control region in which the proposed source or modification would be constructed a copy of all materials the applicant submitted, a copy of the preliminary determination and a copy or summary of other materials, if any, considered in making the preliminary determination.

   (iii) Notify the public, by advertisement in a newspaper of general circulation in each air quality control region in which the proposed source or modification would be constructed, of the application, the preliminary determination, the degree of increment consumption that is expected from the source or modification, and the opportunity for comment at a public hearing as well as written public comment.

   (iv) Send a copy of the notice of public comment to the applicant and to officials and agencies having cognizance over the location where the proposed construction would occur as follows: State or local air pollution control agencies, the chief executives of the city and county where the source or modification would be located, any comprehensive regional land use planning agency, the EPA Administrator, and any State or Federal Land Manager whose lands may be significantly (1 ug/m3, 24 hour average) affected by emissions from the source or modification.

   (v) Provide opportunity for a public hearing for interested persons to appear and submit written or oral comments on the air quality impact of the source or modification, alternatives to it, the control technology required, and other appropriate considerations.

   (vi) Consider all written comments submitted within a time specified in the notice of public comment and all comments received at any public hearing(s) in making a final decision on the approvability of the application. No later than 10 days after the close of the public comment period, the applicant may submit a written response to any comments submitted by the public or request

an extension for this purpose. The Technical Secretary shall make all comments available for public inspection in the same locations where the Technical Secretary make available preconstruction information relating to the proposed source or modification.

(vii) Make a final determination whether construction should be approved, approved with conditions, or disapproved pursuant to this paragraph.

(viii) Notify the applicant in writing of the final determination and make such notification available for public inspection at the same location where the Technical Secretary made available preconstruction information and public comments relating to the source or modification.

(ix) All public comments and written comments prepared by the Technical Secretary will be maintained in the public depositories for one year from the date of issuance of the final determination.

(m) **Violations of Ambient Air Quality Increments or Standards**

The Technical Secretary shall not issue a construction permit to a source or facility to construct in an area where the increment is known to be violated or the air quality review predicts a violation of the increment or the ambient air quality standards except in accordance with the following:

1. All new or modified facilities shall utilize good engineering practice as determined by the Technical Secretary in designing stacks. In no event shall that part of a stack which exceeds good engineering practice stack height be taken into account for the purpose of determining the degree of emission limitation required for the control of any pollutant for which there is an ambient air quality standard established in Chapter 1200-3-3, Table 1.

2. A major source or modification which would normally be required to meet BACT shall be required to meet the Lowest Achievable Emission Rate (LAER) for that type of source as determined at the time of the permit application. The term "lowest achievable emission rate" shall be defined as found in paragraph 1200-3-9-.01(5) of this rule.

3. If necessary, the source shall obtain emission offsets, legally enforceable at or before the time of PSD permit issuance, sufficient to predict that the increment or air quality standard will no longer be violated. The offsets shall be accomplished on or before the time of the new source operation and demonstrated through a source test or through another method acceptable to the Technical Secretary.

4. A major stationary source or major modification will be considered to cause or contribute to a violation of an ambient air quality standard when such source or modification would, at a minimum, exceed the following significance levels at any locality that does not or would not meet the applicable ambient air quality standard:

Pollutant	Annual	24 hour	8 hour	3 hour	1 hour
PM_{10}	1	5			
Sulfur Dioxide	1	5		25	
Carbon Monoxide			500		2000
Nitrogen Dioxide	1				

(Levels are in units of micrograms per cubic meter.)

5. This rule does not exempt the source from meeting the requirements of rule 1200-3-9-.01-(5).

(n) **Sources Impacting Class I Areas - Additional Requirements**

1. Notice to Federal Land Managers and the EPA Administrator

The Technical Secretary shall promptly provide notice of receipt of any permit application for a proposed major stationary source or major modification, the emissions from which may affect a Class I area to the EPA Administrator, the Federal Land Manager, and the Federal official charged with direct responsibility for management of any lands within any such area. The Technical Secretary shall transmit to the EPA Administrator a copy of each permit application relating to a major stationary source or major modification which would affect a Class I area. The Technical Secretary shall also provide the EPA Administrator, the Federal Land Manager and such Federal officials with a copy of the preliminary determination and shall make available to them any materials used in making that determination promptly after the Technical Secretary makes it. In addition, notification of public hearings, final determinations, and permits issued shall be provided. **(Note: See endnote #1 at the end of 1200-3-9-.01)**

2. Denial - Impact on Air Related Values

The Federal Land Manager of any such lands may demonstrate to the Technical Secretary that the emissions from a proposed source or modification would have an adverse impact on the air quality-related values (including visibility) of those lands, notwithstanding that the change in air quality resulting from emissions from such source or modification would not cause or contribute to concentrations which would exceed the maximum allowable increases for a Class I area. If the Technical Secretary concurs with such demonstration, then he shall not issue the permit.

3. Class I Variances

The owner or operator of a proposed source or modification may demonstrate to the Federal Land Manager that the emissions from such source or modification would have no adverse impact on the air quality related values of any such lands (including visibility), notwithstanding that the change in air quality resulting from emissions from such source or modification would cause or contribute to concentrations which would exceed the maximum allowable increases for a Class I area. If the Federal Land Manager concurs with such demonstration and he so certifies, the Technical Secretary, provided that the applicable requirements of this paragraph are otherwise met, may issue the permit with such emission limitations as may be necessary as approved by the Tennessee Air Pollution Control Board to assure that emissions of sulfur dioxide, particulate matter, and nitrogen oxides would not exceed the following maximum allowable increases over baseline concentration for such pollutants:

Pollutant	Maximum allowable increase ug/m^3
PM_{10}:	
PM_{10}, Annual arithmetic mean	17
PM_{10}, 24 hr. maximum.	30
Sulfur dioxide	
Annual arithmetic mean	20
24-hr. maximum	91
3-hr. maximum	325
Nitrogen dioxide:	
Annual arithmetic mean.	25

4. **(Note: This section has not been federally approved)**

(o) **Innovative Control Technology**

1. The owner or operator of a proposed major stationary source or major modification may request that the Technical Secretary approve a system of innovative control technology.

2. The Technical Secretary, with the consent of the Governor(s) of the other affected State(s), may determine that the source or modification may employ a system of innovative control technology if:

   (i) The proposed control system would not cause or contribute to an unreasonable risk to public health, welfare, or safety in its operation or function.

   (ii) The owner or operator agrees to achieve a level of continuous emissions reduction equivalent to that which would have been required under part

1200-3-9- .01(4)(j)1. by a date specified by the Technical Secretary. Such date shall not be later than 4 years from the time of startup, or 7 years from permit issuance.

(iii) The source or modification would meet the requirements of parts (e)-1. and (j)-1. based on the emission rate that the stationary source employing the system of innovative control technology would be required to meet on the date specified by the Technical Secretary.

(iv) The source or modification shall not:

(I) Cause or contribute to a violation of an applicable ambient air quality standard; or

(II) Have an adverse impact on any Class I area; or

(III) Impact any area where an applicable increment is known to be violated; and

(v) All other applicable requirements including those for public participation have been met.

3. The Technical Secretary shall withdraw any approval to employ a system of innovative control technology made under this subparagraph, if:

(i) The proposed system fails by the specified date to achieve the required continuous emissions reduction rate; or

(ii) The proposed system fails before the specified date so as to contribute to ambient air quality violations, or to an unreasonable risk to public health, welfare, or safety; or

(iii) The Technical Secretary decides at any time that the proposed system is unlikely to achieve the required level of control, or to protect the public health, welfare of safety.

4. If a source or modification fails to meet the required level of continuous emission reduction within the specified time period or the approval is withdrawn in accordance with part (o)3., the Technical Secretary may allow the source or modification up to an additional 3 years to meet the requirement for the application of best available control technology through use of a demonstrated system of control.

1200-3-9-.01(5) Growth Policy

(a) Attainment and Unclassified Areas

The Technical Secretary shall not grant a permit for the construction or modification of any air contaminant source in an attainment or unclassified area if such construction or modification will interfere with the maintenance of an air quality standard or PSD increment where applicable, or will violate any provisions of the Tennessee Air Quality Act, or section 165 (a)(3) of the Clean Air Act, Amendments of 1990.

(b) Nonattainment Areas

1. Definitions as used in this subparagraph are not alphabetized. All terms not defined herein shall have the meaning given them in Chapter 1200-3-2.

(i) **"Stationary source"** means any building, structure, facility, or installation which emits or may emit any air contaminant subject to regulation under this Division 1200-3.

(ii) **"Building, structure, facility, or installation"** means all of the air contaminant-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). Air contaminant-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) which is specified in the Standard Industrial Classification Manual, 1972, as amended by the 1977 Supplement (U.S. Government Printing Office stock numbers 4101-0065 and 003-005-00176-0, respectively)).

(iii) **"Potential to emit"** means the maximum capacity of a stationary source to emit an air contaminant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit an air contaminant, including air contaminant 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 only if the limitation or the effect it would have on emissions is "legally enforceable." Secondary emissions do not count in determining the "potential to emit" of a stationary source.

(iv) **"Major stationary source"** means:

(I) Any stationary source of air contaminants which emits, or has the potential to emit, 100 tons per year or more of any air contaminants regulated under this Division 1200-3, or

(II) Any physical change that would occur at a stationary source not qualifying under items (iv)(I) as a major stationary source, if the change would constitute a major stationary source by itself.

(III) A major stationary source that is major for volatile organic compounds or nitrogen oxides shall be considered major for ozone.

(IV) The fugitive emissions of a stationary source shall not be included in determining for any of the purposes of this Item, whether it is a major stationary source, unless the source belongs to one of the following categories of stationary sources:

I Coal cleaning plants (with thermal dryers);

II Kraft pulp mills;

III Portland cement plants;

IV Primary zinc smelters;

V Iron and steel mills;

VI Primary aluminum ore reduction plants;

VII Primary copper smelters;

VIII Municipal incinerators (or combination thereof) capable of charging more than 50 tons of refuse per day;

IX Hydrofluoric, sulfuric, or nitric acid plants;

X Petroleum refineries;

XI Lime plants;

XII Phosphate rock processing plants;

XIII Coke oven batteries;

XIV Sulfur recovery plants;

XV Carbon black plants (furnace process);

XVI Primary lead smelters;

XVII Fuel conversion plants;

XIII Sintering plants;

XIX Secondary metal production plants;

XX Chemical process plants;

XXI Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;

XXII Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;

XXIII Taconite ore processing plants;

XXIV Glass fiber processing plants;

XXV Charcoal production plants;

XXVI Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input; and

XXVII Any other stationary source category which, as of August 7, 1980, is being regulated under Chapter 1200-3-16, New Source Performance Standards or Chapter 1200-3-11, Hazardous Air Contaminants or Chapter 1200-3-31,Standards For Hazardous Air Contaminants For Source Categories.

(v) **Major modification:**

(I) **"Major modification"** means any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase for any pollutant subject to regulations under Subpart 1200-3-9-.01(5)(b)1.(x).

(II) Any net emissions increase that is considered significant for volatile organic compounds or nitrogen oxides shall be considered significant for ozone.

(III) A physical change or change in the method of operation shall not include:

I Routine maintenance, repair, and replacement;

II Use of an alternative fuel or raw material by reason of any order under section 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the federal power act;

III Use of an alternative fuel by reason of an order or Rule under Section 125 of the Clean Air Act Amendments, August 7, 1977;

IV Use of an alternative fuel at a steam generating unit (burning equipment of 250 million BTU's per hour or larger) to the extent that the fuel is generated from municipal solid waste as determined by the Tennessee Division of Solid Waste Management.

V Use of an alternative fuel or raw material by a stationary source which the source was capable of accommodating before December 12, 1976, unless such change would be prohibited under a legally enforceable permit condition which was established after December 12, 1976, pursuant to 40 CFR Part 52.21 (July 1, 1993), or under regulations approved pursuant to 40 CFR Part 51 Subpart I or 51.166 (July 1, 1993), or the source is approved to use under any permit issued pursuant to this paragraph;

VI An increase in the hours of operation or in the production rate, unless such change would be prohibited under a legally enforceable permit condition which was established after December 21, 1976, pursuant to 40 CFR Part 52.21 (July 1, 1993) or regulations approved pursuant to 40 CFR Part 51 Subpart I or 40 CFR Part 51.166 (July 1, 1993).

VII Any change in ownership at a stationary source.

(vi) **Net emission increases**

(I) "**Net emissions increase**" means the amount by which the sum of the following exceeds zero:

I Any increase in actual emissions from a particular physical change or change in the method of operation at a stationary source; and

II Any other increases and decreases in actual emissions at the stationary source that are contemporaneous with the particular change and are otherwise creditable.

(II) An increase or decrease in the actual emissions is contemporaneous with the increase from the particular change only if it occurs before the date that the increase from the particular change occurs.

(III) An increase or decrease in actual emissions is creditable only if;

I It occurs within a 5 year period or shorter time as specified by the Technical Secretary; and

II The Technical Secretary has not relied on it in issuing a permit for the source under regulations approved pursuant to

40 CFR Part 51 Subpart I.(July 1, 1993) when the increase in actual emissions from the particular change occurs.

(IV) An increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level.

(V) A decrease in actual emissions is creditable only to the extent that:

I The old level of actual emission or the old level of allowable emissions which ever is the lower, exceeds the new level of actual emissions; and

II It is legally enforceable at and after the time that actual construction on the particular change begins; and

III The Technical Secretary has not relied on it in issuing any permit under regulation approved pursuant to 40 CFR Part 51 Subpart I (July 1, 1993) or the Technical Secretary has not relied on it in demonstrating attainment or reasonable further progress; and

IV It has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change.

(VI) An increase that results from a physical change at a stationary source occurs when the emissions unit on which construction occurred becomes operational and begins to emit a particular air contaminant. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period as determined by the Technical Secretary, not to exceed 180 days.

(vii) **"Emissions unit"** means any part of a stationary source which emits or would have the potential to emit any air contaminant subject to regulation under this Division 1200-3.

(viii) **"Secondary emissions"** means emissions which would occur as a result of the construction or operation of a major stationary source or major modification, but do not come from the major stationary source or major modification itself. For the purposes of this rule, secondary emissions must be specific, well defined, quantifiable, and impact the same general area as the stationary source or modification which causes the secondary emissions. Secondary emissions include, emissions from any off-site support facility which would not otherwise be constructed or increase its emissions except as a result of the construction or operation of the major stationary source of major modification. Secondary emissions do not include any emissions which come directly from a mobile source such as emissions from the tailpipe of a motor vehicle, from a train, or from a vessel.

(ix) **"Fugitive emissions"** means those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening.

(x) **"Significant"** means, in reference to a net emissions increase or the potential of a source to emit any of the following air contaminants, a rate of emissions that would equal or exceed any of the following rates:

(I) Air Contaminant and Emissions Rate

I Carbon monoxide: 100 tons per year (tpy)

II Nitrogen Oxides: 40 tpy

III Sulfur dioxide: 40 tpy

IV Ozone: 40 tpy of an ozone precursor

V Lead: 0.6 tpy

VI PM_{10}: 15 tpy

(xi) **"Allowable emissions"** means the emissions rate of a stationary source calculated using the maximum rated capacity of the source (unless the source is subject to legally enforceable limits which restrict the operating rate, or hours of operation, or both) and the most stringent of the following:

(I) The applicable standards set forth in:

I The New Source Performance Standards (NSPS) or;

II The National Emission Standards for Hazardous Air Pollutants (NESHAP) contained in Chapter 1200-3-11 and Chapter 1200-3-31 or;

III Limits established pursuant to the applicable standards under Division 1200-3 or;

IV In the State Implementation Plan, emissions rates, specified as a legally enforceable permit condition established pursuant to this rule 1200-3-9-.01 including those with a future compliance date

(xii) **"Legally enforceable"** means all limitations and conditions which are enforceable by the Technical Secretary and the EPA Administrator and are included under this Division 1200-3 and the State Implementation Plan. All orders issued by the Tennessee Air Pollution Control Board, operating permits and their respective special conditions issued in accordance with the Act and Regulations, and any certificate authorized by the Act or the Regulations shall be taken to public hearing and made part of the State Implementation Plan by the Board to be legally enforceable.

(xiii) **"Actual emissions"** means the actual rate of emissions of an air contaminant from an emissions unit, as determined in accordance with items (I) through (III) below.

(I) In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the emissions unit actually emitted the air contaminant during a two-year period which precedes the particular date and which is representative of normal source operation. The Technical Secretary may allow the use of a different time period upon a determination that is more representative of normal source operation. Actual emissions shall be calculated using the unit's actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period.

(II) In the absence of reliable data, the Technical Secretary may presume that permitted-specific allowable emissions for the emissions unit are equivalent to the actual emissions of the emissions unit.

(III) For any emissions unit which has not begun normal operations on the particular date, actual emissions shall equal the potential to emit of the unit on that date.

(xiv) **"Construction"** means any physical change or change in the method of operation (including fabrication, erection, installation, demolition, or modification of an emissions unit) which would result in a change in actual emissions.

(xv) **"Commence Construction"**

"Commence construction" as applied to a major stationary source or major modification means that the owner or operator has all necessary construction permits and either has begun, or caused to begin, a continuous program of actual on-site construction of the stationary source, to be completed within a reasonable time; or entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a program of actual construction of the stationary source to be completed within a reasonable time.

(xvi) **"Necessary Preconstruction permits"** means those permits required under the air quality control laws and regulations which are part of the approved SIP under Division 1200-3.

(xvii) **"Begin actual construction"** means, in general, initiation of physical on-site construction activities on an emissions unit which are of a permanent nature. Such activities include, but are not limited to, installation of building supports and foundations, laying of underground pipe work, and construction of permanent storage structures. With respect to a change in method of operation this term refers to those on-site activities, other than preparatory activities, which mark the initiation of the change.

(xviii) **"Lowest achievable emission rate"** (LAER) means, for any major stationary source or major modifications, the more stringent rate of emissions based on the following:

(I) The most stringent emissions limitation which is contained in the applicable standards under this Division 1200-3, or in any State Implementation Plan for such class or category of stationary source, unless the owner or operator of the proposed source demonstrates that such limitations are not achievable; or

(II) The most stringent emissions limitation which is achieved in practice by such class or category of stationary source. This limitation, when applied to a modification, means the lowest achievable emissions rate for the new or modified emissions units within the stationary source. In no event shall the application of this term permit a proposed new or modified stationary source to emit any air contaminant in excess of the amount allowable under applicable New Source Standards of Performance.

(xix) **"Significantly impact"** means the contribution by a new stationary source or modification to the air quality in a nonattainment area in concentrations equal to or greater than the amount as follows:

AVERAGING TIME AND APPLICABLE CONCENTRATION

Pollutant	Annual	24-Hour	3 Hour	8 Hour	1 Hour
Sulfur Dioxide	1 $\mu g/m^3$	5 $\mu g/m^3$	25 $\mu g/m^3$		
PM_{10}	1 $\mu g/m^3$	5 $\mu g/m^3$			
Carbon Monoxide				500 $\mu g/m^3$	2000 $\mu g/m^3$
Nitrogen Oxide	1 $\mu g/m^3$				

(xx) **"Minor stationary source"** means any source which is not a major stationary source

(xxi) **"Minor modification"** means

(I) Any modification which is not a major modification; or

(II) Any modification which is a physical change in or a change in the method of operation of a minor stationary source provided the change would not constitute a major stationary source by itself.

(xxii) **"Reasonable stack heights"** means a stack height which will minimize air quality impact, not to exceed the Tennessee ambient air quality standards in any case. The Technical Secretary shall on a case-by-case basis, taking into account the existing air quality in the area and the economic costs to the stationary source, determine the achievable stack height to be used by the stationary source or modification. In no circumstance shall the stack height be less than 20 feet above ground level, or be required to exceed stack height procedure. Stacks not emitting the nonattainment pollutants are not required to meet the minimum stack height requirement. Stationary sources which emit volatile organic compounds and nitrogen oxide and are located in ozone nonattainment areas will not be required to meet the minimum stack height requirement.

(xxiii) **"Reasonable Further Progress"** (RFP) means such annual incremental reductions in emissions of the relevant air pollutant as are required by this part or may reasonably be required by the Technical Secretary or the EPA Administrator for the purpose of ensuring attainment of the applicable ambient air quality standard by the applicable date.

(xxiv) **"Reasonable available control technology"** (RACT) means devices, systems, process modifications, or other apparatus or techniques that are reasonably available taking into account:

(I) The necessity of imposing such controls in order to attain and maintain an ambient air quality standard,

(II) The social, environmental and economic impact of such controls, and

(III) Alternative means of providing for attainment and maintenance of such standard.

(xxv) **"Compliance schedule"** means a chronology of actions to be taken by a noncomplying source to bring it into full compliance with Division 1200-3 or permits issued thereto. Generally speaking, compliance schedule increments will be divided into (1) engineering evaluation for problem solution, (2) procurement of the equipment and/or services necessary to solve the problem, (3) on-site delivery of the equipment, (4) completion of the equipment's installation including startup of said equipment and (5) source testing to establish the air contaminant emission levels of the completed installation if required by the Technical Secretary.

(xxvi) **"Air contaminant"** is particulate matter, dust, fumes, gas, mist, smoke, or vapor, or any combinations thereof, total suspended particulates, PM_{10}, sulfur dioxide, carbon monoxide, ozone, nitrogen oxides, lead, and gaseous fluorides expressed as HF.

(xxvii) **"Good Engineering Practice"** (GEP)

(GEP) Stack height means the greater of:

(I) 65 meters, measured from the ground-level elevation at the base of the stack or,

(II) I For a stack in existence on January 12, 1979, and for which the owner or operator had obtained all applicable permits or approvals required under 40 CFR part 51 and 52 (July 1, 1993)

$$Hg = 2.5\ H,$$

provided the owner or operator produces evidence that this equation was actually relied on in establishing an emission limitation;

II For all other stacks,

$$Hg = H + 1.5L$$

where

Hg = good engineering practice stack height, measured from the ground-level elevation at the base of the stack. This is the height at which structural downwash no longer influences computer modeled ambient impacts.

H = height of nearby structure(s) measured from the ground-level elevation at the base of the stack.

L = lesser dimension, height or projected width, of nearby structure(s)

provided that the Technical Secretary may require the use of a field study or fluid model to verify GEP stack height for the source; or

(III) The height demonstrated by a fluid model or a field study approved by the Technical Secretary, which ensures that the emissions from a stack do not result in excessive concentrations of any air pollutant as a result of atmospheric downwash, wakes, or eddy effects created by the source itself, nearby structures or nearby terrain features.

(xxviii) **"Nonattainment Area"** means any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) any ambient air quality standard for the pollutant. As used in this chapter "nonattainment area" includes all the areas as defined by 1200-3-2-.01(1)(ffff) plus any areas determined as not meeting any ambient air quality standards as a result of required monitoring as part of a construction permit application. The demonstration required under section 165(a)(3) of the 1990 Clean Air Act, shall not apply to maximum allowable increases for Class II areas in the case of an expansion or modification of a major emitting facility which was in existence on the date of enactment of the Clean Air Act, Amendments of 1977, and whose allowable emissions of air pollutants is established as required in sub section 165(a)(4) of the 1990 Clean Air Act.

(xxix) (Reserved)

(xxx) **"Volatile Organic Compounds" and "exempt compounds"** have the same meaning as defined in Division 1200-3-18-.01 Definitions.

(xxxi) **"Ambient Air Quality Standard"** (AAQS) means any Primary Ambient Air Quality Standard or Secondary Ambient Air Quality Standard or Tennessee Ambient Air Quality Standard as defined in Chapter 1200-3-3.

(xxxii) **"Class I, Class II, or Class III"** areas means areas of the state as defined by Division 1200-3-9-.01(4)(g).

(xxxiii) **"Ozone precursor"** means volatile organic compounds and/or nitrogen oxides. A proposed new source or a net emissions increase at an existing source in an ozone transport region (or an ozone nonattainment area) can be

classified as major based on either VOC or NO_X emissions or both (but not in combination).. That is, the determination of major must be made individually for each pollutant, since VOC and NO_X emissions cannot be added to meet the minimum level required for such a demonstration.

(I) Notwithstanding sub-part (xxxiii) of this part, NO_X shall not be considered an ozone precursor when:

I Additional NO_X emissions reductions would not be expected to decrease ozone; and

II The Administrator of EPA determines, for certain classes or categories of sources (when the Administrator approves the Tennessee State Implementation Plan or Plan revision), that net air quality benefits would be greater in the absence of further nitrogen oxides reductions from sources concerned.

(xxxiv) **"Stack height procedures"** means those procedures that must provide that the degree of emission limitation required of any source for control of any air pollutant must not be affected by so much of any source's stack height that exceed good engineering practice or by any other dispersion technique, except as provided in 40 CFR Part 51.118(b) (July 1, 1993). Such procedures must provide that before the Technical Secretary issues a permit to a source based on a good engineering practice stack height that exceeds the height allowed by 40 CFR Part 51.100(ii) (1) or (2)(July 1, 1993), the Technical Secretary must notify the public of the availability of the demonstration study and must provide opportunity for public hearing on it. This subpart does not require such procedures to restrict in any manner the actual stack height of any source.

(xxxv) **"Portable Stationary Source"** means any source that is mounted on any chassis or skids and may be moved by the application of a lifting or pulling force. In addition, there shall be no cable, chain, turnbuckle, bolt or other means (except electrical connections) by which any piece of equipment is attached or clamped to any anchor, slab, or structure, including bedrock that must be removed prior to the application of a lifting or pulling force for the purpose of transporting the unit, except that such connection as deemed appropriate by the Technical Secretary may be exempted for safety considerations from the specified restrictions on a qualifying source.

2. No major stationary source or major modification to which the requirements of this subparagraph apply shall begin actual construction without a permit which states that the stationary source or modifications will meet the requirements of this Paragraph.

The requirements of this subparagraph shall apply to any new stationary source or major modification that is major for a pollutant, or precursor to a pollutant as applicable, if the stationary source or modification would be constructed anywhere in

an area designated nonattainment (as of the date of the permit issued in accordance with this subparagraph) for such pollutant pursuant to the Clean Air Act Title I Part A Section 107(d) (As amended November 15,1990).

The requirements of this subparagraph shall apply to each nonattainment pollutant (and in some cases each precursor to the nonattainment pollutant) that the source will emit, or will have the potential to emit, in major amounts. In the case of a modification, the requirements shall apply to the significant net emissions increase of each nonattainment pollutant (and each precursor to the nonattainment pollutant, as applicable) for which the source is major.

(i) All new stationary sources or modifications shall utilize "stack height procedures."

(ii) All minor stationary sources, and minor modifications proposing to construct in a nonattainment area shall utilize best available control technology (BACT) for the nonattainment pollutant as specified by the Technical Secretary at the time of the completed permit application, but all major stationary sources and major modifications are required to install LAER in nonattainment areas for the nonattainment pollutant.

(iii) Major stationary sources or major modifications shall meet the following criteria:

(I) A major stationary source or major modification shall meet each applicable emissions limitation under the State Implementation Plan and each applicable requirement for sources subject to the New Source Performance Standards, and the National Emission Standards for Hazardous Air Pollutants.

(II) A new major stationary source shall apply the lowest achievable emission rate for each contaminant for which the area is designated nonattainment that it would have the potential to emit in an amount sufficient to make the source or modification a major stationary source or modification. This provision applies to each new emissions unit at which emissions would occur.

(III) A major modification shall apply the lowest achievable emission rate for each air contaminant for which the area is designated nonattainment and for which it would result in a significant net emissions increase at the source. This requirement applies to each proposed emissions unit at which a net emissions increase in the air contaminant would occur as the result of a physical change or change in the method of operation in the unit.

(IV) For phased construction projects, the determination of lowest achievable emission rate shall be reviewed and modified as appropriate at the latest reasonable time which occurs no later than 18 months prior to commencement of construction of each

independent phase of the project. At such time, the owner or operator of the applicable stationary source may be required to demonstrate the adequacy of any previous determination of the lowest achievable emission rate.

(V) The Technical Secretary shall, for each new major source and major modification, submit to the RACT/BACT/LAER Clearinghouse within 60 days of issuance of the permit, all information on the emissions prevention or control technology for the new major source or major modification.

(iv) Reasonable Further Progress (RFP)

(I) Timing and exemptions:

I By the time that the proposed source or modification is to commence operation, sufficient offsetting emissions reductions shall be in effect such that the total emissions from existing sources in the area, from new or modified sources which are not major stationary sources, and from the proposed source will be sufficiently less than total emissions from existing sources prior to the application for such permit to construct or modify so as to represent (when considered together with the plan provisions required under the Clean Air Act Title I Part D Subpart 1 Section 172 (as amended November 15,1990) reasonable further progress; or

II In the case of a new major stationary source or major modification which is located in a zone (within the nonattainment area) identified by the Administrator of EPA, in consultation with the Secretary of Housing and Urban Development, as a zone to which economic development should be targeted, the emissions of such air contaminant resulting from the proposed new or modified major stationary source will not cause or contribute to emissions levels which exceed the allowance permitted as contained in the State's approved Implementation Plan pursuant to the Clean Air Act Title I Part D Subpart 1 Section 172(c)(4) (as amended November 15,1990).

(II) For the purposes of satisfying the requirements of sub-item (iv)(I)I. of this sub-part, the determination of total emissions at both the time prior to the application for a permit subject to the requirements of this sub-part and the time such permitted source or modification would commence operation, shall be made by the Technical Secretary in a manner consistent with the assumptions in the applicable implementation plan approved by the Administrator of EPA concerning baseline emissions for the demonstration of

reasonable further progress and attainment of the ambient air quality standards for the particular air contaminant subject to review under this sub-part.

(v) Emissions Offsets

(I) Prior to the issuance of a permit under this sub-part, legally enforceable emission offsets shall be obtained from the same source or other sources in the same non-attainment area, except that such emissions reduction may be obtained from a source in another non-attainment area if:

I. The other area has an equal or higher non-attainment classification than the area in which the source is located; and,

II. Emissions from such other area contribute to a violation of a air quality standard in the non-attainment area in which the proposed new or modified source would construct.

(II) By the time that the new or modified source commences operation, such reductions shall be in place such that the total tonnage of emissions of any applicable non-attainment air contaminant allowed from the proposed new source, or net emissions increase from the modification, shall be offset by an equal or greater reduction, as applicable, in the actual emissions of such air contaminant from the same or other sources.

(III) In meeting the requirements of item (v)(II) of the sub-part for ozone non-attainment areas the ratio of total actual emission reductions of Volatile Organic Compounds and/or Nitrogen Oxides to the net emissions increase of Volatile Organic Compounds and/or Nitrogen Oxides shall be as follows:

I. In any Marginal non-attainment area for ozone - at least 1.1 to 1;

II. In any Moderate non-attainment area for ozone - at least 1.15 to 1;

III. In any Serious non-attainment area for ozone - at least 1.2 to 1;

IV. In any Severe non-attainment area for ozone - at least 1.3 to 1;

V. In any Extreme non-attainment area for ozone - at least 1.5 to 1.

(IV) Within an ozone transport region, for any area designated for ozone attainment, unclassified, or Marginal non-attainment, the ratio of total actual emission reductions of Volatile Organic Compounds and/or Nitrogen Oxides to net emissions increase of Volatile Organic Compounds and/or Nitrogen Oxides shall be at least 1.5 to 1.

(V) I. Emissions reductions achieved by shutting down an existing source or curtailing production or operating hours below baseline levels may be generally credited if such reductions are surplus, permanent, quantifiable, and legally enforceable, and if the area has an EPA approved attainment plan. In addition, the shutdown or curtailment is creditable only if it occurred on or after the date specified for this purpose in the plan, and if such a date is on or after the date of the most recent emissions inventory used in the plan's demonstration of attainment. Where the plan does not specify a cutoff date for shutdown credits, the date of the most recent emissions inventory or attainment demonstration, as the case may be, shall apply. However, in no event may credit be given for shutdowns which occurred prior to August 7, 1977. For the purposes of this sub-part, the Technical Secretary may consider a prior shutdown or curtailment to have occurred after the date of its most recent emissions inventory, if the inventory explicitly includes as current existing emissions the emission from such previously shutdown or curtailed source (Federal Register/Vol. 51, No. 233/Thursday, December 4, 1986, Emissions Trading Policy Statement; General Principles for Creation, Banking, and Use of Emission Reduction Credits).

II. The reductions described in sub-item 2.(v)(V)I. of this part may be credited in the absence of an approved attainment demonstration only if the shutdown or curtailment occurred on or after the date the new source application is filed, or, if the applicant can establish that the proposed new source is a replacement for the shutdown or curtailed source, and the cutoff date provisions of sub-item 2.(v)(V)I. of this part are observed.

(VI) With respect to a proposed increase in VOC emissions, no emissions credit shall be allowed for reductions in any organic compound specifically excluded from the definitions of "VOC" in this Division 1200-3.

(VII) Credit for an emissions reduction may be claimed to the extent that the reduction has not been relied on in any permit already issued under regulations approved pursuant to 40 CFR Parts 51, 52, and 70,(July 1, 1993) or the State has not relied on it in demonstrating attainment or reasonable further progress. Incidental emissions

reductions which are not otherwise required under the federal Clean Air Act (As amended November 15, 1990) may be credible as emissions reductions for such purposes if such emissions reductions meet the applicable requirements of this part.

(VIII) Procedures relating to the permissible locations of offsetting emissions shall be followed which are at least as stringent as those set out in 40 CFR Part 51, Appendix S, Section IV.D. (July 1, 1993).

(vi) In a nonattainment area, prior to the issuance of a permit to a new major stationary source or major modification an analysis of alternate sites, sizes, production processes, and environmental control techniques for the proposed source shall be made. A permit shall only be issued if the benefits of the proposed source significantly outweigh the environmental and social costs imposed on the public as a result of the sources location, construction, or modification in the nonattainment area. The Technical Secretary shall require the submittal of such information as he deems necessary for this analysis.

(vii) The Technical Secretary shall not issue a permit to any major stationary source or major modification locating in or significantly impacting a nonattainment area unless all other sources owned or operated by the applicant (or any entity controlling, controlled by, or under common control with the applicant) anywhere in the State are in compliance or on an approved compliance schedule.

(viii) If the nonattainment area is designated as attainment by the EPA Administrator between the date construction is approved under this subparagraph and before the new source start up date, the source has the option of applying for a new construction permit and relief from the requirements of this subparagraph.

(I) Any permit issued under this part shall remain in effect, unless it expires under subpart (xi) of this part or is rescinded.

(II) The Technical Secretary shall grant an application for rescission if the application shows that this part would not apply to the source or modification.

(III) If the Technical Secretary rescinds a permit under this subparagraph, the public shall be given adequate notice of the rescission. Publication by the Technical Secretary of an announcement of rescission in a newspaper of general circulation in the affected region within 60 days of the rescission shall be considered adequate notice.

(ix) At such time that a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any "legally enforceable limitation" which was established after August 7, 1980,

on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of Subparagraph 1200-3-9-.01(5)(b) shall apply to the source or modification as though construction had not yet commenced on the source or modification.

(x) Approval to construct shall not relieve any owner or operator of the responsibility to comply fully with applicable provisions of the plan and any other requirements under local, state or federal law.

(xi) Approval to construct shall become invalid if construction is not commenced within 18 months after issuance of an approved construction permit, if construction is discontinued for a period of 18 months or more, or if construction is not completed within 18 months of the completion date specified on the construction permit application unless an extension has been granted from the Tennessee Air Pollution Control Board. Also, each phase of a phased construction project must meet the requirements stated above. An extension of time for a phased construction project may be requested for each phase or for the whole project. The above requirements do not apply to the time period between the construction of the approved phases of a phased construction project. The Tennessee Air Pollution Control Board may issue a variance granting an extension to complete construction of a source provided adequate justification is presented. Each extension shall not exceed 12 months in time.

3. Public Participation

(i) The Technical Secretary shall provide opportunity for public comment on information submitted by owners and operators. The public information must include the agency's analysis of the effect of construction or modification on ambient air quality, including the agency's proposed approval or disapproval. The opportunity for public comment shall include, as a minimum -

(I) Availability for public inspection in at least one location in the area affected of the information submitted by the owner or operator and of the Technical Secretary's analysis of the effect on air quality;

(II) A 30-day period for submittal of public comment; and

(III) A notice by prominent advertisement in the area affected of the location of the source information and analysis specified in Item (I) of the Sub-part. This notice shall be provided by the source owner or operator.

(ii) Where the 30-day comment period required in Item II of Sub-part (i) would conflict with existing requirements for acting on requests for permission to construct or modify, the Technical Secretary may submit for approval a comment period which is consistent with such existing requirements.

(iii) The Technical Secretary shall provide a copy of the notice required by

Sub-part (i) of this part to the Administrator through the appropriate Regional Office, and to all other State and local air pollution control agencies having jurisdiction in the region in which such new or modified installation will be located. The notice also must be sent to any other agency in the region having responsibility for implementing the procedures required under this part. For lead, a copy of the notice is required for all point sources. The definition of point source for lead is given in 40 CFR Part 51.100(k)(2). (July 1, 1993).

4. Emissions banking for an air contaminant for which an area is designated nonattainment must be conducted in accordance with the EPA Part III, Emissions Trading Policy Statement..., Federal Register / Vol. 51, No. 233 / Thursday, December 4, 1986.

(6) Construction permits issued under this rule are based on the control of air contaminants only and do not in any way affect the applicant's obligation to obtain necessary permits from other governmental agencies.

(7) The applicant for a construction permit for its equivalent by Board order shall pay the cost of publication of any notices required by state or federal law or regulations to effectuate the rights applied for.

(8) Visibility Protection

(a) Definitions - Unless specifically defined in this part, all terms shall have the meaning given them in Chapter 1200-3-2, paragraph 1200-3-9-.01(4) and Chapter 1200-3-23.

1. **"Visibility protection area"** means any of the mandatory Federal Class I areas listed below. These areas are those mandatory Federal Class I areas where visibility values may be impacted by sources in Tennessee:

(i) Great Smoky Mountains National Park (NP), TN-NC.
(ii) Joyce Kilmer-Slickrock National Wilderness Area (NWA), TN-NC.
(iii) Cohutta National Wilderness Area (NWA), TN-NC
(iv) Linville Gorge National Wilderness Area, NC.
(v) Shining Rock National Wilderness Area, NC.
(vi) Sipsey National Wilderness Area, AL.
(vii) Mammoth Cave National Park, KY.
(viii) Mingo National Wilderness Area, MO.

2. (Reserved)

3. Class II areas in Tennessee are those areas already designated as mandatory Federal Class I areas. This corresponds to all areas of the State which area not part of Cohutta NWA or Great Smoky Mountains N.P., or Joyce Kilmer-Slickrock National Wilderness Area (NWA).

(b) Review of major stationary sources and major modifications - source applicability and exemptions.

1. No stationary source or modification to which the requirements of this part apply shall begin actual construction without a permit which states that the stationary source or modification would meet the applicable requirements.

2. The requirements of this part shall apply to construction of any new major stationary source or major modification that would be constructed in an area classified as nonattainment and potentially have an impact on visibility in any visibility protection area.

3. The requirements of this part shall apply to any major stationary source and any major modification with respect to each air contaminant that it would emit, except as this part otherwise provides.

4. The requirements of this part shall not apply to a particular major stationary source or major modification, if:

   (i) The source or modification would be a nonprofit health or nonprofit educational institution, or a major modification would occur at such an institution, and the governor of the State in which the source or modification would be located requests that it be exempt from those requirements; or

   (ii) The source or modification that would be a major stationary source or major modification only if fugitive emissions, to the extent quantifiable, are considered in calculating the potential to emit of the stationary source or modification and the source does not belong to any of the following categories:

(I)	Coal cleaning plants (with thermal dryers);
(II)	Kraft pulp mills;
(III)	Portland cement plants;
(IV)	Primary zinc smelters;
(V)	Iron and steel mills;
(VI)	Primary aluminum ore reduction plants;
(VII)	Primary copper smelters;
(VIII)	Municipal incinerators capable of charging more than 50 tons of refuse per day;
(IX)	Hydrofluoric, sulfuric, or nitric acid plants;
(X)	Petroleum refineries;
(XI)	Lime plants;
(XII)	Phosphate rock processing plants;
(XIII)	Coke oven batteries;
(XIV)	Sulfur recovery plants;
(XV)	Carbon black plants (furnace process);
(XVI)	Primary lead smelters;
(XVII)	Fuel conversion plants;
(XVIII)	Sintering plants;
(XIX)	Secondary metal production plants;
(XX)	Chemical process plants

(XXI) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;

(XXII) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;

(XXIII) Taconite ore processing plants;

(XXIV) Glass fiber processing plants;

(XXV) Charcoal production plants;

(XXVI) Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input;

(XXVII) Any other stationary source category which, as of August 7, 1980, is being regulated under Chapter 1200-3-16, New Source Performance Standards, or Chapter 1200-3-11, Hazardous Air Contaminants, or Chapter 1200-3-31, Standards for Hazardous Air Contaminants For Source Categories, or 40 CFR Part 60 and 61 (July 1, 1993).

(iii) The source is a portable stationary source which has previously received a permit under this part; and

(I) The owner or operator proposes to relocate the source and emissions of the source at the new location would be temporary (a two year period); and

(II) The emissions from the source would not exceed its allowable emissions; and

(III) The emissions from the source would impact no visibility protection area and no area where an applicable increment is known to be violated; and

(IV) Reasonable notice is given to the Technical Secretary prior to the relocation identifying the proposed new location and the probable duration of operation at the new location. Such notice shall be given to the Technical Secretary not less than 10 days in advance of the proposed relocation unless a different time duration is previously approved by the Technical Secretary.

5. The requirements of this part shall not apply to a major stationary source or major modification with respect to a particular pollutant if the owner or operator demonstrates that, as to that pollutant, the source or modification is located in an area designated as attainment.

6. The requirements of this part shall not apply to a major stationary source or major modification with respect to a particular pollutant, it the allowable emissions of that pollutant from the source, or the net emissions increase of that pollutant from the modification:

(i) Would impact no visibility protection area and no area where an applicable increment is known to be violated, and

(ii) Would be temporary.

(c) Visibility impact analyses.

The owner or operator of a source shall provide an analysis of the impairment to visibility that would occur as a result of the source or modification and general commercial, residential, industrial and other growth associated with the source or modification.

(d) Federal land manager notification.

1. The Federal Land Manager (FLM) and the Federal official charged with direct responsibility for management of Federal Class I areas have an affirmative responsibility to protect the air quality related values (including visibility) of such lands and to consider, in consultation with the Technical Secretary whether a proposed source or modification will have an adverse impact on such values.

2. The Technical Secretary shall provide written notification to all affected Federal Land Managers of any permit application for any proposed new major stationary source or major modification that may affect visibility in any visibility protection area. The Technical Secretary shall also provide such notification to the Federal official charged with direct responsibility for management of any lands within any such area. Such notification shall include a copy of all information relevant to the permit application and shall be given within 30 days of receipt and at least 60 days prior to any public hearing on the application for a permit to construct. Such notification shall include an analysis of the proposed source's anticipated impacts on visibility in any visibility protection area. The Technical Secretary shall also notify all affected FLM's within 30 days of receipt of any advance notification of any such permit application.

3. The Technical Secretary shall consider any analysis performed by the Federal Land Manager provided within 30 days of the notification and analysis required by part 2. of this subparagraph, that such proposed new major stationary source or major modification may have an adverse impact on visibility in any visibility protection area. Where the Technical Secretary finds that such an analysis does not demonstrate to the satisfaction of the Technical Secretary that an adverse impact on visibility will result in the visibility protection area, the Technical Secretary must, in the notice of public hearing, either explain his decision or give notice as to where the explanation can be obtained.

(e) National visibility goal.

The Technical Secretary shall only issue permits to those sources whose emissions will be consistent with making reasonable further progress toward the national goal of preventing any future, and remedying any existing, impairment of visibility in visibility protection areas in which impairment results from man-made air pollution. In making the decision to issue a permit the Technical Secretary may take into account the costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the useful life of the source.

(f) Monitoring.

The Technical Secretary may require monitoring of visibility in any visibility protection area near the proposed new stationary source or major modification for such purposes and by such means as the Technical Secretary deems necessary and appropriate.

Authority: *T.C.A. Section 68-201-105 and 4-5-202.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF September 16, 1996

	Date Submitted to EPA	Date Approved by EPA	Final Federal Register Notice
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4th Revision	NOV 23, 1979	JUN 24, 1982	47 FR 27269
5th Revision	AUG 26, 1981	JUN 24, 1982	47 FR 27269
6th Revision	DEC 09, 1981	FEB 26, 1985	50 FR 7777
7th Revision	JAN 22, 1982	JUN 21, 1982	47 FR 26622
8th Revision	APR 22, 1983	FEB 25, 1985	50 FR 7778
9th Revision	SEP 01, 1983	FEB 25, 1985	50 FR 7778
10th Revision	SEP 01, 1993	JUL 29, 1996	61 FR 39332
11th Revision	AUG 17, 1994	APR 11, 1995	60 FR 7913
12th Revision	JAN 17, 1995*	JUL 18, 1996	61 FR 37387
13th Revision	JUN 10, 1996	JUL 29, 1996	61 FR 39332

* *Tennessee completely replaced paragraphs 1200-3-9-.01(6), (7), & (8) in the January 17, 1995 submittal*

Endnote #1: *Some sections of this chapter have not been submitted to EPA for incorporation into the SIP. Most of the outstanding revisions concern PM_{10} revisions. EPA is working with Tennessee to correct these discrepancies by submitting the outstanding revisions.*

1200-3-9-.02 OPERATING PERMITS

(1) Any person planning to operate an air contaminant source constructed or modified in accordance with a construction permit and/or waiver issued by the Technical Secretary in rule .01 of this chapter shall apply for and receive an operating permit from the Technical Secretary within sixty (60) days after commencement of the operation of said air contaminant source.

B. Any person operating an existing air contaminant source shall obtain an operating permit by the Final Compliance Date as shown in Table 1 and shall submit a Compliance Plan as shown in Table 1. An air contaminant source can readily determine which dates are applicable by reading Chapters V, VI, VII, and VIII.

1. Each compliance plan must provide for periodic increments of progress towards compliance. The dates for achievement of such increments shall be specified. Increments of progress shall include but not be limited to: Letting of necessary contracts for construction or process changes, if applicable; initiation of construction; completion and startup of control system; performance tests; and submittal of performance test analysis and results.

2. Any owner or operator required to submit a compliance schedule pursuant to this paragraph shall, within 10 days after the deadline for each increment of progress, certify to the Director whether or not the required increment of the approved compliance schedule has been met.

TABLE 1

Compliance Schedule for Existing Air Contaminant Sources

Final Compliance Date	Compliance Plan Due
Aug. 9, 1973	Feb. 9, 1971
July 1, 1975	Jan 1, 1973
July 1, 1977	Jan 1, 1973

C. Any person operating an air contaminant source constructed after August 9, 1969, and prior to April 3, 1972, must have an operating permit by October 3, 1972.

(3) Application for an operating permit shall be made on forms available from the Technical Secretary and signed by the applicant. Such application for an operating permit shall be filed with the Technical Secretary not less than thirty (30) days prior to the expiration of an existing operating permit.

(4) The operating permit shall only be issued on evidence satisfactory to the Technical Secretary that the operation of said air contaminant source is in compliance with any standards or rules and regulations promulgated by the Board and that the operation of said air contaminant source will not interfere with the attainment or maintenance of the secondary air quality standard. Such evidence may include a requirement that the applicant conduct such tests as are necessary in the opinion of the Technical Secretary to determine the kind and/or amount of air contaminants emitted from the source. Standard operating permits shall be valid for a period of one (1) year or for such time as deemed appropriate by the Technical Secretary. A permit issued for less than one year shall be designated as a temporary permit.

(5) Any person in possession of an operating permit shall maintain said operating permit readily available for inspection by the Technical Secretary or his designated representative on the operating premises.

(6) Operation of each air contaminant source shall be in accordance with the provisions and stipulations set forth in the operating permit.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974. Amended effective February 9, 1977. Amended effective March 21, 1979.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF FEBRUARY 25, 1985

	Date Submitted to EPA	Date Approved by EPA	Final Federal Register Notice
Original Reg	JAN 27, 1972	MAY 31, 1972	37 FR 10840
1st Revision			

1200-3-9-.03 GENERAL PROVISIONS

(1) Irrespective of the provisions of the preceding paragraphs of this Chapter, the owner or operator of any air contaminant source shall be responsible for complying with emission regulations as contained in Chapter V, VI, VII, VIII of these regulations at the earliest practicable time and for this purpose the Board shall have the authority and responsibility to require compliance with these regulations at an earlier date than indicated where such earlier compliance may reasonably be accomplished.

(2) No person shall use any plan, activity, device or contrivance which the Technical Secretary determines will, without resulting in an actual reduction of air contaminants, conceal or appear to minimize the effects of an emission which would otherwise constitute a violation of these Regulations.

(3) No person shall discharge from any source whatsoever such quantities of air contaminant, uncombined water, or other materials which cause or have a tendency to cause a traffic hazard or an interference with normal means of public transportation.

(4) Any person affected by any of these regulations shall file emissions data, as a minimum once a year with the Technical Secretary on forms available from the Secretary.

(5)

(6) An operation and/or construction permit is not transferable from one person to another person, nor from one air contaminant source to another air contaminant source, nor from one location to another location.

(7) The Technical Secretary may suspend or revoke any construction or operating permit or waiver if the permit holder fails to comply with the provisions, stipulations, or compliance schedules specified in the permit. Upon permit suspension or revocation, if the permit holder fails to take remedial action, he shall become immediately subject to enforcement actions prescribed by law.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974. Amended effective February 9, 1977.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF

	Date Submitted to EPA	Date Approved by EPA	Final Federal Register Notice
Original Reg	JAN 27, 1972	MAY 31, 1972	37 FR 10840
1st Revision			

1200-3-9-.04 EXEMPTIONS

(1) No person shall be required to obtain or file a request for a State permit due to ownership, operation, construction, or modification of the following air contaminant sources unless specifically required to do so by the Board:

(a) Mobile sources such as: automobiles, trucks, buses, locomotives, planes, boats and ships.

(b) Fuel burning equipment of less than 500,000 Btu per hour capacity.

(c) Particulate emissions from a single stack, of an air contaminant source, discharging less than 0.5 pound per hour of non-hazardous particulates or the total particulate emissions from an air contaminant source amounting to less than two (2) pounds per hour of non-hazardous particulates, whichever is the more restrictive hour. This exemption does not apply to incinerators;

(d) Equipment used on farms for soil preparation, tending or harvesting of crops, or for preparation of feed to be used on the farm where prepared;

(e) Operations exempted under Chapter 1200-3-4 (Open Burning) of these Regulations.

(f) Sources within the counties of Shelby, Davidson, Hamilton and Knox until such time as the Board shall determine that air pollution is not being controlled in such county to such a degree at least as stringent as the substantive provisions of the Tennessee Air Quality Act and regulations adopted pursuant thereto.

(2) Notwithstanding the exemptions granted in paragraph 1 above, no person shall discharge, from any source whatsoever, such quantities of air contaminants or other materials which cause or have a tendency to cause injury, detriment, annoyance, or adverse effect to the public.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original rule certified June 7, 1974. Amended effective February 9, 1977.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF

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1st Revision			

1200-3-9-.05 APPEAL OF PERMIT APPLICATION DENIALS AND PERMIT CONDITIONS

(1) In any case where the Technical Secretary or the Department denies a permit application, this denial is appealable to the Board if a petition of appeal is received by the Technical Secretary within thirty (30) days of receipt of the denial letter by the owner or operator.

(2) The letter of denial of the application shall include the basis for denial and notify the party of their right to appeal and of the right to legal counsel.

(3) The reasons the petitioner feels the permit should have been granted must be filed as part of the petition. Additionally a party may request prehearing discovery, as provided in TCA, Sections 4-516-517, by filing and detailing the request with the petition.

(4) Within thirty (30) days a receipt of the petition for appeal of a permit denial, the Technical Secretary shall notify the petitioner of the time and place for the hearing.

(5) In any case where a condition is placed on a permit, the imposition of that permit condition may be appealed by filing with the Technical Secretary within thirty (30) days after the mailing date of the permit a petition for reconsideration of permit conditions. The Technical Secretary shall schedule an administrative hearing to be held within forty-five days of receipt of the petition to be conducted in the same manner as hearings under 53-3414(H) with the resulting determination or order being appealable in the same manner. The petition for reconsideration of permit conditions shall specify which conditions and portions of conditions are objected to and specifying in detail the objections.

(6) All applicable provisions of Chapter 1200-3-17 on contested cases shall apply to the hearing before the Board on such appeals.

(7) The denial of a permit application by the Technical Secretary stands, unless the majority of a quorum of the Board votes to overturn the denial after the hearing.

(8) A permit condition specified by the Technical Secretary after the hearing provided for in paragraph (5) stands unless on appeal the Board votes to modify or delete the condition by a majority of a quorum of the Board.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified November 16, 1979*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF JUNE 24, 1982.

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1st Revision			

Chapter 1200-3-10
REQUIRED SAMPLING, RECORDING, AND REPORTING

1200-3-10-.01 SAMPLING REQUIRED TO ESTABLISH AIR CONTAMINANT EMISSION LEVELS

(1) NEW FACILITIES

(a) There shall be provided for any stack or duct adequate facilities as follows:

1. Sampling ports of a size, number and location as the Technical Secretary may require;

2. Safe access to each port; and

3. Such other sampling and testing facilities as the Technical Secretary may require.

(b) The Technical Secretary may at his discretion require the applicant for an operating permit to conduct or have conducted such tests as are necessary to establish the amount of air contaminants emitted from such equipment or control apparatus. Such tests shall be conducted in a manner approved by the Technical Secretary. The Technical Secretary may require that such tests be conducted in the presence of his representative.

(c) The Technical Secretary may conduct tests of air contaminant emissions from any source. Upon request of the Technical Secretary the person responsible for the source to be tested shall provide, at no expense to the Technical Secretary, reasonable and necessary openings in stacks, vents and ducts, along with safe and easy access thereto including a suitable power source to the point of testing for proper determination of the level of air contaminant emissions.

(2) EXISTING FACILITIES.

(a) Whenever the Technical Secretary has reason to believe that the emission limits of the regulations set forth herein are being violated, he may require the owner to conduct or have conducted at the owner's expense, tests to determine the emission level of specific air contaminants. The Technical Secretary may require that such tests be conducted in the presence of his representative.

(b) The Technical Secretary may at his discretion require the applicant for an operating permit to conduct or have conducted such tests as are necessary to establish the amount of air contaminants emitted from such equipment or control apparatus. Such tests shall be made at the expense of the applicant and shall be conducted in a manner approved by the Technical Secretary. The Technical Secretary may require that such tests be conducted in the presence of his representative.

(c) The Technical Secretary may conduct tests of air contaminant emissions from any source. Upon request of the Technical Secretary the person responsible for the source to be tested shall provide, at no expense to the Technical Secretary, reasonable and necessary openings in stacks, vents, and ducts along with safe and easy access thereto including a suitable power source to the point of testing for proper determination of the level of air contaminant emissions.

(3) PERIODIC TESTING REQUIRED.

(a) The Technical Secretary may require the owner or operator of an air contaminant source, as a condition of his operating permit, to conduct or have conducted periodic tests to establish the amount of air contaminants emitted. The nature, extent and frequency of such required testing shall be specified in the operating permit. Such tests shall be made at the expense at the owner or operator and shall be conducted in a manner approved by the Technical Secretary. The Technical Secretary shall be supplied with such data as stipulated in the operating permit.

(b) Any person affected by any of these regulations and directed to do so by the Technical Secretary, shall file emission data, as a minimum of one year, with the Technical Secretary on forms available from the Secretary.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF

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1st Revision			

1200-3-10-.02 MONITORING OF SOURCE EMISSIONS, RECORDING AND REPORTING OF THE SAME ARE REQUIRED

(1) MONITORING OF EMISSIONS

(a) The Technical Secretary may require the owner or operator of any air contaminant source discharging air contaminants, at the expense of the owner or operator, to install, calibrate, operate and maintain such monitoring equipment as the Technical Secretary shall prescribe; sample such emissions in accordance with methods as the Technical Secretary shall prescribe; establish and maintain such records; and make periodic emission reports as required in paragraph (2).

(b) 1. The specific source categories listed below are required to complete the installation and performance testing of the respective equipment and begin maintaining and recording within 18 months of the effective date of each rule.

(i) Fossil fuel-fired steam generators, as defined in Rule 1200-3-16.02, except as provided in the following items, with an annual average capacity factor of greater than 30 percent, as reported to the Federal Power Commission for calendar year 1974, or as otherwise demonstrated to the Technical Secretary by the owner or operator, shall conform with the following monitoring requirements:

(I) A continuous monitoring system for the measurement of opacity shall be installed, calibrated, maintained and operated by the owner or operator of any such steam generator of greater than 250 million BTU per hour heat input except where:

I. gaseous fuel is the only fuel burned, or

II. oil or a mixture of gas and oil are the only fuels burned and the source is able to comply with the applicable particulate matter and opacity regulations without utilization of particulate matter collection equipment, and where the source has never been found, through any administrative or judicial proceedings, to be in violation of any visible emission standard of these regulations.

(II) A continuous monitoring system for the measurement of sulfur dioxide shall be installed, calibrated, maintained, and operated on any fossil fuel-fired steam generator of greater than 250 million BTU per hour heat input which has installed sulfur dioxide pollutant control equipment.

(III) A continuous monitoring system for the measurement of the percent oxygen or carbon dioxide shall be installed, calibrated, operated, and maintained on fossil fuel-fired steam generators where measurements of oxygen or carbon dioxide in the flue gas are required to convert sulfur dioxide continuous emission monitoring data to units of the emission standard.

(ii) Each sulfuric acid plant of greater than 300 tons per day production capacity, the production being expressed as 100 percent acid, shall install, calibrate, maintain and operate a continuous monitoring system for the measurement of sulfur dioxide for each sulfuric acid producing facility with such plant.

(iii) Each catalyst regenerator for fluid bed catalytic cracking units of greater than 20,000 barrels per/day fresh feed capacity shall install, calibrate, maintain and operate a continuous monitoring system for the measurement of opacity.

2. Any source which is subject to a regulation in Chapter 1200-3-16 or which is scheduled for retirement within five years of the effective date of the appropriate designating subparts of part 1. above, provided that adequate evidence and guarantees are provided that clearly shows that the source will cease operation prior to such date, will not be subject to the monitoring requirements of this subparagraph.

(c) 1. All monitoring equipment specified in this paragraph shall meet the performance specifications in the Federal Register, Volume 40, No. 194, October 6, 1975. The equipment shall also be installed, calibrated, operated, and maintained in accordance with the procedures in this reference.

2. (Reserved)

3. A 30-day notice shall be given to the Technical Secretary of the date upon which any sampling or testing will be conducted as required under this subparagraph.

4. The sampling point for continuous emission monitoring shall be representative of the concentration of the parameter being monitored at the source emission point. If the monitor is located at any position except the stack, the Technical Secretary will require evidence of the representativeness of the location.

(d) 1. Each owner or operator of any air contaminant source directed by the Technical Secretary to monitor and report on specified air contaminants shall develop and submit a detailed monitoring program; and order and install sampling equipment within the following time schedule:

(i) Within 60 days after designation by the Technical Secretary of those air contaminants to be monitored, the owner or operator of the air contaminant source shall submit a detailed monitoring program for approval by the Technical Secretary.

(ii) Within 30 days after the monitoring program has been approved in writing by the Technical Secretary, sampling and monitoring equipment shall be ordered. The order shall specify a delivery date that is as expeditious as possible.

(iii) Within 90 days after delivery of the equipment the owner or operator of the air contaminant source shall place said equipment in effective operation in accordance with its approved monitoring program.

2. Any owner or operator required by subparagraph (b) to monitor must follow the schedule outlined in part 1. above with the exception that the detailed monitoring program must be submitted to the Technical Secretary within one hundred twenty (120) days of the effective date of the appropriate designating subpart of subparagraph(b) and not as specified in subpart (i) of the above part 1.

(e) Monitoring System Malfunction.

Due allowance for failure to monitor shall be made during any period of monitoring system malfunction, provided that the source owner or operator shows, to the satisfaction of the Technical Secretary, that the malfunction was unavoidable and is being repaired as expeditiously as practicable and that a log of all such malfunctions is being kept by the owner or operator, including time malfunction began, when it was detected, what was wrong, what was done to correct the malfunction, and when the malfunction was corrected.

(f) Owners and operators of fossil fuel-fired steam generators that install a continuous sulfur dioxide monitoring system as provided in Rule 1200-3-12-.04 are required to complete the installation and performance testing of the applicable equipment and begin maintaining and recording within eighteen months of the effective dates of this subparagraph unless a revised time frame is agreed to by the Technical Secretary because of the installation of sulfur dioxide control equipment.

1. The owner or operator shall develop and submit a detailed monitoring program; and order and install measuring equipment for sulfur dioxide and either oxygen or carbon dioxide within the following time schedule:

(i) Within 150 days after the effective date of this subparagraph, the owner or operator shall submit a detailed monitoring program for approval by the Technical Secretary.

(ii) Within 30 days after the monitoring program has been approved in writing by the Technical Secretary, sampling and monitoring equipment shall be ordered. The order shall specify delivery date but as expeditious as possible.

(iii) Within 90 days after delivery of the equipment the owner or operator of the air contaminant source shall place said equipment in effective operation in accordance with the approved monitoring program.

2. The sampling point for the carbon dioxide or oxygen monitor shall be same as that for the sulfur dioxide monitor except as specified for installations using flue gas desulfurization systems.

(g) Owners and/or operators of sources required to install a continuous sulfur dioxide monitoring system as provided in Paragraph 1200-3-12-.04(3) are required to complete the installation and performance testing of the applicable equipment and begin maintaining and recording within twelve months of the effective date of this subparagraph.

(2) RECORDING AND REPORTING

(a) Records and reports as the Technical Secretary shall prescribe on air contaminant emissions, ambient air concentrations or fuel analyses shall be recorded, compiled and submitted in a format prescribed by the Technical Secretary.

(b) 1. Owners or operators of facilities subject to paragraph (1)(b) of this rule, are required to submit a written report of excess emissions for each calendar quarter and the nature and cause of the excess emissions, if known. The requirements of this subparagraph must be followed by all owners and operators when making these required reports.

2. For opacity measurements the summary shall consist of the magnitude in actual percent opacity of all one minute averages of opacity greater than the opacity standard in the applicable rule in Chapter 1200-3-5 for each hour of operation and the facility minus the five- minute exempt period. Average values may be obtained by integration over the averaging period or by arithmetically averaging a minimum of four equally spaced, instantaneous opacity measurements per minute. The averaging period used for data reporting is one minute for opacity measurements and one hour for measurements of sulfur dioxide; provided, however, that for opacity measurements for fuel burning installations with fuel burning equipment of input capacity greater than 600 x 10 6 Btu per hour, the summary shall consist of the magnitude in actual percent opacity of all six-minute averages of opacity greater than the opacity standard in the applicable plan for each hour of operation of the facility minus one six-minute exempt period per hour of no more than 40 percent opacity. Averaging values may be obtained by integration over the averaging period or by arithmetically averaging a minimum of twenty-four equally spaced, instantaneous opacity measurements per six-minute period. The averaging period for data reporting is six minutes for opacity measurements and twenty-four hours for measurements of sulfur dioxide for fuel burning installations with fuel burning equipment of input capacity greater than 600 x 10 6 BTU per hour. The averaging period used for data reporting from all other sources is one minute for opacity measurements and one hour for measurements of sulfur dioxide except as denoted in other Chapters of these regulations.

3. For gaseous measurements the summary shall consist of emission averages, in the units of the applicable standard, for each averaging period during which the applicable standard was exceeded.

4. The date and time identifying each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs or adjustments shall be reported. The Technical Secretary may require proof of continuous monitoring system performance whenever system repairs or adjustments have been made.

5. When no excess emissions have occurred and the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be included in the report.

6. Maintain a file of all information reported in the quarterly summaries, and all other data collected either by the continuous monitoring system or as necessary to convert monitoring data to the units of the applicable standard for a minimum of two years from the data of collection of such data or submission of such summaries.

7. Owners or operators of air contaminant sources subject to subparagraph (1)-(b) of this Rule are required to use the procedures outlined in the October 6, 1975, Federal Register, Vol. 40, No. 194 (Appendix P, Paragraph 5.0), Page 46249 for converting monitoring data to units of the standard where necessary. These procedures are essentially the same as those in subparagraphs 1200-3-16-.02 (6)(e) and (f). Where applicable, the procedures outlined in the October 12, 1976, Federal Register, Volume 41, No. 198, pages 44838-44839 may be used.

(c) Owners or operators of facilities subject to rule 1200-3-12-.04 are required to submit a written report on emissions for each calendar quarter and the nature and cause of excess emissions, if known. The Technical Secretary will specify details of the reports required after the monitor has been performance tested. General procedures are outlined below.

1. (i) The source owner or operator shall report all 3-hour averages or 24-hour averages in units of the applicable emission standard. The 3-hour and 24-hour values shall be computed by taking the average of three contiguous or 24 contiguous one-hour values of sulfur dioxide emissions. The one-hour average values may be obtained by integration over the one-hour period or may be computed from four or more data points equally spaced over each one-hour period. Data recorded during periods of monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages.

   (ii) In the event that the fuel burning installation contains discharge points utilizing continuous sulfur dioxide monitoring systems and discharge points which do not require monitoring systems (or where an individual monitoring system is inoperative), and the data from the monitoring system indicates a violation, an administrative hearing may be conducted by the Technical Secretary to determine the compliance status of the entire fuel burning installation.

   (iii) To determine compliance where multiple units of fuel burning equipment are involved, an average weighted on the basis of heat input shall be used.

2. The owners and operators of these sources must follow the same procedures as specified in parts 4, 6, and 7, of subparagraph 1200-3-10-.02 (2)(b). Alternative methods for converting sulfur dioxide monitoring instrument data to units of the applicable emission standard may be approved by the Technical Secretary when demonstrated to him to yield equivalent results.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974. Amended effective February 9, 1977.. Amended April 12, 1978. Amended June 21, 1979. Amended December 14, 1981.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF MAY 20, 1996.

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3rd Revision	JUN 22, 1993	MAR 19, 1996	61 FR 11136

CHAPTER 1200-3-11
HAZARDOUS AIR CONTAMINANTS

NOTE: This chapter contains regulations for Hazardous Air Pollutants which must meet requirements of title III of the Clean Air Act (CAA). Since the purpose of the SIP is to meet requirements of title I and title II of the CAA, this chapter is not required to be incorporated into the SIP. Even though revisions to this chapter have been incorporated into the SIP in the past, future revisions will not be approved into the SIP. If a review of what has been federally approved in this chapter in the past shows that it does not contain any requirements of title I or title II, Tennessee will be asked to withdraw it from the SIP. This will not relieve them of meeting any applicable requirements of title III.

CHAPTER 1200-3-12
METHODS OF SAMPLING AND ANALYSIS

1200-3-12-.01 GENERAL

(1) It is explicitly implied that in addition to and consistent with specific methods of sampling and analysis described herein, that samples will be taken in such number, duration and location as to be statistically significant and representative of the condition which the sample(s) purport to evaluate.

(2) Where specific materials, equipment or procedures are specified, it shall be permissible to use other materials, equipment or procedures where it has been reliably demonstrated that their use produces results comparable to that which would have been obtained by use of the specified materials, equipment or procedures.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974. Amended in its entirety February 9, 1977.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF

LAST UPDATE:

	Date Submitted to EPA	Date Approved by EPA	Final Federal Register Notice
Original Reg	JAN 27, 1972	MAY 31, 1972	37 FR 10840
1st Revision			

1200-3-12-.02 PROCEDURES FOR AMBIENT SAMPLING AND ANALYSIS

(1) Procedures for sulfur dioxide, suspended particulate, photochemical oxidants, carbon monoxide, and non-methane hydrocarbons may be found in Federal Register, Volume 36, Number 84, dated April 30, 1971. The reference method for the sampling and the analytical procedures for nitrogen dioxide may be found in the Federal Register, Volume 41, Number 232, dated December 1, 1976. The sampling and analytical procedures for lead may be found in the Federal Register, Volume 43, Number 194, dated October 5, 1978. The reference method for sampling and analytical procedures for ozone may be found in the Federal Register, Volume 44, Number 28, Part V, dated February 8, 1979. The procedure for sampling and analyzing atmospheric fluorides shall conform with the method adopted by the American Society for Testing Materials in 1958 and bearing ASTM designation D1606- 58T.

(2) The Technical Secretary may approve the use of equivalent or alternative sampling procedures.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974. Amended in its entirety February 9, 1977. Amended in its entirety June 21, 1979. Amended in its entirety January 18, 1980.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF JUNE 24, 1982.

LAST UPDATE: March 5, 1987

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2nd Revision			

1200-3-12-.03 SOURCE SAMPLING AND ANALYSIS

The methods set forth in this section shall be applicable for determining compliance with emission standards.

(a) SAMPLE AND VELOCITY TRAVERSES. - Sample and velocity traverses shall be determined by Method 1 outlined in the Federal Register, Volume 42, Number 160, August 18, 1977, as amended in the Federal Register, Volume 43, Number 57, March 23, 1978.

(b) STACK GAS VELOCITY DETERMINATION. - Stack gas velocity shall be determined by Method 2 outlined in the Federal Register, Volume 42, Number 160, August 18, 1977, as amended in the Federal Register, Volume 43, Number 57, March 23, 1978, except in such instances where a Type S pitot tube is not applicable.

(c) GAS ANALYSIS. - Gas analysis for carbon dioxide, oxygen, excess air, and dry molecular weight shall be determined by Method 3 outlined in the Federal Register, Volume 42, Number 160, August 18, 1877, as amended in the Federal Register, Volume 43, Number 57, March 23, 1978, or another type of test procedure that is direct indicating and/or recording approved by the Technical Secretary.

(d) DETERMINATION OF MOISTURE CONTENT I STACK GASES. - Moisture content shall be determined by Method 4 outlined in the Federal Register, Volume 42, Number 60, August 18, 1977, as amended in the Federal Register, Volume 43, Number 57, March 23, 1978, or other technique approved by the Technical Secretary.

(e) DETERMINATION OF PARTICULATE EMISSIONS. - The basic design of the sampling train is left to the individual, if certain criteria are observed to assure high collection efficiency and standard analysis of the collected particulates.

1. DESCRIPTION OF SAMPLING APPARATUS.

(i) This apparatus shall include interchangeable nozzles or probes, of various diameters, a filter effective for the removal of particulates exceeding 0.3 micron diameter of solid or liquid, a suitable number of impingers to reduce condensible vapors to liquid or solid particulate matter, and appropriate connecting tubing at temperature above the aqueous dewpoint of the gases. All materials of construction shall be resistant to corrosive elements in the flue gases, e.g., SO_3, NO_x, and elevated temperatures.

(ii) This filter assembly shall be maintained above the aqueous dewpoint of the flue gases throughout the sampling operation. To accomplish this, the filter assemble may be disposed inside the gas flue to be completely bathed by the hot gas stream; or it may be disposed outside the gas stream, provided the following precautions are taken.

(I) If the filter is disposed outside the hot gas flue, a temperature indicator, e.g., thermocouple, shall be provided at the sample filter gas exit to monitor the filter temperature above the aqueous dewpoint of the flue gases at all times. Auxiliary heating elements for tubing and filter holder shall be provided to maintain specified temperatures when required.

(II) Deposits in the tube connecting the probe to the exterior filter shall be quantitatively removed by washing with a suitable liquid and by brushing, the weight of the solids recovered there from being added to the weight found in the filter.

(iii) Provisions shall be included for cooling the gas stream to standard conditions (70°F) to reduce condensible vapors to liquids or solid particulate matter, and for cooling the condensed particles, including water that may be formed by condensation of water vapor in the sample. This shall be accomplished by passage through bubblers provided with an orifice submerged in water through which the gas stream passes at a velocity of approximately 100 meters per second. The bubblers shall be immersed in an ice bath to minimize evaporation. A trap of suitable shape and dimensions for the collection of overflow or overspray shall be provided downstream from the bubblers.

(iv) An indicating flowmeter shall be provided and preferably located in the train at a point preceding the source of suction, preceded by a trap to prevent condensed water from entering the flowmeter; and a vacuum gauge adjacent to the flowmeter to indicate the absolute pressure of the gas passing through the orifice meter.

(v) Operation charges comprising either graphs or tables shall be prepared and be available as a part of apparatus, to indicate proper sampling rates as a function of gas density in the stack and at the flowmeter.

2. ANALYTICAL RESULTS.- Analytical results shall be accomplished as outlined in the appendix of the Federal Register, Volume 42, Number 160, August 18, 1977, as amended in the Federal Register, Volume 43, Number 57, March 23, 1978, for the filter catch and washings up to the filter. Inclusion or exclusion of material collected in the impinger train as "particulate matter" and method of analysis will be determined on an individual air contaminant source basis.

3. EQUIVALENT METHODS.- Those procedures demonstrated to yield equivalent results and approved by the Technical Secretary may be used for sampling and analysis of particulate matter. Stack sampling methods promulgated by the Environmental Protection Agency for specified air contaminant sources are considered to be equivalent methods and therefore acceptable.

(f) MEASUREMENT OF SULFUR DIOXIDE IN STACK GASES.

1. The approved procedure for measuring Sulfur Dioxide in stack gases is the method contained in Chapter 3 of the Tennessee Department of Public Health's January, 1975 edition of the Source Sampling Manual as amended on August 11, 1975. [SUBMITTED JAN 22, 1982.]

2. EQUIVALENT METHODS. Many new and improved methods of continuous gaseous monitoring in stacks are now in use. Any method of stack sampling approved by the Technical Secretary may be used in accordance with good professional practice. Stack sampling methods promulgated by the Environmental Protection Agency for specified air contaminant sources are considered to be equivalent methods and therefore acceptable.

(g) DETERMINATION OF SULFURIC ACID (H_2SO_4) IN STACK GASES.- Sulfuric acid in stack gases shall be determined by Method 8 outlined in the Federal Register, Volume 42, Number 160, August 18, 1977, as amended in the Federal Register, volume 43, Number 57, March 23, 1978.

(h) DETERMINATION OF NITROGEN OXIDES IN STACK GASES. - Nitrogen oxides in stack gases shall be determined by Method 7 outlined in the Federal Register, Volume 42, Number 160, August 18, 1977, as amended in the Federal Register, Volume 43, Number 57, March 23, 1978.

(i) DETERMINATION OF THE EFFICIENCY OF FLUORIDE CONTROL DEVICES FOR POTROOMS OR PRIMARY ALUMINUM REDUCTION PLANTS, as follows:

1. The determination shall consist of three samples runs, each of which shall consist of a simultaneous inlet and outlet sample upon the control device or an equivalent test procedure approved by the Technical Secretary. Each sample shall be eight (8) hours duration and shall contain a minimum of two hundred and forty (240) dry standard cubic feet of air.

2. Other details as to be collection of the samples and their analysis shall be accomplished by either Method 13A or 13B or approved equivalent as outlined in the Federal Register, Volume 40, Number 152, August 6, 1975, and as amended in the Federal Register, Volume 41, Number 230, November 29, 1976.

3. The average efficiency of each fluoride control device shall be calculated as the average of the three control device collection efficiencies as determined by the three sample runs.

(j) DETERMINATION OF INORGANIC LEAD EMISSIONS IN STACK GASES. Lead emissions in stack gases shall be determined by Method 12 outlined in the Federal Register, Volume 47, April 16, 1982, pp. 16574-16579.

Authority: *T.C.A. Section 68-25-105. administrative History. Original Rule certified June 7, 1974. Amended in its entirety February 9, 1977. Amended April 12, 1978. Amended November 16, 1979. Amended January 22, 1982. Amended effective August 1, 1984.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF MARCH 29, 1985

LAST UPDATE: October 16, 1995

	Date Submitted to EPA	Date Approved by EPA	Final Federal Register Notice
Original Reg	JAN 27, 1972	MAY 31, 1972	37 FR 10840
1st Revision	NOV 23, 1979	JUN 24, 1982	47 FR 27270
2nd Revision	JAN 22, 1982	JUN 24, 1982	47 FR 27270
3rd Revision	OCT 17, 1984	MAR 29, 1985	50 FR 12539

1200-3-12-.04 MONITORING REQUIRED FOR DETERMINING COMPLIANCE OF CERTAIN LARGE SOURCES.

(1) For a fossil fuel-fired steam generator using solid fuel subject to subparagraph 1200-3-14-.02-(1)-(e), the source owner or operator may choose the method of measuring sulfur dioxide in the stack gases depending upon the type of fuel burned. No later than 30 days after the effective date of this regulation, the source owner or operator must inform the Technical Secretary by certified mail of the method to be utilized. If no choice is made by that date the owner or operator must monitor using the methods as outlined in subparagraph (2)(b). of this rule.

(2) The available sulfur dioxide measurement methods are as follows:

(a) If low sulfur coal is the only solid fuel burned, fuel analysis procedures and methods of calculations as prescribed by the Technical Secretary may be used. The purpose of this rule, low sulfur coal is defined as coal containing less than 1.00% sulfur by weight on a dry basis. Determination will be based on records of fuel burned during calendar year 1974. The procedures used to determine if the sulfur content of the fuel meet this 1.00% limitation during this time period will be subject to approval by the Technical Secretary. If the source owner or operator elects this method, the Technical Secretary will specify the data to be submitted to verify that the sulfur content is less than the 1.00% limitation. For facilities that elect to use fuel analysis procedures, fuels are not required to be sampled or analyzed for preparation of reports of compliance until the Technical Secretary specifies the procedures and requirements. If the 1.00% limit is ever exceeded than the method specified in subparagraph (b) of this paragraph must be used for monitoring.

(b) Measurement of sulfur dioxide in the stack gases may be accomplished by the installation and operation of a continuous in-stack sulfur dioxide monitoring instrument. The type of monitor and its location will be subject to approval by the Technical Secretary. The in-stack monitoring instrument will be subject to the provisions of subparagraph 1200-3-10-.02(1)(e) of these regulations.

(3) For sulfuric acid plants and liquid sulfur dioxide plants located in a Class I county and existing on January 1, 1979, the measurement of sulfur dioxide in the stack gases must be accomplished by the installation and operation of a continuous in-stack sulfur dioxide monitor. The type of monitor and its location will be subject to approval by the Technical Secretary. The in-stack monitoring instrument will be subject to the provisions of paragraph 1200-3-10-.02-(1) of these regulations.

(4) For recovery furnaces and lime kilns located at draft mills the measurement of total reduced sulfur compounds in stack gases must be accomplished by the installation and operation of a continuous in-stack total reduced sulfur (TRS) monitor. Such TRS monitor shall be accomplished by a continuous monitoring system for the measurement of the percent oxygen. The type of monitor and its location will be subject to approval by the Technical Secretary. The instack monitoring instrument will be subject to the provisions of paragraph 1200-3-10-.02(1) of these regulations.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974. Amended June 21, 1979. Amended October 13, 1981. Amended December 13, 1982.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF JULY 27, 1984.

LAST UPDATE: March 5, 1987

	Date Submitted to EPA	Date Approved by EPA	Final Federal Register Notice
Original Reg	JAN 27, 1972	MAY 31, 1972	37 FR 10840
1st Revision	OCT 25, 1979	JUN 24, 1982	47 FR 27270
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3rd Revision	DEC 09, 1981	JUN 21, 1982	47 FR 26621
4th Revision	APR 22, 1983	JUL 27, 1984	49 FR 30177
5th Revision			

CHAPTER 1200-3-13
VIOLATIONS

1200-3-13-.01 VIOLATION STATEMENT

Failure to comply with any of the provisions of these regulations shall constitute a violation thereof and shall subject the person or persons responsible therefore to any and all the penalties provided by law.

Authority: *T.C.A. Section 53- 3412. Administrative History. Original Rule certified June 7, 1974.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF MAY 31, 1972

LAST UPDATE: March 5, 1987

	Date Submitted to EPA	Date Approved by EPA	Final Federal Register Notice
Original Reg	JAN 27, 1972	MAY 31, 1972	37 FR 10840
1st Revision			

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

(August 1996)

4APT-APB

Mr. John W. Walton, P.E., Director
Division of Air Pollution Control
Tennessee Department of Conservation
and Environment
L & C Annex, 9th Floor
401 Church Street
Nashville, Tennessee 37243-1531

Dear Mr. Walton:

While performing a recent State Implementation Plan (SIP) compilation update of revisions to chapter 1200-3-14 "Control of Sulfur Dioxide Emissions" it was discovered that revisions had apparently been made by the State which were not submitted to EPA for approval into the SIP. Specifically, it appears that sections 1200-3-14-.02(4) and 1200-3-14-.03(8) have been added to rule 1200-3-14 and have not been submitted to EPA. According to the State rule, these revisions were made on November 6, 1988, and July 1, 1990.

Currently, the official version of the Federally-approved SIP for each state is contained in the Office of the Federal Register (OFR) in Washington, D.C. To look at the entire Federally approved State SIP under the current method, one would have to pull all the incorporated by reference (IBR) material for each submittal file for the State at the OFR, which has been acted on by EPA to date. As you can imagine this is a very complicated task for most SIPs. In an attempt to improve on this process, EPA is developing a pilot program to make it easier to view the official SIP. EPA is proposing to use the SIP compilations developed by the regions to represent the official, Federally-approved SIP. Therefore, it is imperative that the SIP compilations accurately represents the official, Federally-approved SIP. It is also extremely important that the Federally-approved version is consistent with the State's version. The only differences should be for those revisions not submitted to EPA and those submitted, but not approved by EPA.

EPA has worked with the Region 4 States for the last 10 years to develop and refine the compilations of Federally-approved SIPs and is considered the standard in this area. Working with our States we have developed electronic versions of SIP compilations for every State and Local agency in our region. These have been circulated to each State and Local agency as well as many other requestors and made the SIP compilations available on the Internet for anyone with Internet access to view. At Region 4 we are committed to maintaining these SIP compilations, and are contiunually reviewing the current SIP compilations against State and Local rules to

determine accuracy. As discrepancies are noted, we will work with the States to align the Federal version as closely as possible with the State version. To this end, we ask that you submit the above referenced revisions to Chapter 14, as soon as possible, so that we have an accurate SIP compilation.

William Denman is the primary contact for the State of Tennessee's SIP compilation. If you have any questions please call him at (404) 347-3555 extension 4208.

Sincerely yours,

Douglas Neeley
Chief
Air Programs Branch
Air, Pesticides and Toxics
Management Division

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DENMAN	SCHUTT	PRINCE	HALEY	NEELEY
W. Denman		KP 8/20	NAH 8/23	8/23
8/20/96				

CHAPTER 1200-3-14
CONTROL OF SULFUR DIOXIDE EMISSIONS

1200-3-14-.01 GENERAL PROVISIONS

(1) (a) For the purpose of this chapter, each country in Tennessee will be classified by the Board into one of seven categories, defined as Class I, Class II, Class III, Class IV, Class V, Class VI, and Class VII.

(b) Each class has been established with the essential limit necessary to attain and/or maintain ambient air quality standards based on measured and predicted air quality.

(2) The county classifications are as follows:

(a)	Class I	-	Polk
(b)	Class IIA	-	Maury
(c)	Class IIB	-	Humphreys
(d)	Class III	-	Sullivan
(e)	Class IV	-	Shelby
(f)	Class V	-	Anderson, Davidson, Hamilton, Hawkins, Knox, Rhea
(g)	Class VI	-	All Counties not specifically classified
(h)	Class VII	-	Roane

(3) Upon mutual agreement of the owner or operator of any air contaminant source and the Technical Secretary, an emission limit more restrictive than otherwise specified in this Chapter may be established. This emission limit shall be stated as a special condition for any permit or order issued concerning the source. Violation of this agreed to, more stringent emission standard is grounds for revocation of the issued permit and/or other enforcement measures provided in the Tennessee Air Quality Act.

(4) Regardless of the specific emission standards contained in this Chapter, all sources identified in rule 1200-3-9-.01-(4) of these regulations shall comply with the standards set pursuant to rule 1200-3-9.

(5) Regardless of the specific emission standards contained in this Chapter, new and/or modified sources in or significantly impacting upon a nonattainment area must comply with the provisions of paragraph 1200-3-9-.01(5).

(6) Every owner or operator of a fuel burning installation having a total rated capacity greater than 1000 million BTU per hour or of a process emission source emitting more than 1000 tons per year of sulfur dioxide during calendar year 1972 or any other calendar year thereafter shall:

(a) Demonstrate to the satisfaction of the Technical Secretary, that the sulfur dioxide emitted either alone or in contribution to other sources will not interfere with attainment and maintenance of any primary or secondary air quality standard.

(b) Install and maintain air quality sensors to monitor attainment and maintenance of ambient air quality standards in the areas influenced by the emissions from such installation. Such shall be one in the manner prescribed by the Technical Secretary. Results of such monitoring shall be provided to the Technical Secretary in the manner and form as he shall direct. Owners or operators may petition and be granted permission by the Technical Secretary to terminate ambient air quality monitoring provided two calendar years air quality data has been generated in the area under the influence of the source's emissions to verify compliance with the Tennessee Ambient Air Quality Standards. Petitions may be granted only if the conditions of 1, 2, and 3 below are met.

(1) The actual sulfur dioxide emissions from a fuel burning installation do not exceed 20,000 tons per year.

(2) The source must be located in an attainment area and must not significantly impact a sulfur dioxide nonattainment area.

(3) Measurements of air quality in the vicinity of the source demonstrate that ambient sulfur dioxide levels do not exceed 75 percent of the Tennessee Ambient Air Quality Standards.

(c) All calculations performed pursuant to demonstration required by rule .01(6) shall assume that the process emission source and fuel burning installation is operating at a maximum rated capacity.

Authority: *T.C.A. Section 68-25-105 and 4-5-202. Administrative History. Original Rule certified June 7, 1974. Chapter 1200-3-14 repealed. New Rule filed February 19, 1976, effective March 20, 1976. Amended effective March 21, 1979. Amended effective June 21, 1979. Amended November 16, 1979. Amended July 31, 1981. Amended December 13, 1982. Amended effective August 1, 1984.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF APRIL 7, 1993.

	Date Submitted to EPA	Date Approved by EPA	Final Federal Register Notice
Original Reg	JAN 27, 1972	MAY 31, 1972	37 FR 10840
1st Revision	APR 30, 1976	FEB 25, 1977	42 FR 10994
2nd Revision	JUN 29, 1979	DEC 15, 1981	46 FR 61121
3rd Revision	AUG 26, 1981	JUN 24, 1982	47 FR 27270
4th Revision	OCT 17, 1984	MAR 29, 1985	50 FR 12540
5th Revision	AUG 02, 1983	APR 07, 1993	58 FR 18011
6th Revision			

1200-3-14-.02 NON-PROCESS EMISSION STANDARDS

(1) Fuel Burning Installation in Operation Prior to April 3, 1972.

(a) The owner or operator of a fuel burning installation shall not cause, suffer, allow, or permit the emissions from that source of sulfur dioxide in excess of that contained in Table 1:

TABLE 1

ALLOWABLE SO_2 EMISSIONS FOR FUEL BURNING INSTALLATIONS

IN TERMS OF POUNDS PER MILLION BTU/HR HEAT INPUT
(One Hour Average - Exceptions mentioned in this Chapter)

Rated Capacity	Class I	Class IIA	Class IIB	Class III	Class V	Class VI	Class VII
greater than 1000×10^6 BTU/hr.	1.2	1.2	3.4	2.4	4.0	5.0	2.8
less than 1000×10^6 BTU/hr	1.6	5.0	5.0	2.4	4.0	5.0	5.0

(b) The owner or operator of a fuel burning installation in a Class IV County shall not shall not cause, suffer, allow, or permit emissions from that source of sulfur dioxide in excess of those listed in Table 2 or the following equation:

TABLE 2

FUEL	EMISSION LIMIT (one hour average)
Coal BTU	4.0 lbs $SO_2/10^6$
No. 5 and No. 6 fuel oil and solid fuels other BTU	2.7 lbs $SO_2/10^6$
All other fuels BTU	0.5 lbs $SO_2/10^6$

$$Q_{SO_2} = \frac{4.0\,X + 2.7\,Y + 0.5\,Z}{X + Y + Z}$$

Q_{SO_2} = Allowable Sulfur Dioxide Emissions in lbs $SO_2/10^6$ BTU

X = Heat input from coal

Y = Heat input from No. 5 or No. 6 fuel oil and solid fuels other than coal

Z = Heat input from all other fuel

(c) For the purpose of this rule, the total heat input (based on maximum rated capacity) from all fuel combustion units at a plant, premises or installation shall be used for determining the maximum allowable emission of sulfur dioxide that passes through a stack or stacks. The heat valve of the fuel that is not released within the fuel burning equipment shall not be considered as part of the heat input to the fuel burning installation.

(d) Fuel burning installations containing units of fuel burning equipment larger than 600 million BTU per hour heat input and which were commenced before April 3, 1972, shall comply with the applicable sulfur dioxide emission limit specified in Table 1 or Table 2 for fuel burning installations greater than 1 billion BTU per hour heat input. However, for fuel burning installations containing fuel burning equipment meeting these requirements, a 24-hour averaging basis shall be utilized rather than a one hour basis. For units of fuel burning equipment in a fuel burning installation of less than 600 million BTU per hour heat input, the allowable sulfur dioxide emission limits shall be those determined by Table 1 or Table 2 of Rule 1200-3-14-.02(1)(a) or (1)(b).

(2) Fuel Burning Equipment Constructed After April 3, 1972.

(a) Fuel burning equipment with a rated capacity of 250 million Btu per hour or less heat input, shall not cause, suffer, allow or permit the emission of sulfur dioxide in excess of 1.6 pounds per million Btu heat input (one hour average) in a Class I county, 2.4 pounds in a Class III county, 4.0 pounds in a Class V county, nor in excess of 5.0 pounds per million Btu heat input (one hour average) in a Class II, VI, or VII county. Emission limits for Class IV counties shall be those listed in Table 2.

(b) The owner or operator of a fuel burning equipment with a rated capacity greater than 250 million BTU per hour heat input shall not cause, suffer, allow or permit the emissions from that source of sulfur dioxide in excess of the following:

1. .80 lbs per million BTU heat input, maximum 1 hour average, when liquid fossil fuel is burned.

2. 1.2 lbs per million BTU heat input, maximum 1 hour average, when solid fossil fuel is burned.

3. Where different fossil fuels are burned simultaneously in any combination, the applicable standard shall be determined by proration. Compliance shall be determined by using the following formula:

$$\frac{Y\,(0.80) + Z\,(1.2)}{Y + Z}$$

(c) Where:

1. Y is the percent of total heat input derived from liquid fossil fuel and,

2. Z is the percent of total heat input derived from solid fossil fuel.

(3) If an owner or operator of fuel burning equipment is ordered by the U.S Department of Energy under the Energy Supply and Environmental Coordination Act of 1974, or any amendments thereto, or any subsequent enactment which supersedes such provisions, to switch fuels, required alterations to existing fuel burning equipment to accommodate these additional fuels shall not be deemed a modification for purposes of determining the allowable emissions as established by this rule.

Authority: *T.C.A. Section 68-25-105 and 4-5-202. Administrative History. Original Rule certified June 7, 1974. Amended effective March 20, 1976. Amended April 12, 1978. Amended June 16, 1978. Amended effective March 21, 1979. Amended November 16, 1979. Amended December 13, 1982. Amended effective August 1, 1984.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF

LAST UPDATE:

	Date Submitted to EPA	Date Approved by EPA	Final Federal Register Notice
Original Reg	JAN 31, 1972	MAY 31, 1972	37 FR 10840
1st Revision	APR 30, 1976	FEB 25, 1977	42 FR 10994
2nd Revision	JUN 29, 1979	DEC 15, 1981	46 FR 61121
3rd Revision	AUG 02, 1983	APR 07, 1993	58 FR 18011

1200-3-14-.03 PROCESS EMISSION STANDARDS.

(1) On and after July 1, 1975, the owner or operator of an air contaminant source located in a Class I county shall not cause, suffer, allow or permit the emission from that source of sulfur oxides (calculated as sulfur dioxide) in excess of 500 parts per million, 0.05 percent by volume, dry basis (one hour average). Different standards and averaging times may be met as an alternative, or as required, where they are specified in Chapter 1200-3-19.

(2) On and after July 1, 1975, the owner or operator of an air contaminant source located in a Class II, III, or VII county shall not cause, suffer, allow or permit the emission from that source of sulfur dioxide in excess of 1000 parts per million, 0.10 percent by volume, dry basis(one hour average).

(3) On and after July 1, 1975, the owner or operator of an air contaminant source located in Class IV, V or VI county shall not cause, suffer, allow or permit the emission from that source of sulfur dioxide in excess of 2,000 parts per million, 0.20 percent by volume, dry basis (one hour average).

(4) A process source in a Class IV county as an alternative to the standard in paragraph (3) above may request from the Technical Secretary of the Tennessee Air Pollution Control Board to be regulated by not being allowed to exceed their sulfur dioxide emission capacity in 1974, on a twenty-four and annual basis. These emissions will be specified in a Board Order, as a permit condition, or other legally enforceable manner. This document will be incorporated into the State Implementation Plan. The cost of the legal notice involved must be paid by the requesting source. The Technical Secretary may approve such a request after being given adequate proof that this alternate standard will not cause any air quality standards to be violated and the company has an adequate continuous air monitoring network for determining the impact of its emissions.

(5) No person shall cause, suffer, allow or permit the emissions from any new air contaminant source in excess of those limits specified in Chapter 1200-3-14-.03, paragraph (1), (2), or (3), whichever is applicable. Regardless of the specific emission standard, new sources shall utilize the best available control technology as deemed appropriate by the Technical Secretary of the Tennessee Air Pollution Control Board.

(6) For purposes of this Chapter, thermal oxidizers and incinerators shall be construed as process emission sources.

(7) For the purpose of determining the applicable sulfur dioxide emission standards in this rule, a change in fuel from natural gas, propane, butane and/or fuel oil to any of these herein named fuels and any required alterations to existing fuel burning equipment to accommodate these fuels shall not be considered a modification.

Authority: *T.C.A. Section 68-35-105. Administrative History. Original Rule certified June 7, 1974. Chapter 1200-3-14 repealed. New Rule filed February 19, 1976, effective March 20, 1976. Amended April 12, 1978. Amended June 16, 1978. Amended effective June 21, 1979. Amended November 16, 1979. Amended effective August 1, 1984. Amended effective March 21, 1993.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF MAY 20, 1996.

	Date Submitted to EPA	Date Approved by EPA	Final Federal Register Notice
Original Reg	JAN 27, 1972	MAY 31, 1972	37 FR 10840
1st Revision	APR 30, 1976	FEB 25, 1977	42 FR 10994
2nd Revision	JUN 29, 1979	DEC 15, 1981	46 FR 61121
3rd Revision	OCT 25, 1979	JUN 24, 1982	47 FR 27270
4th Revision	JUN 21, 1993	MAR 19, 1996	61 FR 11136

CHAPTER 1200-3-15
EMERGENCY EPISODE REQUIREMENTS

1200-2-15-.01 PURPOSE

It is the purpose of this Chapter to establish criteria so as to prevent undesirable levels of air contaminants during adverse meteorological conditions. Primary responsibility to initiate activity required by this Chapter during stagnant atmospheric periods rests with the Technical Secretary according to Tennessee Code Annotated, Section 68-25-105.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974. Amended effective February 9, 1977*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF

LAST UPDATE:

	Date Submitted to EPA	Date Approved by EPA	Final Federal Register Notice
Original Reg	JAN 27, 1972	MAY 31, 1972	37 FR 10840
1st Revision			

1200-3-15-.02 EPISODE CRITERIA

(1) Conditions justifying the proclamation of an air pollution alert, air pollution warning, or air pollution emergency shall be deemed to exist when the Technical Secretary determines that the accumulation of air pollutants is attaining or has attained levels which could, if such levels are sustained or exceeded, lead to a substantial threat to the health of persons. In making this determination, the Technical Secretary will be guided by the criteria in the remaining paragraphs of this rule.

(2) **"AIR POLLUTION FORECAST"**: An Internal watch by the Division of Air Pollution Control shall be actuated by a National Weather Service advisory that Atmospheric Stagnation Advisory is in effect or the equivalent local forecast of stagnant atmospheric conditions.

(3) **"AIR POLLUTION ALERT"**: The Alert level is that concentration of pollutants at which emissions reductions must begin. An Alert will be declared when any one of the following levels is reached at any monitoring site:

(a) SO_2-800 ug/m^3 (0.3 ppm), 24-hr. average.

(b) PM_{10}-350 ug/m^3, 24-hour average.

(c) Reserved

(d) CO--17 mg/m^3 (15 ppm), 8-hour average.

(e) Ozone (O_3) -- 400 ug/m^3 (0.2 ppm) -- 1 hr. average.

(f) NO_2--1130 ug/m^3 (0.6 ppm), 1-hr. average; 282 ug/m^3 (0.15 ppm), 24-hour average.

And meteorological conditions are such that pollutant concentrations can be expected to remain at the above levels for twelve (12) or more hours or increase unless control actions are taken, or in the case of ozone, the situation is likely to reoccur within the next 24 hours unless control actions are taken.

(4) **"AIR POLLUTION WARNING"**: The warning level indicates that air quality is continuing to degrade and that additional control actions are necessary. A warning will be declared when any one of the following levels is reached at the monitoring site:

(a) SO_2 - 1600 ug/m^3 (0.6 ppm), 24-hr average.

(b) PM_{10} - 420 ug/m^3, 24-hour average.

(c) Reserved

(d) CO-34 mg/m^3 (30 ppm), 8-hr. average.

(e) Ozone (O_3) - 800 ug/m^3 (0.4 ppm), 1-hr. average.

(f) NO - 2,260 ug/m^3 (1.2 ppm)--1-hr. average; 565 ug/m^3 (0.3 ppm), 24-hr. average

And meteorological conditions are such that pollutant concentrations can be expected to remain at the above levels for twelve (12) or more hours or increase unless control actions are taken, or in the case of ozone, the situation is likely to reoccur within the next 24 hours unless control actions are taken.

(5) **"AIR POLLUTION EMERGENCY"**: The emergency level indicates that air quality is continuing to degrade to a level which could cause an unreasonable risk to public health and that the most stringent control actions are necessary. An emergency will be declared when any one of the following levels is reached at any monitoring site:

(a) SO_2-2, 100 ug/m^3 3 (018 ppm), 24-hr. average.

(b) PM_{10} - 500 ug/m^3, 24-hour average.

(c) Reserved

(d) CO-46 mg/m^3 (40 ppm), 8-hr. average.

(e) Ozone (O^3) - 1,000 ug/m^3 (0.5 ppm), 1-hr. average.

(f) NO_2--3,000 ug/m^3 (1.6 ppm) 1-hr. average; 750 ug/m^3 (0.4 ppm), 24-hr. average.

And meteorological conditions are such that this condition can be expected to continue for twelve (12) or more hours, or in the case of ozone, the situation is likely to reoccur within the next 24 hours unless control actions are taken.

(6) **"TERMINATION"**: Once declared, any status reached by application of these criteria will remain in effect until the criteria for that level are no longer met. At such time, the next lower status will be assumed.

Authority: *T.C.A. 68-201-105 and T.C.A. 4-5-202. Administrative History. Original Rule certified June 7, 1974. Amended effective February 9, 1977. Amended effective November 14, 1994.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF SEPT 15, 1994

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1st Revision	SEP 01, 1993	SEP 15, 1994	59 FR 47256
2nd Revision			

1200-3-15-.03 REQUIRED EMISSIONS REDUCTIONS

(1) When the Technical Secretary has declared that an air pollution alert, an air pollution warning, or an air pollution emergency exists, all persons must follow the requirements for that episode level as outlined in Tables 1, 2, or 3 or the air pollution episode emissions reduction plan approved in accordance with paragraphs (2), (3), (4), (5) or (6) of this rule. If a plan has been approved, emissions must be reduced at that level or lower.

(2) Major sources in or significantly impacting a nonattainment area must submit to the Technical Secretary an acceptable air pollution episode emissions reduction plan to be followed during the alert, warning, and emergency levels of an air pollution episode. The term "Major source" as used above means any of the following types of stationary sources of air pollutants which emit, or have the potential to emit, one hundred tons per year or more of any air pollutant from the following types of stationary sources: fossil fuel fired steam electric plants of more than two hundred fifty million British thermal units per hour heat input, coal cleaning plants (thermal dryers), draft pulp mills, Portland Cement plants, primary zinc smelters, iron and steel mill plants, primary copper smelters, municipal incinerators capable of charging more than two hundred and fifty tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, coke oven batteries, sulfur plants, phosphate rock processing plants, sulfur recovery plants, carbon black plants, (furniture process) primary lead smelters, fuel conversion plants, sintering plants, secondary metal production facilities, chemical process plants, fossil-fuel boilers of more than two hundred and fifty million British thermal units per hour heat input, petroleum storage and transfer facilities with a capacity exceeding three hundred thousand barrels, taconite ore processing facilities, glass fiber processing plants, charcoal production facilities. Such term also includes any other sources with the potential to emit two hundred and fifty tons per year or more of any air pollutant. Only the pollutants for which the area is nonattainment are considered in determining whether a source is a major source. ***[Submitted August 26, 1981]***

(3) Any source subject to paragraph (2) above must submit a revised air pollution episode emissions reduction plan at the request of the Technical Secretary should the nature and quantity of the source's emissions change or the original plan be deemed inadequate.

(4) The owners and operators of other air contaminant sources, having a smaller potential for emissions than one hundred tons per year, may file an acceptable air pollution episode emissions reduction plan for use during an air pollution episode if they feel they can contribute through other measures as much or more benefit to the reduction of the health hazard in the area at a much lower cost to themselves.

(5) Where specific actions may be necessary to relieve a health hazard by sources emitting at lower levels than that indicated in paragraph (2) above the Technical Secretary may require the submittal of an acceptable plan from the owners or operators of that source. The owner or operator will have thirty (30) days to submit the plan, once it has been required.

(6) If the owners or operators of any source required to have an approved air pollution episode emissions reduction plan on file with the Technical Secretary by paragraphs (2), (3), or (5) above, fails to submit an approvable plan to the Technical Secretary, the Technical Secretary may schedule an Administrative Hearing to set an approved air pollution episode emissions reduction plan for that air pollution source.

TABLE 1

EMISSION REDUCTION PLANS

ALERT LEVEL

Part A. GENERAL

1. There shall be no open burning by any persons of tree waste, vegetation, refuse, or debris in any form.

2. The use of incinerators for the disposal of any form of solid waste shall be limited to the hours between 12:00 noon and 4:00 p.m.

3. Persons operating fuel-burning equipment which requires boiler lancing or soot blowing shall perform such operations only between the hours of 12:00 noon and 4:00 p.m.

4. The Tennessee Air Pollution Control Division encourages persons operating motor vehicles to eliminate all unnecessary operation.

Part B. SOURCE CURTAILMENT

Any person responsible for the operation of a source of air pollutants listed below shall take all required control actions for this Alert Level.

Source of Air Pollution		Control Action	
1.	Coal or oil-fired electric power reduction by generating facilities	a.	Substantial utilization of fuels having low ash and sulfur content.
		b.	Maximum utilization of mid-day (12:00 p.m. to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.
		c.	Substantial reduction by diverting electric power generation to facilities outside of Alert Area.
2.	Coal and oil-fired process steam generating facilities	a.	Substantial reduction by utilization of fuels having low ash and sulfur content.
		b.	Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.
		c.	Substantial reduction of steam load demands consistent with continuing plant operations.
3.	Manufacturing industries of the following classifications: Primary Metals Industry Petroleum Refining Operations Chemical Industries Paper and Allied Products Grain Industry	a.	Substantial reduction of air contaminants from contaminants from manufacturing operations by curtailing, postponing, or deferring production and all operations.
		b.	Maximum reduction by deferring trace waste disposal operations which emit solid particles, gases, vapors. or malodorous substance.
		c.	Maximum reduction of heat load demands for processing.
		d.	Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing or soot blowing.

TABLE 2

EMISSION REDUCTION PLANS

WARNING LEVEL

Part A. GENERAL

1. There shall be no open burning by any persons of tree waste, vegetation, refuse or debris in any form.

2. The use of incinerators for the disposal of any form of solid waste or liquid waste shall be prohibited.

3. Persons operating fuel-burning equipment which requires boiler lancing or soot blowing shall perform such operations only between the hours of 12:00 noon and 4:00 p.m.

4. The Tennessee Air Pollution Control Division encourages persons operating motor vehicles to reduce operations by the use of car pools and increase use of public transportation and the elimination of unnecessary operation.

Part B. SOURCE CURTAILMENT

Any person responsible for the operation of a source of air pollutants listed below shall take all required control actions for this Warning Level.

Source of Air Pollution	Control Level
1. Coal or oil-fired electric power generating facilities	a. Maximum reduction by utilization of fuels having lowest ash and sulfur content.
	b. Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmosphefic turbulence for boiler lancing and soot blowing.
	c. Maximum reduction by diverting electric power generation to facilities outside of Warning Area.

2.	Coal and oil-fired process steam generating facilities	a.	Maximum reduction by utilization of fuels having the lowest ash and sulfur content.
		b.	Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.
		c.	Making ready for use a plan of action to be taken if an emergency develops.
3.	Manufacturing industries which require considerable lead time for shut-down including the following classifications:	a.	Maximum reduction if air contaminants from manufacturing operations if necessary, assuming reasonable economic hardship by postponing production and allied operation.
	Petroleum Refining		
	Chemical Industries	b.	Maximum reduction by deferring which emit solid particles, gases, vapors, or malodorous substances.
	Primary Metal Industries		
	Glass Industry	c.	Maximum reduction of heat load demands for processing.
	Paper and Allied Products	d.	Maximum utilization of mid-day (12:00 noon to 4:00 pm) atmospheric turbulence for boiler lancing and soot blowing.
4.	Manufacturing industries which require relatively short lead time for shut-down including the following classifications:	a.	Elimination of air contaminants from manufacturing operations by ceasing, curtailing, postponing, or deferring production and allied operations to the extent possible without causing injury to persons or damage.
	Primary Metal Industries		
	Chemical Industries	b.	Elimination of air contaminants from trade waste disposal processes which emit solid particulates, gases, vapors, or malodorous substances.
	Mineral Processing Industries		
	Grain Industry	c.	Maximum reduction of heat load demands for processing.
		d.	Maximum utilization of mid-day (12:00 noon to 4:00 pm) atmospheric turbulence for boiler lancing and soot blowing.

TABLE 3

EMISSION REDUCTION PLANS

EMERGENCY LEVELS

Part A. GENERAL

1. There shall be no open burning by any persons of tree waste, vegetation, refuse or debris in any form.

2. The use of incinerators for the disposal of any form of solid or liquid waste shall be prohibited.

3. All places of employment described below shall immediately cease operations.

   a. Mining and quarrying of non-metallic minerals

   b. All construction work except that which must proceed to avoid emergent physical harm.

   c. All air contaminant sources except those required to have in force an air pollution emergency plan.

4. Any commercial and manufacturing establishments not included in this order will institute such actions as will result in maximum reduction of air pollutants from their operations by ceasing, curtailing, or postponing operations which emit air pollutants to the extent possible without causing injury to persons or damage to equipment.

5. The Tennessee Air Pollution Control Division encourages the users of motor vehicles to cease usage except in emergencies.

Part B. SOURCE CURTAILMENT

Any person responsible for the operation of a source of air pollutants listed below shall take all required control actions for this Emergency Level.

Source of Air Pollution		Control Action	
1.	Coal or oil-fired electric power generating facilities.	a.	Maximum reduction by utilization of fuels having lowest sulfur and ash content.
		b.	Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing or soot blowing.
		c.	Maximum reduction by diverting electric power generation to facilities outside of Emergency Area.
2.	Coal and oil-fired process steam generating facilities.	a.	Maximum reduction by reducing heat and steam demands to absolute necessities consistent with preventing equipment damage.
		b.	Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.
		c.	Taking the action called for in the emergency plan.
3.	Manufacturing industries of the following classifications:	a.	Elimination of air contaminants from manufacturing operations by ceasing, curtailing, postponing or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment.
	Primary Metals Industries		
	Petroleum Refining	b.	Elimination of air contaminants from trade waste disposal processes which emit solid particles, gases, vapors, or malodorous substances.
	Chemical Industries		
	Grain Industry	c.	Maximum reduction of heat load demands for processing.
	Paper and Allied Products	d.	Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing or soot blowing.

Authority: *T.C.A. Section 68-25-105. Administrative History. Original Rule certified June 7, 1974. Amended effective February 9, 1977. Amended effective May 15, 1981.*

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2nd Revision			

NOTE: CHAPTER 1200-3-16 "NEW SOURCE PERFORMANCE STANDARDS" IS NOT PART OF THE FEDERALLY APPROVED SIP. THE CHAPTER 16 REGULATIONS FOR NSPS ARE CONTAINED IN THE TENNESSEE REGULATIONS. EPA REVIEWS THE TENNESSEE NSPS RULES PRIOR TO GRANTING TENNESSEE AUTHORITY TO ENFORCE NSPS STANDARDS. THESE RULES ARE COMPARED TO 40 CFR PART 60 FOR CONSISTENCY WITH FEDERAL REQUIREMENTS.

NOTE: Chapter 1200-3-17 "Adminstrative Procedures" has been repealed. Tennessee will hold a public hearing on February 21, 1995, to receive public comments on a new proposed chapter 1200-3-17. This new chapter will be submitted to EPA for incorporation into the SIP after it has become state effective.

CHAPTER 1200-3-18
VOLATILE ORGANIC COMPOUNDS

1200-3-18-.01 DEFINITIONS

(1) For the purpose of this chapter, the following definitions apply:

(1) **"Actual emissions"** means the quantity of volatile organic compounds (VOC's) emitted from a source during a particular time period.

(2) **"Ambient air"** means that portion of the atmosphere, external to buildings, to which the general public has access.

(3) **"As applied"** means including dilution solvents added before application of the coating.

(4) **"Automobile"** means a motor vehicle capable of carrying no more than 12 passengers.

(5) **"Bulk gasoline plant"** means a gasoline storage and distribution facility, other than a bulk gasoline terminal or a gasoline dispensing facility.

(6) **"Bulk gasoline terminal"** means a gasoline storage facility that receives gasoline from refineries, delivers gasoline to bulk gasoline plants or to commercial or retail accounts, and has a daily throughput of more than 76,000 L (20,000 gal) of gasoline on a 30-day rolling average.

(7) **"Capture efficiency"** means the weight per unit time of VOC entering a capture system and delivered to a control device divided by the weight per unit time of total VOC generated by a source of VOC, expressed as a percentage.

(8) **"Capture system"** means all equipment (including, but not limited to, hoods, ducts, fans, booths, ovens, dryers, etc.) that contains, collects, and transports an air pollutant to a control device.

(9) **"Carbon adsorber"** means a control device which uses activated carbon to adsorb volatile organic compounds from a gas stream.

(10) **"Carbon adsorption system"** means a carbon adsorber with an inlet and outlet for exhaust gases and a system to regenerate the saturated adsorbent.

(11) **"Coating"** means a material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealants, adhesives, maskants, and temporary protective coatings.

(12) **"Coating line"** means a series of one or more coating applicators and any associated drying area and/or oven wherein a coating is applied, dried, and/or cured. A coating line ends at the point where the coating is dried or cured, or prior to any subsequent application of a different coating. It is not necessary to have an oven or a flashoff area in order to be included in this definition. This definition does not apply to web coating.

(13) **"Complying coating"** means a coating which satisfies the VOC content or emission standard or formulation standard, as applied, specified in this chapter for its use.

(14) **"Complying ink"** means an ink which satisfies the VOC content or emission standard or formulation standard, as applied, specified in this chapter for its use.

(15) **"Condensate"** means volatile organic compound (VOC) liquid, separated from natural gas, that condenses due to changes in temperature and/or pressure and remains liquid at standard conditions.

(16) **"Condenser"** means any heat transfer device used to liquefy vapors by removing their latent heats of vaporization. Such devices include, but are not limited to, shell and tube, coil, surface, or contact condensers.

(17) **"Construction"** means on-site fabrication, erection, or installation of a source, air pollution control or monitoring equipment, or a facility.

(18) **"Continuous vapor control system"** means a vapor control system that treats vapors displaced from tanks during filling on a demand basis without intermediate accumulation.

(19) **"Control device"** means equipment (such as an incinerator or carbon adsorber) used to reduce, by destruction or removal, the amount of air pollutant(s) in an air stream prior to discharge to the ambient air.

(20) **"Control system"** means a combination of one or more capture system(s) and control device(s) working in concert to reduce discharges of pollutants to the ambient air.

(21) **"Crude oil"** means a naturally occurring mixture that consists of hydrocarbons and/or sulfur, nitrogen, and/or oxygen derivatives of hydrocarbons and that is liquid at standard conditions.

(22) **"Day"** means a period of 24 consecutive hours beginning at midnight local time, or beginning at a time consistent with a facility's operating schedule.

(23) **"Destruction or removal efficiency"** means the amount of VOC destroyed or removed by a control device expressed as a percent of the total amount of VOC entering the device.

(24) **"Double block-and-bleed system"** means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

(25) **"Emission"** means the release or discharge, at the facility, whether directly or indirectly, of VOC into the ambient air.

(26) **"Exempt compounds"** means any of the following compounds: carbon monoxide; carbon dioxide; carbonic acid; metallic carbides and carbonates; ammonium carbonate; methane; ethane; methylene chloride (dichloromethane); 1,1,1-trichloroethane (methyl chloroform); 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113); trichlorofluoromethane (CFC-11); dichlorodifluoromethane (CFC-12); chlorodifluoromethane (HCFC-22); trifluoromethane (HFC-23); dichlorotetrafluoroethane (CFC-114); chloropentafluoroethane (CFC-115); dichlorotrifluoroethane (HCFC-123); tetrafluoroethane (HFC-134a);

dichlorofluoroethane(HCFC-141b); chlorodifluoroethane (HCFC-142b); 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124); pentafluoroethane (HFC-125); 1,1,2,2-tetrafluoroethane (HFC-134); 1,1,1-trifluoroethane (HFC-143a); 1,1-difluoróethane (HFC-152a); perchloroethylene; acetone; parachlorobenzotrifluoride (PCBTF); cyclic, branched, or linear completely methylated siloxanes (VMS); and perfluorocarbon compounds which fall into these classes:

(a) Cyclic, branched, or linear, completely fluorinated alkanes,

(b) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations,

(c) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations, and

(c) Sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

(27) **"External floating roof"** means a cover over an open-top storage tank consisting of a double deck or pontoon single deck that rests upon and is supported by the volatile organic liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.

(28) **"Facility"** means any source or group of sources located within a contiguous area, and under common control.

(29) **"First attempt at repair"** means to take rapid action for the purpose of stopping or reducing leakage of organic material to the atmosphere using best practices.

(30) **"Flashoff area"** means the space between the coating application area and the oven.

(31) **"Gasoline"** means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals (kPa) (8.15 inches of mercury [in. Hg]) or greater that is used as a fuel for internal combustion engines.

(32) **"Gasoline dispensing facility"** means any site where gasoline is transferred from a stationary storage tank to a motor vehicle gasoline fuel tank.

(33) **"Gasoline tank truck"** means a delivery tank truck used at bulk gasoline plants, bulk gasoline terminals, or gasoline dispensing facilities that is loading or unloading gasoline or that has loaded or unloaded gasoline on the immediately previous load.

(34) **"Graphic arts"** means an industry encompassing printing operations based on letterpress, offset lithography, screen, rotogravure, and flexography.

(35) **"Heavy-duty truck"** means any motor vehicle rated at more than 3,864 kg (8,500 lb) gross weight designed primarily to transport property.

(36) **"Incinerator"** means a combustion apparatus in which solid, semisolid, liquid, or gaseous combustible wastes are ignited and burned and from which the solid and gaseous residues contain little or no combustible material.

(37) **"Ink"** means a fluid composition consisting of colorant to provide optical contrast with a substrate, film formers to provide adhesion to the substrate, oils and/or solvents to provide fluidity and drying, and other functional additives.

(38) **"Intermittent vapor control system"** means a vapor control system that 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.

(39) **"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.

(40) **"Leak"** means a VOC emission indicated by an instrument calibrated according to Method 21 using zero air (less than 10 parts per million [ppm] of hydrocarbon in air) and a mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane; by dripping liquid; or by calibrated sensor.

(41) **"Lease custody transfer"** means the transfer of produced crude oil condensate, after processing and/or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.

(42) **"Light-duty truck"** means any motor vehicle rated at 3,864 kg (8,500 lb) gross weight or less designed primarily to transport property.

(43) **"Loading rack"** means an aggregation or combination of gasoline 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.

(44) **"Lower explosive limit"** (also denoted as LEL) means the concentration of a compound in air below which a flame will not propagate if the mixture is ignited.

(45) **"Maximum theoretical emissions"** means the quantity of VOC that theoretically could be emitted by a source without control devices based on the design capacity or maximum production capacity of the source and 8,760 hours of operation per year. The design capacity or maximum production capacity includes use of materials with the highest VOC content used in practice by the source for the 2 years preceding April 22, 1993, and anytime after.

(46) **"Maximum true vapor pressure"** means the equilibrium partial pressure exerted by a stored volatile organic liquid at the temperature equal to: (1) for liquids stored above or below the ambient temperature, the highest calendar-month average of the liquid storage temperature, or (2) for liquids stored at the ambient temperature, the local maximum monthly average temperature as reported by the National Weather Service. This pressure shall be determined:

(a) In accordance with methods described in American Petroleum Institute Bulletin 2517, "Evaporation Loss From External Floating Roof Tanks;" (1962);

(b) By using standard reference texts;

(c) By ASTM D2879-83; or

(d) By any other method approved as a revision to the State Implementation Plan.

(47) **Multicomponent coating"** means a coating packaged in two or more parts, which parts are combined before application, and where a coreactant from one part of the coating chemically reacts, at ambient conditions, with a coreactant from another part of the coating.

(48) **"Open-ended valve or line"** means any valve, except safety relief valves, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

(49) **"Operation"** means an activity. For example, a prime coat operation is the activity of applying a prime coat.

(50) **"Organic compound"** means a chemical compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.

(51) **"Oven"** means a chamber which is used to bake, cure, polymerize, and/or dry a coating.

(52) **"Overall emission reduction efficiency"** means the weight per unit time of VOC removed or destroyed by a control device divided by the weight per unit time of VOC generated by a source, expressed as a percentage. The overall emission reduction efficiency can also be calculated as the product of the capture efficiency and the control device destruction or removal efficiency.

(53) **"Owner or operator"** means any person who owns, leases, controls, operates, or supervises a facility, existing source, new source, or control device.

(54) **"Person"** means any individual, partnership, copartnership, firm, company, corporation, association, joint stock company, trust, estate, state government, the federal government, political subdivision, or any other legal entity, or their legal representative, agent, or assigns.

(55) **"Petroleum"** means crude oil and the oils derived from tar sands, shale, and coal.

(56) **"Petroleum liquid"** means crude oil, condensate, and any finished or intermediate product manufactured or extracted at a petroleum refinery, but not including Nos. 2 through 6 fuel oils as specified in ASTM D396-78; gas turbine fuel oils Nos. 2-GT through 4-GT as specified in ASTM D2880-78; or diesel fuel oils Nos. 2-d and 4-D, as specified in ASTM D975-78.

(57) **"Petroleum refinery"** means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum or through the redistillation, cracking, or reforming of unfinished petroleum derivatives.

(58) **"Plastisol"** means a coating made of a mixture of finely divided resin and a plasticizer. Plastisol is applied as a thick gel that solidifies when heated.

(59) **"Potential VOC emissions"** means the maximum capacity to emit, without add-on emission controls, according to physical and operational design. Any physical or operational limitation, except concerning add-on emission controls, on the capacity to emit shall be treated as part of operational design for the purpose of determining potential emissions if the limitation is enforceable by the administrator of the EPA and the Technical Secretary, including those under this Division 1200-3, the State Implementation Plan, and permit conditions established pursuant to Chapter 1200-3-9.

(60) **"Pressure release"** means the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.

(61) **"Prime coat"** means the first of two or more coatings applied to a surface.

(62) **"Printing"** means the mechanical process used to reproduce images, patterns, and text through the transfer of ink to a substrate.

(63) **"Printing press"** means equipment used to apply words, pictures, or graphic designs to either a continuous substrate or a sheet. A continuous substrate consists of paper, plastic, or other material that is unwound from a roll, passed through coating or ink applicators and any associated drying areas. The press includes all coating and ink applicators, including applicators which apply coatings uniformly across the substrate, and drying areas between unwind and final drying of the continuous substrate. A sheet consists of paper, plastic, or other material that is conveyed through the process. The press includes all coating and ink applicators and drying operations between the time that the sheet is put into the press until it is taken off.

(64) **"Process unit"** means equipment assembled for the extraction of natural gas liquids from field gas, the fractionation of the liquids into natural gas products, or other operations associated with the processing of natural gas products. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the products.

(65) **"Process unit shutdown"** means a work practice or operational procedure that stops production from a process unit or part of a process unit. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not process unit shutdowns.

(66) **"Reference Method"** means the method of sampling or analyzing described in Appendix A of 40 CFR 60 as of July 1, 1991.

(67) **"Reid vapor pressure"** means the absolute vapor pressure of volatile crude oil and volatile non-viscous petroleum liquids, except liquefied petroleum gases, as determined by ASTM D323-89.

(68) **"Repaired"** means that equipment is adjusted, or otherwise altered, in order to eliminate a leak as indicated by one of the following: a calibrated instrument reading of 10,000 parts per million (ppm) or greater, indication of liquids dripping, or indication by a calibrated sensor that a seal or barrier fluid system has failed.

(69) **"Roll coating"** means the application of a coating material to a moving substrate by means of hard rubber, elastomeric, or metal rolls.

(70) **"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 recessed relative to the non-image area, and the coating material is picked up in these recessed areas and is transferred to the substrate.

(71) **"Shutdown"** means the cessation of operation of a facility or of its emission control or emission monitoring equipment.

(72) **"Solvent"** means a substance that is liquid at standard conditions and is used to dissolve or dilute another substance; this term includes, but is not limited to, organic materials used as dissolvers, viscosity reducers, degreasing agents, or cleaning agents.

(73) **"Source"** means any building, structure, equipment, or installation that releases or discharges, or has the potential to release or discharge, VOC's into the ambient air.

(74) **"Standard conditions"** means a temperature of 20°C (68°F) and pressure of 760 mm Hg (29.92 in. Hg).

(75) **"Startup"** means the setting in operation of a source or of its emission control or emission monitoring equipment.

(76) **"Submerged fill"** means the method of filling a delivery vessel or storage vessel where product enters within 150 millimeters (mm) (5.9 inches [in]) of the bottom of the delivery or storage vessel. Bottom filling of delivery and storage vessels is included in this definition.

(77) **"Substrate"** means the surface onto which a coating is applied or into which a coating is impregnated.

(78) **"Technical Secretary"** means the Technical Secretary or his authorized representative.

(79) **"Topcoat"** means the final coating(s), as applied, in a multiple-coat operation.

(80) **"Truck"** means any motor vehicle designed primarily to transport property.

(81) **"True vapor pressure"** means the equilibrium partial pressure exerted by a volatile organic liquid as determined in accordance with methods described in American Petroleum Institute Bulletin 2517, "Evaporation Loss From Floating Roof Tanks," second edition, February 1980.

(82) **"Vapor balance system"** means a closed system that causes, by displacement during transfer of gasoline, the transfer of gasoline vapors from a tank being loaded to the tank being unloaded.

(83) **"Vapor collection system"** means all piping, seals, hoses, connections, pressure-vacuum vents, and other equipment between a gasoline tank truck and a vapor processing unit and/or a storage tank and vapor holder.

(84) **"Vapor control system"** means a system that limits or prevents release to the ambient air of vapors displaced from a tank during the transfer of gasoline.

(85) **"Vapor recovery system"** means a vapor gathering system capable of collecting VOC vapors generated during the operation of any transfer, storage, or process equipment.

(86) **"Vapor-tight"** means equipment that allows no excessive loss of vapors. Compliance with vapor-tight requirements can be determined by checking to ensure that the concentration at a potential leak source is not equal to or greater than 100 percent of the lower explosive limit (LEL) when measured with a combustible gas detector, calibrated with propane, at a distance of 2.54 centimeters (cm) (1 inch [in]) from the source.

(87) **"Vapor-tight gasoline tank truck"** means a gasoline tank truck that has demonstrated within the 12 preceding months that its product delivery tank will sustain a pressure change of not more than 75 mm (3.0 in) of water within 5 minutes (min) after it is pressurized to 450 mm (18 in) of water; or when evacuated to 150 mm (5.9 in) of water, the same tank will sustain a pressure change of not more than 75 mm (3.0 in) of water within 5 min. This capability is to be demonstrated using the test procedures specified in Reference Method 27.

(88) **"Volatile organic compound" (VOC)** means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. This includes any such organic compound other than the following, which have been determined to have negligible photochemical reactivity; Methane; ethane; methylene chloride (dichloromethane); 1,1,1-trichloroethane (methyl chloroform); 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113); trichlorofluoromethane (CFC-11); dichlorodifluoromethane (CFC-12); chlorodifluoromethane (HCFC-22); trifluoromethane (HFC-23); dichlorotetrafluoroethane (CFC-114); chloropentafluoroethane (CFC-115); dichlorotrifluoroethane (HCFC-123); tetrafluoroethane (HFC-134a); dichlorofluoroethane (HCFC-141b); chlorodifluoroethane (HCFC-142b); 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124); pentafluoroethane (HFC-125); 1,1,2,2-tetrafluoroethane (HFC-134); 1,1,1-trifluoroethane (HFC-143a); 1,1-difluoroethane (HFC-152a); perchloroethylene; acetone; parachlorobenzotrifluoride (PCBTF); cyclic, branched, or linear completely methylated siloxanes (VMS); and perfluorocarbon compounds which fall into these classes:

(a) Cyclic, branched, or linear, completely fluorinated alkanes;

(b) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;

(c) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and

(d) Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

For purposes of determining compliance with emissions limits, VOC will be measured by the test methods in the approved State implementation plan (SIP) or 40 CFR Part 60, Appendix A, as published (7/1/91) edition, as applicable. Where such a method also measures compounds with negligible photochemical reactivity, these negligibility-reactive compounds may be excluded as VOC if the amount

of such compounds is accurately quantified, and such exclusion is approved by the Technical Secretary. As a precondition to excluding these compounds as VOC or at any time thereafter, the Technical Secretary may require an owner or operator to provide monitoring or testing methods and results demonstrating, to the satisfaction of the Technical Secretary, the amount of negligibly-reactive compounds in the source's emissions.

(89) **"Web coating line"** means all of the coating applicator(s), drying area(s), or oven(s), located between an unwind station and a rewind station, that are used to apply coating onto a continuous strip of substrate (the web). A web coating line need not have a drying oven.

(90) **"Weighted average VOC content"** means the VOC content as calculated according to the specifications of Paragraph .82(1) of this chapter or according to the specifications of other rules of this chapter, as applicable.

(2) The definitions in Chapter 1200-3-2 apply for those terms not defined in Chapter 1200-3-18.

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1200-3-18-.02 GENERAL PROVISIONS AND APPLICABILITY

(1) It is the purpose of this chapter to establish emission standards and requirements for certain sources of volatile organic compounds for which applicability is specified in this chapter and other chapters of this division. In determining whether the sources of a source category at a facility satisfy the applicability standard of a specific rule, the potential VOC emissions from all sources of the source category shall be totaled.

(2) Upon mutual agreement of any air contaminant source and the Technical Secretary, an emission limit more restrictive than that otherwise specified in this chapter may be established. Also, upon mutual agreement of any air contaminant source and the Technical Secretary, operating hours, process flow rates, or any other operating parameter may be established as a limit which the source must adhere to. Any items mutually agreed to shall be stated as special conditions for any permit or order concerning the source. Violation of this mutual agreement shall result in enforcement action.

(3) Nothing in this chapter shall be construed to exempt sources from satisfying other applicable rules in this division and standards and requirements derived from or according to rules of this division, including, but not limited to, new source review requirements, permit conditions, and standards and requirements mutually agreed to or included in the State Implementation Plan.

(4) These regulations do not apply to any equipment used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance provided the operation of the equipment is not an integral part of a production process and the total actual emissions from all such equipment at the facility do not exceed 204 kilograms (kg) (450 pounds [lb]) in any calendar month. Any facility availing of this exemption shall maintain the following records for at least 3 years and shall make those records available to the Technical Secretary upon request:

(a) Records to document the purpose of the equipment for which the exemption is claimed, and

(b) Records to document the amount of each volatile organic compound (VOC)-containing material used in the equipment each calendar month and the VOC content of each material such that emissions can be determined for each calendar month.

(5) At any facility which contains sources subject to volatile organic compound content standards of this chapter, there shall be allowed a nonrenewable exemption from these standards for the use in these sources of a facility-wide aggregate of 55 gallons, as applied, of coatings and inks which exceed these standards during any rolling 12-month period if the following conditions are satisfied:

(a) No more than 55 gallons of these coatings and inks is used during any rolling 12-month period;

(b) The owner or operator of the facility makes application to the Technical Secretary for such exemption identifying the composition or percentage of solid and liquid components for each coating and ink to be included in the exemption;

(c) The exemption has been made a condition on a permit;

(d) Monthly recordkeeping, consistent with the procedures published in Recordkeeping Guidance Document for Surface Coating Operations and the Graphic Arts Industry, EPA 340/1-88-003, July 1989, is maintained; and

(e) After the exemption becomes effective, there is no instance of exceedance of the 55-gallon per rolling 12-month period limit.

(6) No owner or operator subject to these regulations may build, erect, install, or use any article, machine, equipment, process, or other method the use of which conceals emissions that would otherwise constitute non-compliance with an applicable regulation. This 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.

(7) Source-specific standards and requirements, such as reasonably available control technology standards and requirements, may be established which differ from the standards and requirements specified in this chapter. Source-specific standards and requirements must be incorporated as revisions to the State Implementation Plan, unless otherwise provided for in this chapter or in Chapter 21 of this division. The owner or operator of a source for which legal notice must be published to effect source - specific standards and requirements, shall be responsible for all costs associated with publishing the required legal notice.

(8) The owner or operator of any facility in Davidson, Rutherford, Shelby, Sumner, Williamson, or Wilson County which has actual emissions from stationary sources of 25 tons or more of volatile organic compounds (VOC's) during a calendar year shall report to the Technical Secretary information and data concerning these emissions and nitrogen oxide emissions. This information and data shall be in the form prescribed by the Technical Secretary, and shall be submitted before March 31 of the year following the calendar year for which the information and data is reported. The first report shall be for the 1993 calendar year, and shall be submitted before March 31, 1994. Each report shall be signed by an official of the company, certifying that the information and data contained in the report is accurate to the best knowledge of the individual certifying the report.

(9) For any source subject to this chapter in a county other than Davidson, Knox, Rutherford, Shelby, Sumner, Williamson, or Wilson County, requirements in permit conditions specifying data to be collected, records to be maintained, the period of time over which compliance is to be demonstrated, and reports to be submitted to the Technical Secretary shall take precedence over corresponding requirements in rules of this chapter. However the period of time over which compliance is to be demonstrated shall not be in excess of 30 days unless otherwise specified in this chapter.

(10) Multiple lines or operations of a source category which are served by a common control system may be treated as a single line or operation for the purposes of determining compliance with the standards of this chapter. In this case, the most stringent standard applicable to any of the lines or operations shall be the applicable standard for the purpose of compliance determination.

(11) Records required to be maintained shall be maintained within the state. If such records are maintained at a site other than the facility for which the records are generated, the Technical Secretary shall be informed of this. The notice informing the Technical Secretary shall contain, at a minimum, the following:

(a) Facility name;

(b) Facility physical address;

(c) Physical address where the records are maintained; and

(d) Name, phone number, and mailing address of the official responsible for maintenance of the records and from whom records may be obtained.

The Technical Secretary shall be informed of any change in the details listed above within 30 days following such change.

(12) Any facility that becomes or is currently subject to the provisions of a rule of this chapter by exceeding an applicability threshold will remain subject to these provisions even if its emissions, throughput, or capacity later fall below the applicability threshold.

(13) The owner or operator of any line or operation which achieves exemption from standards or requirements of this chapter shall maintain records that document the line or operation satisfies the applicable criteria for the exemption.

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1200-3-18-.03 COMPLIANCE CERTIFICATION, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COATING AND PRINTING SOURCES

(1) Certification, recordkeeping, and/or reporting requirements specified in source - category specific rules of this chapter shall take precedence over the requirements of this rule. To establish the records required under this rule, the volatile organic compound (VOC) content of each coating or ink, as applied, and the efficiency of each capture system and control device shall be determined by the applicable test methods and procedures specified and referenced in this chapter.

(2) Any owner or operator of a coating or printing line or operation that is exempt from emission limitations of this chapter because combined VOC emissions from otherwise - subject lines and operations at the facility are below the 6.8-kilograms (kg) (15-pounds (lb))-per-day applicability threshold specified in the applicable rule of this chapter, before the application of capture systems and control devices, shall comply with the following for each rule from which the owner or operator claims an exemption:

(a) By April 22, 1994, the owner or operator shall certify to the Technical Secretary that the facility is exempt by providing the following:

1. Name and location of the facility;

2. Address and telephone number of the person responsible for the facility;

3. A declaration that the facility is exempt from emission limitations of this chapter because combined VOC emissions from otherwise - subject lines and operations are below the appropriate applicability threshold before the application of capture systems and control devices; and

4. Calculations that demonstrate that the combined VOC emissions from otherwise - subject lines and operations for a day representative of current maximum production levels are 6.8 kilograms (kg) (15 pounds [lb]) or less before the application of capture systems and control devices. The following equation shall be used to calculate total VOC emissions for that day:

$$T = \underset{i=1}{\overset{n}{\text{SUM}}} A_i B_i$$

where:

T = Total VOC emissions from otherwise - subject lines and operations at the facility, before the application of capture systems and control devices, in units of kg/day (lb/day);

n = Number of different coatings or inks applied on each otherwise - subject line or operation at the facility;

i = Subscript denoting an individual coating or ink;

A_i = Mass of VOC per volume of coating or ink (i) (excluding water and/or exempt compounds), as applied, in units of kilograms VOC per liter (kg VOC/L) (pounds VOC per gallon [lb VOC/gal]); and

B_i = Volume of coating or ink (i) (excluding water and/or exempt compounds), as applied, in units of liters per day (L/day) (gallons per day [gal/day]). The instrument or method by which the owner or operator accurately measured or calculated the volume of each coating or ink, as applied, used shall be described in the certification to the Technical Secretary.

(b) On and after April 22, 1994, the owner or operator shall collect and record the following information each day or for an alternate longer period which has been approved by the Technical Secretary and the EPA during which the applicable threshold is not exceeded and maintain the information at the facility for a period of 3 years.

1. The name and identification number of each coating or ink, as applied;

2. The mass of VOC per volume (excluding water and/or exempt compounds) and the volume of coating or ink (i) (excluding water and/or exempt compounds), as applied; and

3. The total VOC emissions as calculated using the equation in Part (a)4 of this paragraph.

(c) On and after April 22, 1994, the owner or operator shall notify the Technical Secretary of any record showing that combined VOC emissions exceed 6.8 kg (15 lb) on any day, before the application of capture systems and control devices. A copy of such record shall be sent to the Technical Secretary within 30 calendar days after the exceedance occurs.

(3) Any owner or operator of a coating line or operation subject to the limitations of this chapter and complying by means of the use of complying coatings or inks shall comply with the following:

(a) By April 22, 1994, or upon startup of a new line or operation, or upon changing the method of compliance for a subject line or operation from daily-weighted averaging or control devices to the use of complying coatings, the owner or operator shall certify to the Technical Secretary that the line or operation is in compliance with the requirements of the applicable rule. Such certification shall include:

1. The name and location of the facility;

2. The address and telephone number of the person responsible for the facility;

3. Identification of subject sources;

4. The name and identification number of each coating or ink in use, as applied; and

5. The mass of VOC per volume of each coating or ink in use (excluding water and/or exempt compounds), as applied.

(b) On and after April 22, 1994, or on and after the initial startup date, the owner or operator shall maintain for each subject line or operation for a period of 3 years information as follows:

1. The name and identification number of each coating or ink used, as applied, and

2. The mass of VOC per volume of each coating or ink (excluding water and/or exempt compounds), used, as applied.

(c) On and after April 22, 1994, the owner or operator shall notify the Technical Secretary in the following instances:

1. Any record showing use of any non-complying coatings and/or inks shall be reported by sending a copy of such record to the Technical Secretary within 30 calendar days following that use, and

2. At least 30 calendar days before changing the method of compliance from the use of complying coatings and/or inks to daily-weighted averaging or control devices, the owner or operator shall comply with all requirements of Subparagraph (4)(a) or (5)(a) of this rule, respectively.

(4) Any owner or operator of a coating or printing line or operation subject to the limitations of this chapter and complying by means of weighted averaging on that line or operation shall comply with the following:

(a) By April 22, 1994, or upon startup ot a new line or operation, or upon changing the method of compliance for a subject line or operation from the use of complying coatings and/or inks or control devices to daily-weighted averaging, the owner or operator shall certify to the Technical Secretary that the line or operation is in compliance with the requirements of this paragraph. Such certification shall include:

1. The name and location of the facility;

2. The address and telephone number of the person responsible for the facility;

3. Identification of subject sources;

4. The name and identification number of each line or operation which will comply by means of weighted averaging;

5. The instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating and/or ink (excluding water and/or exempt compounds), as applied, used each day on each line or operation;

6. The method by which the owner or operator will create and maintain records as required in Subparagraph (b) of this paragraph, with an example of the format in which these records will be kept;

7. Calculation of the weighted average for a day representative of current or projected maximum production levels; and

8. The time at which the facility's "day" begins if a time other than midnight local time is used to define a "day".

(b) On and after April 22, 1994, or on and after the initial startup date, the owner or operator shall collect and record all of the following information each day for each subject line or operation and maintain the information for a period of 3 years;

1. The name and identification number of each coating and/or ink, as applied;

2. The mass of VOC per volume (excluding water and/or exempt compounds) and the volume of each coating and/or ink (excluding water and/or exempt compounds), as applied, used; and

3. The weighted average VOC content of all coatings and/or inks, as applied, calculated according to the procedure in Paragraph .82(1) of this chapter.

(c) On and after April 22, 1994, the owner or operator shall notify the Technical Secretary in the following instances:

1. Any record showing noncompliance with the applicable daily-weighted average requirements shall be reported by sending a copy of the record to the Technical Secretary within 30 calendar days following the occurrence, and

2. At least 30 calendar days before changing the method of compliance from daily-weighted averaging to the use of complying coatings and/or inks or control devices, the owner or operator shall comply with all requirements of Subparagraph (3)(a) or (5)(a) of this rule, respectively.

(5) Any owner or operator of a coating or printing line or operation subject to the limitations of this chapter and complying by means of control devices shall comply with the following:

(a) By April 22, 1994, unless otherwise specified in this chapter, or upon startup of a new line or operation, or upon changing the method of compliance for any existing line or operation from the use of complying coatings or inks or weighted averaging to control devices, the owner or operator of the subject line or operation shall have performed or shall perform, as applicable, a compliance test. Testing shall have been performed or shall be performed pursuant to the procedures specified and referenced in this chapter. No later than 60 days after completion of the performance test, the owner or operator of the subject line or operation shall submit to the Technical Secretary results of all tests and calculations necessary to demonstrate that the subject line or operation is in compliance with the applicable rule of this chapter.

(b) On and after April 22, 1994, or on and after the initial startup date, the owner or operator shall collect and record the following information each day for each line or operation and maintain the information for a period of 3 years:

1. The name and identification number of each coating or ink used if necessary to calculate the required overall emission reduction efficiency;

2. The mass of VOC per unit volume of coating or ink solids, as applied, the volume solids content, as applied, and the volume, as applied, of each coating or ink used if necessary to calculate the required overall emission reduction efficiency;

3. The maximum VOC content (mass of VOC per unit volume of solids, as applied) or the weighted average VOC content (mass of VOC per unit volume of solids, as applied) of the coatings or inks used if necessary to calculate the required overall emission reduction efficiency;

4. The required overall emission reduction efficiency as determined in the applicable rule of this chapter;

5. The actual overall emission reduction efficiency achieved;

6. Control device monitoring data, e.g. incinerator temperature;

7. A log of operating time for the capture system, control device, monitoring equipment, and the associated line or operation;

8. A maintenance log for the capture system, control device, and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages;

9. For thermal incinerators, all 3-hour periods of operation in which the average combustion temperature was more than 28°C (50°F) below the average combustion temperature during the most recent performance test that demonstrated that the facility was in compliance;

10. For catalytic incinerators:

    (i) Continuous records of the temperature of the gas stream both upstream and downstream of the incinerator.

    (ii) Records of all 3-hour periods of operation in which the average temperature measured before the catalyst bed is more than 28°C (50°F) below the gas stream temperature measured before the catalyst bed during the most recent determination of destruction efficiency of the catalyst incinerator that demonstrated that the facility was in compliance; and

    (iii) Records of all 3-hour periods for which the average temperature difference across the catalyst bed is less than 80 percent of the temperature difference measured during the most recent determination of the destruction efficiency of the catalytic incinerator that demonstrated that the facility was in compliance.

11. For carbon adsorbers, all 3-hour periods of operation during which the average VOC concentration or reading of organics in the exhaust gases is more than 20 percent greater than the average exhaust gas concentration or reading measured by the organics monitoring device during the most recent determination of the removal

efficiency of the carbon adsorber that demonstrated that the facility was in compliance. This specification applies only to carbon adsorbers for which stack emission testing is required to demonstrate compliance with a standard of this chapter.

(c) On and after April 22, 1994, the owner or operator shall notify the Technical Secretary of an instance of noncompliance with the applicable requirements for control devices, such instance of noncompliance including any period of operation during which the parameter boundaries established during the most recent performance test are exceeded as specified in Parts (b) 9, 10, and 11 of this paragraph, by sending a copy of that notice to the Technical Secretary within 30 calendar days following the occurrence.

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1200-3-18-.04 COMPLIANCE CERTIFICATION, RECORDKEEPING AND REPORTING REQUIREMENTS FOR NON-COATING AND NON-PRINTING SOURCES

(1) The owner or operator of any facility containing sources subject to this rule shall submit to the Technical Secretary an initial compliance certification by April 22, 1994. However, if another compliance date is specified for the source, initial compliance certification shall be submitted to the Technical Secretary within 30 days after that date, unless otherwise specified. The owner or operator of any facility containing new sources that become subject to this rule after April 22, 1993, shall submit an initial compliance certification within 180 days after the start-up of each source unless another time for such certification is specified on the construction permit for the source. Certification shall include the following:

(a) For initial compliance certification, as a minimum:

1. Name and location of the facility.

2. Address and telephone number of the person responsible for the facility.

3. Identification of subject sources.

(b) For each subject source, as a minimum:

1. The applicable emission limitation, equipment specification, or work practice;

2. The method of compliance;

3. For each source subject to numerical emission limitations, the estimated emissions without control;

4. The control system(s) in use;

5. The design performance efficiency of the control system;

6. For each source subject to numerical emission limitations, the estimated emissions after control;

7. Certification that each subject source at the facility is in compliance with the applicable emission limitation, equipment specification, or work practice; and

8. The time at which the facility's "day" begins if a time other than midnight local time is used to define a "day".

(2) The owner or operator of any facility containing sources subject to this rule shall, for each occurrence of excess emissions, within 30 calendar days of becoming aware of such occurrence, supply the Technical Secretary with the following information:

(a) The name and location of the facility;

(b) The subject sources that caused the excess emissions;

(c) The time and date of first observation of the excess emissions;

(d) The cause and expected duration of the excess emissions;

(e) For sources subject to numerical emission limitations, the estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and calculations used in determining the magnitude of the excess emissions; and

(f) The proposed corrective actions and schedule to correct the conditions causing the excess emissions.

(3) The following requirements for sources using control devices apply:

(a) By April 22, 1994, or upon startup of a new source, or upon changing the method of compliance for an existing source, the owner or operator of the subject source shall have performed or shall perform, as applicable, all tests. No later than 60 days after the completion of testing, the owner or operator of the subject source shall have submitted to the Technical Secretary the results of all tests and calculations necessary to demonstrate that the subject source is in compliance with the applicable rule of this chapter.

(b) Recordkeeping shall be as follows:

1. Each owner or operator of a source subject to this rule shall maintain up-to-date, continuous records of any equipment operating parameters specified to be monitored in the applicable rule of this chapter as well as up-to-date, records of periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. Exceedances as specified below shall constitute noncompliance. These records shall be maintained for at least 3 years, unless otherwise specified or provided for in this chapter. The Technical Secretary may at any time require a report of these data. Periods of operation during which the parameter boundaries established during the most recent performance test are exceeded are defined as follows:

(i) For thermal incinerators, all 3-hour periods of operation in which the average combustion temperature was more than 28°C (50°F) below the average combustion temperature during the most recent performance test that demonstrated that the facility was in compliance.

(ii) For catalytic incinerators:

(I) Continuous records of the temperature of the gas stream both upstream and downstream of the incinerator.

(II) Records of all 3-hour periods of operation in which the average temperature measured before the catalyst bed is more than 28°C (50°F) below the gas stream temperature measured before the catalyst bed during the most recent determination of destruction efficiency of the catalyst incinerator that demonstrated that the facility was in compliance; and

(III) Records of all 3-hour periods for which the average temperature difference across the catalyst bed is less than 80 percent of the temperature difference measured during the most recent determination of the destruction efficiency of the catalytic incinerator that demonstrated that the facility was in compliance.

(iii) For carbon adsorbers, all 3-hour periods of operation during which the average VOC concentration or reading of organics in the exhaust gases is more than 20 percent greater than the average exhaust gas concentration or reading measured by the organics monitoring device during the most recent determination of the removal efficiency of the carbon adsorber that demonstrated that the facility was in compliance. This specification applies only to carbon adsorbers for which stack emission testing is required to demonstrate compliance with a standard of this chapter.

2. A log of operating time for the capture system, control device, monitoring equipment, and the associated source; and

3. A maintenance log for the capture system, control device, and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.

(4) Provisions of this rule apply only to sources identified as subject to those specific provisions of this rule by other rules of this chapter.

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1200-3-18-.06 HANDLING, STORAGE, USE, AND DISPOSAL OF VOLATILE ORGANIC COMPOUNDS (VOC)

(1) Applicability of this rule is as follows:

(a) This rule applies to all facilities in Davidson, Rutherford, Sumner, Williamson, or Wilson County which contains any source which is subject to standards and requirements in Rules 1200-3-18-.11 through .21 and .24 through .79 of this chapter other than only those requirements for demonstration of exemption or for maintenance of records to document exemption is achieved, for example, a threshold of material use or VOC emission per unit of time has not been exceeded.

(b) This rule does not apply to:

1. Any VOC or material containing VOC emitted in compliance with any other VOC standard under this chapter;

2. Waste paint (sludge) handling systems, water treatment systems, and other similar operations at coating and printing facilities using complying coatings and/or inks; and

3. Sources for which the applicable requirements in Rules 1200-3-18-.11 through .21 and .24 through .79 are only for demonstration of exemption or for maintenance of records to document exemption is achieved, for example, a threshold of material use or VOC emission per unit of time has not been exceeded.

(2) **"Minimum reasonably attainable emissions"** is the minimum quantity of VOC's which is emitted when utilizing all reasonable techniques for controlling evaporation during handling of materials for storage and disposal. Prevention of any evaporation of VOC's from storage and disposal techniques is considered minimum reasonably attainable.

(3) Standards as follow apply:

(a) No owner or operator of a source subject to this rule may cause, allow, or permit the disposal of more than 5 kilograms (kg) (11 pounds [lb]) of any volatile organic compound (VOC), or of any materials containing more than 5 kg (11 lb) of any VOC's, in any 1 day in a manner that would permit the evaporation from the facility of that VOC into the ambient air in excess of the minimum reasonably attainable.

(b) No owner or operator of a source subject to this rule shall use open containers for the storage or disposal of materials impregnated with VOC's that are used for surface preparation, cleanup, coating removal, or facility or equipment cleaning or maintenance.

(c) No owner or operator of a source subject to this rule shall store in open containers spent or fresh VOC to be used for surface preparation, cleanup, coating removal, or facility or equipment cleaning or maintenance except as otherwise provided for in this rule, such as in Subparagraph (d) of this paragraph.

(d) No owner or operator of a source subject to this rule shall use VOC for the cleanup of tools and process equipment, such as spray equipment, unless equipment is used to collect the cleaning compounds and to reasonably minimize VOC evaporation to the atmosphere.

(e) The owner or operator of a source subject to this rule and utilizing all reasonable techniques for controlling evaporation during handling, storage, use, and disposal of materials shall be considered to have achieved the minimum reasonably attainable VOC emissions required in Subparagraph (a) of this paragraph and to have reasonably minimized VOC emissions as required in Subparagraph (d) of this paragraph. Of course, prevention of any evaporation of VOC's from handling, storage, use, and disposal shall be considered achievement of minimum reasonably attainable and to reasonably minimize emissions. Such prevention of any evaporation shall be accepted as a method of achieving compliance with the requirements of Subparagraph (a) and (d) of this paragraph.

(4) {Reserved}

(5) {Reserved}

(6) By July 1, 1996, the owner or operator of an existing source as of August 11, 1996, and subject to this rule shall submit to the Technical Secretary a plan acceptable to the Technical Secretary specifying the methods that will be implemented to achieve compliance with the requirements of Subparagraph (3)(a) and (d) of this rule, along with details of records to be kept demonstrating compliance is maintained.

(7) With respect to compliance certification, initiation of recordkeeping and reporting, and completion of control system compliance testing of a source, the owner or operator of that source shall comply with the requirements of Rule 1200-3-18-.04 of this chapter, except that the applicable date for initial compliance and certification and performance testing shall be November 15, 1996 rather than April 22, 1994. Records demonstrating compliance with the requirements of Paragraph (3) of this rule shall be maintained for a minimum of 3 years and shall be made available to the Technical Secretary upon request.

(8) With respect to petitioning for a source-specific compliance schedule according to and as provided for in Rule 1200-3-18-.07 of this chapter, the owner or operator of an existing source as of August 11, 1996, shall insure the petition is received by the Technical Secretary no later than July 1 1996, rather than October 22, 1993.

(9) For any source which is subject to any Rule 1200-3-18-.11 through .21 or .24 through .79 of this chapter and which handles, stores, uses, or disposes of volatile organic compounds, the standards and requirements of that rule with respect to handling, storage, use, or disposal shall take precedence over standards and requirements in this Rule 1200-3-18-.06 with respect to handling, storage, use, and disposal.

Authority: *TCA 68-201-105 and 4--5-201 et. Seq. Administrative History: Original rule certified July 10, 1979; effective July 10,1979. Amendment filed April 23,1992; effective June 7, 1992. Repeal and new rule filed March 8, 1993; effective April 22, 1993.*

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* ***Tennessee completely replaced rule 1200-3-18-.06 in the June 4, 1996, submittal.***

1200-3-18-.07 SOURCE-SPECIFIC COMPLIANCE SCHEDULES

(1) The owner or operator of an existing source or a source having a State or local agency's construction permit before April 22, 1993, and subject to a standard in this chapter may petition for a source-specific compliance schedule differing from the schedules specified in other rules in this chapter according to the criteria as follow:

(a) One or more of the following conditions are satisfied:

1. The facility demonstrates that it is physically impossible for the source in question to comply with the dates in the categorical schedule;

2. That, by allowing additional time, innovative technology will be applied and the reductions to be achieved will be significantly greater than that from the applicable emission standard. That the facility agrees that this revised value will be contained on the permit as a condition of source operation;

3. (Reserved); or

4. The facility in question is a part of a statewide or multistate program to prioritize the sequence of installing controls at a number of similar sources owned or controlled by the same company, and the overall compliance program is as expeditious as practicable.

(b) Source-specific compliance schedules approved under this rule must propose to achieve final compliance with the specified emission standard as expeditiously as possible, and contain the increments of progress listed below:

1. Date control plan will be submitted,

2. Date contract will be awarded,

3. Date initial construction will commence,

4. Date construction will be completed, and

5. Date final compliance will be achieved.

(c) Source-specific compliance schedules approved under this rule will be subjected to a public hearing and incorporated as a revision to the State Implementation Plan. The facility requesting such source-specific compliance schedule shall be responsible for all costs associated with the required legal notices.

(d) No source-specific compliance schedule will be granted if such a revised schedule will interfere with reasonable further progress in nonattainment areas.

(e) The petition for the source-specific compliance schedule must be received by the Technical Secretary in the Nashville office prior to the first date contained in the compliance schedule specified for the source in other rules of this chapter or October 22, 1993, whichever is earlier.

(2) For any source, the provisions of this rule may be availed of only for achieving compliance with a standard or requirement specified in this chapter which the source was not subject to before April 22, 1993.

Authority: *TCA 68-201-105 and 4-5-202*

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1200-3-18-.08 through 1200-3-18-.10 (RESERVED)

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1200-3-18-.11 AUTOMOBILE AND LIGHT-DUTY TRUCK COATING OPERATIONS

(1) Applicability of this rule is as follows:

(a) This rule applies to operations in Davidson, Hamilton, Knox, Rutherford, Shelby, Sumner, Williamson, and Wilson Counties.

(b) This rule applies to the following coating operations in an automobile or light-duty truck assembly plant: each prime coat operation, each electrodeposition (EDP) prime coat operation, each primer surfacer operation, each topcoat operation, and each final repair operation.

(c) Antichip coatings, as applied to automobile and light-duty truck components such as, but not limited to, rocker panels, the bottom edge of doors and fenders, and the leading edge of the hood or roof, are considered primer surfaces.

(d) Application to metal parts of underbody antichip coatings (e.g., underbody plastisol) and coatings other than prime, primer surfacer, topcoat, and final repair shall be subject to the requirements of Rule .20 of this chapter (Coating of Miscellaneous Metal Parts).

(e) The requirements in Paragraph (3) of this rule do not apply to automobile and light-duty truck assembly plants whose plant-wide, actual emissions without control devices are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day.

(2) For the purpose of this rule, the following definitions apply:

"Application area" means the area where a coating is applied by dipping or spraying.

"Automobile and light-duty truck body" means the exterior and interior surfaces of an automobile or light-duty truck including, but not limited to, hoods, fenders, cargo boxes, doors, grill opening panels, engine compartment, all or portions of the passenger compartment, and trunk interior.

"Electrodeposition (EDP)" means a method of applying a prime coat by which the automobile or light-duty truck body is submerged in a tank filled with coating material and an electrical field is used to effect the deposition of the coating material on the body.

"Final repair operation" means the application area(s), flashoff area(s), and oven(s) used to apply and dry or cure coatings that are used to repair topcoat on fully assembled automobile or light-duty truck bodies from a single assembly line.

"Prime coat operation" means the application area(s), flashoff area(s), and oven(s) that are used to apply and dry or cure the prime coat on components of automobile and light-duty truck bodies on a single assembly line.

"Primer surfacer operation" means the application area(s), flashoff area(s), and oven(s) that are used to apply and dry or cure primer surfacer between the prime coat and the topcoat operations on components of automobile and light-duty truck bodies on a single assembly line. The primer surfacer coat is also referred to as the "guidecoat".

"Solids turnover ratio (R_T)" means the ratio of total volume of coating solids that is added to the EDP system in a calendar month divided by the total volume design capacity of the EDP system.

"Topcoat operation" means the application area(s), flashoff area(s), and oven(s) used to apply and dry or cure topcoat on components of automobile and light-duty truck bodies on a single assembly line.

"Topcoat protocol" means the EPA document "Protocol for Determining the Daily VOC Emission Rate of Automobile and Light-Duty Truck Topcoat Operations," EPA 450/3-88-018, December 1988, and as revised to include procedures for testing VOC emissions from primer surfacer operations and a procedure for calculating credit for spray booth control.

"Volume design capacity" means for the EDP system the total liquid volume that is contained in the EDP system (tanks, pumps, recirculating lines, filters, etc.) at the system's designed liquid operating level. The EDP system volume design capacity is designated L_E.

(3) Standards as follow apply:

(a) No owner or operator of an automobile or light-duty truck prime coat, EDP prime coat, or final repair operation subject to this rule shall cause or allow the application of any coating on that operation with VOC content, as applied, that exceeds the emission limits as follow:

1. 0.14 kilograms per liter (kg/L) (1.2 pounds per gallon [lb/gal]) of coating, excluding water and/or exempt compounds, as applied, from any prime coat operation.

2. 0.58 kg/L (4.8 lb/gal) of coating, excluding water and/or exempt compounds, as applied, from any final repair operation.

3. 0.17 kg/L (1.4 lb/gal) of coating solids from any EDP prime coat operation when the solids turnover ratio (R_T) is 0.16 or greater. R_T shall be calculated as follows:

$$R_T = \frac{T_V}{L_E}$$

where:

T_V = total volume of coating solids that is added to the EDP system in a calendar month (liters); and

L_E = volume design capacity of the EDP system (liters).

4. $0.17 \times 350^{(0.160 - R_T)}$ kg/L ($1.4 \times 350^{(0.160 - R_T)}$ lb/gal) of coating solids from any EDP prime coat operation when R_T is greater than or equal to 0.040 and less than 0.160.

5. When R_T is less than 0.040 for any EDP prime coat operation, there is no emission limit. When R_T is less than 0.040, the owner or operator shall comply with the certification, recordkeeping, and reporting requirements in Subparagraph (8)(e) of this rule.

(b) For topcoat and primer surfacer operations:

1. No owner or operator of an automobile or light-duty truck topcoat operation or primer surfacer operation subject to this rule may cause or allow on any day emissions which exceed 1.8 kg/L (15.1 lb/gal) of solids deposited, or

2. In the alternative, no owner or operator of an automobile or light-duty truck topcoat or primer surfacer operation shall cause or allow the application of any topcoat or primer surfacer on that operation with VOC content in excess of 0.34 kilograms per liter (kg/L) (2.8 pounds per gallon [lb/gal]) of coating, excluding water and/or exempt compounds, as applied.

(c) As an alternative to compliance with the emission limits in Parts (3)(a)1 and 2 of this rule for prime coat and final repair operations, respectively, and Subparagraph (3)(b) of this rule for primer surfacer operations, an owner or operator may meet the requirements of Paragraph (4) or (5) of this rule.

(4) No owner or operator subject to this rule shall apply coatings in any nonelectrodeposition prime coat, final repair or primer surfacer operation, during any day, whose weighted average VOC content exceeds the applicable emission limits in Parts (3)(a)1 and 2 and Subparagraph (3)(b) of this rule.

(5) Control device requirements as follow apply:

(a) An owner or operator subject to this rule shall comply with the applicable emission limits for any prime coat, final repair, or primer surfacer operation by:

1. Installing and operating a capture system and a control device on that operation;

2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and

3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.

(b) An owner or operator subject to this rule shall ensure that:

1. A capture system and control device are operated at all times the coating operation is in use, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter; and

2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

(6) The following compliance procedures for EDP prime coat operations apply:

(a) For any EDP prime coat operation that does not comply with the emission limit in Part (3)(a)3 or 4 of this rule by using a capture system and control device to reduce emissions, the owner or operator shall use the procedures in 40 CFR 60.393(c)(1) as of July 1, 1991, to determine compliance.

(b) The owner or operator shall use the procedures in 40 CFR 60.393(c)(2) as of July 1, 1991, to determine compliance if a capture system and a control device that destroys VOC are used to comply with the emission limit in Part (3)(a)3 or 4 of this rule.

(c) The owner or operator shall use the procedures in 40 CFR 60.393(c)(3) as of July 1, 1991, to determine compliance if a capture system and a control device that recovers the VOC are used to comply with the emission limit in Part (3)(a)3 or 4 of this rule.

(7) (Reserved)

(8) The following recordkeeping and reporting requirements for prime coat and final repair operations apply:

(a) - (d) (Reserved)

(e) An owner or operator of an automobile or light-duty truck EDP prime coat operation subject to this rule and complying with the requirements in Part (3)(a)3 or 4 of this rule shall:

1. By April 22, 1994, or upon startup of a new EDP prime coat operation, certify to the Technical Secretary that the coating line or operation is in compliance with the requirements in Parts (3)(a)3 or 4 of this rule. Such certification shall include:

(i) The name and location of the facility;

(ii) The address and telephone number of the person responsible for the facility;

(iii) Identification of subject sources; and

(iv) A copy of the calculations performed to determine R_T and the calculations performed pursuant to Paragraph (6) of this rule to demonstrate compliance for the EDP prime coat operation for the month prior to submittal of the certification.

2. On and after April 22, 1994, or on and after the initial startup date of a new EDP prime coat operation, collect and record the following information for each EDP prime coat operation. These records shall be maintained at the facility for at least 3 years and shall be made available to the Technical Secretary upon request:

(i) For each month, the total volume of coating solids that is added to the EDP system;

(ii) For each month, calculation of R_T using the equation in Part (3)(a)3 of this rule; and

(iii) For each month, the calculations used in the compliance determinations specified in Paragraph (6) of this rule.

3. On and after April 22, 1994, notify the Technical Secretary in the following instances:

(i) Any record showing noncompliance with the appropriate emission limit for the EDP prime coat operation; and

(ii) At least 30 calendar days before changing the method of compliance from one of the procedures in Paragraph (6) of this rule to another of the procedures in Paragraph (6), the owner or operator shall comply with the certification requirements in Part (8)(e)1 of this rule.

(9) The following recordkeeping and reporting requirements for topcoat and primer surfacer operations apply:

(a) An owner or operator of an automobile or light-duty truck coating operation subject to this rule and complying with Subparagraph (3)(b) of this rule shall comply with the following requirements:

1. At least 180 days prior to the initial compliance date, the owner or operator of a coating operation subject to the topcoat and primer surfacer limit shall have submitted to the Technical Secretary a detailed proposal specifying the method of demonstrating how the compliance test will be conducted according to the topcoat protocol.

2. The proposal shall include a comprehensive plan (including a rationale) for determining the transfer efficiency at each booth through the use of in-plant or pilot testing; the selection of coatings to be tested (for the purpose of determining transfer efficiency) including the rationale for coating groupings; and a method for tracking coating usage during the transfer efficiency test.

3. Upon approval by the Technical Secretary, the owner or operator may proceed with the compliance demonstration.

(b) The owner or operator shall maintain at the source for a period of 3 years or until a new test is performed all test results, data, and calculations used to determine VOC emissions from each topcoat and each primer surfacer operation according to the topcoat protocol.

(c) If control devices are used to control emissions from an automobile or light-duty truck topcoat or primer surfacer operation, the owner or operator shall maintain records according to Parts .03(5)(b)6 through 11 of this chapter.

(d) Any instance of noncompliance with the emission limit in Subparagraph (3)(b) shall be reported to the Technical Secretary within 30 calendar days.

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1200-3-18-.12 CAN COATING

(1) Applicability of this rule is as follows:

(a) This rule applies to any can coating line used to apply the following coatings: sheet base coat, exterior base coat, interior body spray coat, overvarnish, side seam spray coat, exterior end coat, and end sealing compound coat.

(b) The emission limits of this rule do not apply to can coating lines within any facility:

1. In Davidson, Rutherford, Sumner, Williamson, or Wilson County whose actual emissions without control devices from all can coating lines within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day or whose maximum theoretical emissions from all can coating lines within the facility are less than 10 tons of volatile organic compounds (VOC's) per year;

2. In Hamilton or Shelby County whose potential VOC emissions from all can coating lines within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or

3. In any other county whose potential VOC emissions from all can coating lines within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.

(c) An owner or operator of a facility which achieves exemption by having emissions below the 6.8 kg (15 lb)-per-day applicability threshold in Part (b)1 of this paragraph shall comply with the certification, recordkeeping, and reporting requirements of Paragraph .03(2) of this chapter.

(2) For the purpose of this rule, the following definitions apply:

"Can" means any cylindrical single walled container, with or without a top, cover, spout, and/or handle, that is manufactured from metal sheets thinner than 29 gauge (0.0141 inches [in]) and into which solid or liquid materials are packaged.

"Can coating line" means a coating line in which any coating is applied onto the surface of cans or can components.

"End sealing compound coat" means a compound applied onto can ends that functions as a gasket when the end is assembled onto the can.

"Exterior base coat" means a coating applied to the exterior of a two-piece can body to provide protection to the metal or to provide background for any lithographic or printing operation.

"Interior body spray coat" means a coating applied to the interior of the can body to provide a protective film between the product and the can.

"Overvarnish" means a coating applied directly over a design coating or directly over ink to reduce the coefficient of friction, to provide gloss, and to protect the finish against abrasion and corrosion.

"Sheet basecoat" means a coating applied to metal in sheet form to serve as either the exterior or interior of two-piece or three-piece can bodies or can ends.

"Side-seam spray coat" means a coating applies to the seam of a three-piece can.

"Three-piece can" means a can that is made by rolling a rectangular sheet of metal into a cylinder that is soldered, welded, or cemented at the seam and attaching two ends.

"Two-piece can" means a can whose body and one end are formed from a shallow cup and to which the other end is later attached.

"Two-piece can exterior end coat" means a coating applied by roller coating or spraying to the exterior end of a two-piece can to provide protection to the metal.

(3) Standards as follow apply:

(a) No owner or operator of a can coating line subject to this rule shall cause or allow the application of any coating on that line with VOC content, as applied, that exceeds the following limits:

		kg/L	lb/gal[a]
1.	Sheet basecoat and sheet overvarnish	0.34	2.8
2.	Exterior basecoat and overvarnish (two-piece can)	0.34	2.8
3.	Interior body spray coat	0.51	4.2
4.	Two-piece can exterior end coat	0.51	4.2
5.	Side seam spray coat	0.66	5.5
6.	End sealing compound coat	0.44	3.7

[a]VOC content values are expressed in units of mass of VOC (kg, lb) per volume of coating (liter [L], gallon [gal]), excluding water and/or exempt compounds, as applied.

(b) As an alternative to compliance with the emission limits in Subparagraph (a) of this paragraph, an owner or operator of a can coating line may comply with the requirements of this rule by meeting the requirements of Paragraph (4) or (5) of this rule.

(4) No owner or operator of a can coating line subject to this rule shall apply coatings on that line, during any day, whose weighted average VOC content exceeds the emission limits in Subparagraph (3)(a) of this rule.

(5) Control device requirements as follow apply:

(a) An owner or operator of a can coating line subject to this rule may comply with Subparagraph (3)(b) of this rule by:

1. Installing and operating a capture system and a control device on that line;

2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and

3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.

(b) An owner or operator of a can coating line subject to this rule shall ensure that:

1. A capture system and control device are operated at all times that the line is in operation, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter; and

2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

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1200-3-18-.13 COIL COATING

(1) Applicability of this rule is as follows:

(a) This rule applies to any coil coating operation.

(b) This rule does not apply to any coil coating operation within a facility:

1. In Davidson, Rutherford, Sumner, Williamson, or Wilson County whose actual emissions without control devices from all coil coating operations within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day or whose maximum theoretical emissions from all coil coating operations within the facility are less than 10 tons of volatile organic compounds (VOC's) per year;

2. In Hamilton or Shelby County whose potential VOC emissions from all coil coating operations within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or

3. In any other county whose potential VOC emissions from all coil coating operations within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.

(2) For the purpose of this rule, the following definitions apply:

"Coil" means any continuous metal strip with thickness of 0.15 millimeter (mm) (0.006 inch [in]) or more that is packaged in a roll or coil.

"Coil coating line" means a web coating line where coating is applied to coil.

"Coil coating operation" means a coating application station and its associated flashoff area, drying area, and/or drying oven wherein coating is applied and dried or cured on a coil coating line. A coil coating line may include more than one coil coating operation.

(3) Standards as follow apply:

(a) No owner or operator of a coil operation subject to this rule shall cause or allow the application of any coating on that operation with VOC content in excess of 0.31 kilograms per liter (kg/L) (2.6 pounds per gallon [lb/gal]) of coating, excluding water and/or exempt compounds, as applied.

(b) As an alternative to compliance with the emission limit in Subparagraph (a) of this paragraph, an owner or operator of a coil coating operation may meet the requirements of Paragraph (4) or (5) of this rule.

(4) No owner or operator of a coil coating operation subject to this rule shall apply coatings on that operation, during any day, whose weighted average VOC content exceeds the emission limit in Subparagraph (3)(a) of this rule.

(5) Control device requirements as follow apply:

(a) An owner or operator of a coil coating operation subject to this rule may comply with this rule by:

1. Installing and operating a capture system and a control device on that operation;

2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and

3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.

(b) An owner or operator of a coil coating operation subject to this rule shall ensure that:

1. A capture system and control device are operated at all times the coating operation is in use, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter; and

2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

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1200-3-18-.14 PAPER AND RELATED COATING

(1) Applicability of this rule is as follows:

(a) This rule applies to any paper coating operation which is not part of a printing press.

(b) This rule does not apply to any paper coating operation within a facility:

1. In Davidson, Rutherford, Sumner, Williamson, or Wilson County whose actual emissions without control devices from all paper coating operations within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day or whose maximum theoretical emissions from all paper coating operations within the facility are less than 10 tons of volatile organic compounds (VOC's) per year;

2. In Hamilton or Shelby County whose potential VOC emissions from all paper coating operations within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or

3. In any other county whose potential VOC emissions from all paper coating operations within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.

(2) For the purpose of this rule, the following definitions apply:

"Paper coating line" means a web coating line where coating is applied to paper and pressure sensitive tapes regardless of the substrate. Printing presses are not considered paper coating lines. Products produced on a paper coating line include, but are not limited to, adhesive tapes and labels, book covers, post cards, office copier paper, drafting paper, and pressure sensitive tapes. Paper coating lines include, but are not limited to, application by impregnation or saturation or by the use of roll, knife, or rotogravure coating. A paper coating line may include more than one paper coating operation.

"Paper coating operation" means a coating application station and its associated flashoff area, drying area, and/or oven wherein coating is applied uniformly across the web and dried or cured on a paper coating line.

(3) Standards as follow apply:

(a) No owner or operator of a paper coating operation subject to this rule shall cause, allow, or permit the application of any coating on that operation with VOC content in excess of 0.35 kilograms per liter (kg/L) (2.9 pounds per gallon [lb/gal]) of coating, excluding water and/or exempt compounds, as applied.

(b) As an alternative to compliance with the emission limit in Subparagraph (a) of this paragraph, an owner or operator of a paper coating operation subject to this rule may meet the requirements of Paragraph (4) or (5) of this rule.

(4) No owner or operator of a paper coating operation subject to this rule shall apply coatings on that operation, during any day, whose weighted average VOC content exceeds the emission limit in Subparagraph (3)(a) of this rule.

(5) Control device requirements as follow apply:

(a) An owner or operator of a paper coating operation subject to this rule may comply with this rule by:

1. Installing and operating a capture system and a control device on that operation;

2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and

3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.

(b) An owner or operator of a paper coating operation subject to this rule shall ensure that:

1. A capture system and control device are operated at all times the coating operation is in use, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter; and

2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

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1200-3-18-.15 FABRIC COATING

(1) Applicability of this rule is as follows:

(a) This rule applies to any fabric coating operation.

(b) This rule does not apply to any fabric coating operation within a facility:

1. In Davidson, Rutherford, Sumner, Williamson, or Wilson County whose actual emissions without control devices from all fabric coating operations within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day or whose maximum theoretical emissions from all fabric coating operations within the facility are less than 10 tons of volatile organic compounds (VOC's) per year;

2. In Hamilton or Shelby County whose potential VOC emissions from all fabric coating operations within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or

3. In any other county whose potential VOC emissions from all fabric coating operations within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.

(2) For the purpose of this rule, the following definitions apply:

"Fabric coating line" means a web coating line where coating is applied to fabric. A fabric printing line is not considered a fabric coating line.

"Fabric coating operation" means a coating application station and its associated flashoff area, drying area, and/or oven wherein coating is applied and dried or cured in a fabric coating line. A fabric coating line may include more than one fabric coating operation.

(3) Standards as follow apply:

(a) No owner or operator of a fabric coating operation subject to this rule shall cause or allow the application of any coating on that operation with VOC content in excess of 0.35 kilogram per liter (kg/L) (2.9 pounds per gallon [lb/gal]) of coating, excluding water and/or exempt compounds, as applied.

(b) As an alternative to compliance with the emission limit in Subparagraph (a) of this paragraph, an owner or operator of a fabric coating operation subject to this rule may meet the requirements of Paragraph (4) or (5) of this rule.

(4) No owner or operator of a fabric coating operation subject to this rule shall apply coatings on that operation, during any day, whose weighted average VOC content exceeds the emission limit in Subparagraph (3)(a) of this rule.

(5) Control device requirements as follow apply:

(a) An owner or operator of a fabric coating operation subject to this rule may comply with this rule by:

1. Installing and operating a capture system and a control device on that operation;

2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and

3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.

(b) An owner or operator of a fabric coating operation subject to this rule shall ensure that:

1. A capture system and control device are operated at all times the coating operation is in use, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter; and

2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

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1200-3-18-.16 VINYL COATING

(1) Applicability of this rule is as follows:

(a) This rule applies to any vinyl coating operation.

(b) This rule does not apply to:

1. Application of vinyl plastisol to fabric to form the substrate that is subsequently coated; and

2. Any vinyl coating line within a facility:

(i) In Davidson, Rutherford, Sumner, Williamson, or Wilson County whose actual emissions without control devices from all vinyl coating operations within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day or whose maximum theoretical emissions from all vinyl coating operations within the facility are less than 10 tons of volatile organic compounds (VOC's) per year;

(ii) In Hamilton or Shelby County whose potential VOC emissions from all vinyl coating operations within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or

(iii) In any other county whose potential VOC emissions from all vinyl coating operations within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.

(2) For the purpose of this rule, "**vinyl coating line**" means a web coating line where a decorative, functional, or protective coating is applied to a continuous web of vinyl or vinyl-coated fabric. Lines used for coating and/or printing on vinyl and coating and/or printing on urethane are considered vinyl coating lines.

(3) Standards as follow apply:

(a) No owner or operator of a vinyl coating line subject to this rule shall cause or allow the application of any coating or ink on that line with VOC content in excess of 0.45 kilograms per liter (kg/L) (3.8 pounds per gallon [lb/gal]) of coating or ink, excluding water and/or exempt compounds, as applied.

(b) As an alternative to compliance with the emission limit in Subparagraph (a) of this paragraph, an owner or operator of a vinyl coating line subject to this rule may meet the requirements of Paragraph (4) or (5) of this rule.

(4) No owner or operator of a vinyl coating line subject to this rule shall apply coatings or inks on any such line, during any day, whose weighted average VOC content exceeds the emission limit in Subparagraph (3)(a) of this rule.

(5) Control device requirements as follow apply:

(a) An owner or operator of a vinyl coating line subject to this rule may comply with this rule by:

1. Installing and operating a capture system and a control device on that line;

2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and

3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.

(b) An owner or operator of a vinyl coating line subject to this rule shall ensure that:

1. A capture system and control device are operated at all times that the line is in operation, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter; and

2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

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1200-3-18-.17 COATING OF METAL FURNITURE

(1) Applicability of this rule is as follows:

(a) This rule applies to any metal furniture coating line.

(b) This rule does not apply to any metal furniture coating line within a facility:

1. In Davidson, Rutherford, Sumner, Williamson, or Wilson County whose actual emissions without control devices from all metal furniture coating lines within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day or whose maximum theoretical emissions from all metal furniture coating lines within the facility are less than 10 tons of volatile organic compounds (VOC's) per year;

2. In Hamilton or Shelby County whose potential VOC emissions from all metal furniture coating lines within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or

3. In any other county whose potential VOC emissions from all metal furniture coating lines within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.

(2) For the purpose of this rule, the following definitions apply:

"Metal furniture" means any furniture piece made of metal or any metal part that will be assembled with other metal, wood, fabric, plastic, or glass parts to form a furniture piece including, but not limited to, tables, chairs, waste baskets, beds, desks, lockers, benches, shelving, file cabinets, and room dividers. This definition shall not apply to the coating of miscellaneous metal parts or products.

"Metal furniture coating line" means a coating line in which a protective, decorative, or functional coating is applied onto the surface of metal furniture.

(3) Standards as follow apply:

(a) No owner or operator of a metal furniture coating operation line subject to this rule shall cause or allow the application of any coating on that line with VOC content in excess of 0.36 kilograms per liter (kg/L) (3.0 pounds per gallon [lb/gal]) of coating, excluding water and/or exempt compounds, as applied.

(b) As an alternative to compliance with the emission limit in Subparagraph (a) of this paragraph, an owner or operator of a metal furniture coating line may meet the requirements of Paragraph (4) or (5) of this rule.

(4) No owner or operator of a metal furniture coating line subject to this rule shall apply coatings on that operation, during any day, whose weighted average VOC content exceeds the emission limit in Subparagraph (3)(a) of this rule.

(5) Control device requirements as follow apply:

(a) An owner or operator of a metal furniture coating line subject to this rule may comply with this rule by:

1. Installing and operating a capture system and a control device on that line;

2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and

3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.

(b) An owner or operator of a metal furniture coating line subject to this rule shall ensure that:

1. A capture system and control device are operated at all times that the line is in operation, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter; and

2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

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1200-3-18-.18 COATING OF LARGE APPLIANCES

(1) Applicability of this rule is as follows:

(a) This rule applies to any large appliance coating line.

(b) This rule does not apply to:

1. The use of quick-drying lacquers for repair of scratches and nicks that occur during assembly, provided the volume of coating does not exceed 0.95 liter (L) (0.25 gallon [gal]) in any 8-hour period, and

2. Any large appliance coating line within a facility:

(i) In Davidson, Rutherford, Sumner, Williamson, or Wilson County whose actual emissions without control devices from all large appliance coating lines within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day or whose maximum theoretical emissions from all large appliance coating lines within the facility are less than 10 tons of volatile organic compounds (VOC's) per year;

(ii) In Hamilton or Shelby County whose potential VOC emissions from all large appliance coating lines within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or

(iii) In any other county whose potential VOC emissions from all large appliance coating lines within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.

(2) For the purpose of this rule, the following definitions apply:

"Large appliance" means any residential or commercial washer, dryer, range, refrigerator, freezer, water heater, dishwasher, trash compactor, air conditioner, or other similar products under Standard Industrial Classification Code 363.

"Large appliance coating line" means a coating line in which any protective, decorative, or functional coating is put onto the surface of component metal parts (including, but not limited to, doors, cases, lids, panels, and interior parts) of large appliances.

(3) Standards as follow apply:

(a) No owner or operator of a large appliance coating line subject to this rule shall cause or allow the application of any coating on that line with VOC content in excess of 0.34 kilograms per liter (kg/L) (2.8 pounds per gallon [lb]) of coating, excluding water and/or exempt compounds, as applied.

(b) As an alternative to compliance with the emission limit in Subparagraph (a) of this paragraph, an owner or operator of a large appliance coating line, during any day, subject to this rule may meet the requirements of Paragraph (4) or (5) of this rule.

(4) No owner or operator of a large appliance coating line subject to this rule shall apply coatings on that line, during any day, whose weighted average VOC content exceeds the emission limit in Subparagraph (3)(a) of this rule.

(5) Control device requirements as follow apply:

(a) An owner or operator of a large appliance coating line subject to this rule may comply with this rule by:

1. Installing and operating a capture system and a control device on that line;

2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and

3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.

(b) An owner or operator of a large appliance coating line subject to this rule shall ensure that:

1. A capture system and control device are operated at all times that the line is in operation, and the owner or operator demonstrate compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter; and

2. The control device is equipped with the applicable monitoring equipment specified in Subparagraph .83(2)(b) of this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

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1200-3-18-.19 COATING OF MAGNET WIRE

(1) Applicability of this rule is as follows:

(a) This rule applies to any magnet wire coating line.

(b) This rule does not apply to any magnet wire coating line within a facility:

1. In Davidson, Rutherford, Sumner, Williamson, or Wilson County whose emissions without control devices from all magnet wire coating lines within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day or whose maximum theoretical emissions from all magnet wire coating lines within the facility are less than 10 tons of volatile organic compounds (VOC's) per year;

2. In Hamilton or Shelby County whose potential VOC emissions from all magnet wire coating lines within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or

3. In any other county whose potential VOC emissions from all magnet wire coating lines within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.

(2) For the purpose of this rule, "Magnet wire coating line" means a coating line in which an electrically insulating varnish or enamel is applied onto the surface of wire for use in electrical machinery.

(3) Standards as follow apply:

(a) No owner or operator of a magnet wire coating line subject to this rule shall cause or allow the use of any coating with VOC content in excess of 0.20 kilograms per liter (kg/L) (1.7 pounds per gallon [lb/gal]) of coating, excluding water and/or exempt compounds, as applied.

(b) As an alternative to compliance with the emission limit in Subparagraph (a) of this paragraph, an owner or operator of a magnet wire coating line subject to this rule may meet the requirements of Paragraph (4) or (5) of this rule.

(4) No owner or operator of a magnet wire coating line subject to this rule shall apply coatings on that line, during any day, whose weighted average VOC content exceeds the emission limit in Subparagraph (3)(a) of this rule.

(5) Control device requirements as follow apply:

(a) An owner or operator of a magnet wire coating line subject to this rule may comply with this rule by:

1. Installing and operating a capture system and a control device on that line;

2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and

3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.

(b) An owner or operator of a magnet wire coating line subject to this rule shall ensure that:

1. A capture system and control device are operated at all times that the line is in operation, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency determination methods specified in this chapter, and;

2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

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1200-3-18-.20 COATING OF MISCELLANEOUS METAL PARTS

(1) Applicability of this rule is as follows:

(a) This rule applies to any miscellaneous metal parts and products coating line.

(b) This rule does not apply:

1. To the coating of the following metal parts and products that are covered by other rules of this chapter:

(i) Automobiles and light-duty trucks;

(ii) Metal cans;

(iii) Flat metal sheets and strips in the form of rolls or coils;

(iv) Magnet wire for use in electrical machinery;

(v) Metal furniture; and

(vi) Large appliances.

2. To the coating operations in the following:

(i) Coating the exterior of completely assembled aircraft;

(ii) Coating the exterior of major aircraft subassemblies, if approved as revisions to the State Implementation Plan;

(iii) Automobile and truck refinishing;

(iv) Customized top coating of automobiles and trucks, if production is less than 35 vehicles per day;

(v) Coating the exterior of completely assembled marine vessels;

(vi) Coating the exterior of major marine vessel subassemblies if approved as revisions to the State Implementation Plan; and

(vii) (Repealed.)

3. With respect to the emission limits in this rule to any coating line within a facility:

(i) In Davidson, Rutherford, Sumner, Williamson, or Wilson County whose actual emissions without control devices from all miscellaneous metal parts and products coating lines within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day or whose

maximum theoretical emissions from all miscellaneous metal parts and products coating lines within the facility are less than 10 tons of volatile organic compounds (VOC's) per year;

(ii) In Hamilton or Shelby County whose potential VOC emissions from all miscellaneous metal parts and products coating lines within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or

(iii) In any other county whose potential VOC emissions from all miscellaneous metal parts and products coating lines within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.

(c) In lieu of satisfying the standards and requirements of this rule, the owner or operator of a heavy-duty truck electrodeposition prime coat operation shall satisfy the standards and requirements of Rule .11 of this chapter for that operation.

(2) For the purpose of this rule, the following definitions apply:

"Air-dried coating" means a coating that is dried by the use of air or forced warm air at temperatures up to 90°C (194°F).

"Clear coating" means a coating that:

1. Either lacks color and opacity or is transparent; and

2. Uses the surface to which it is applied as a reflective base or undertone color.

"Drum" means any cylindrical metal shipping container of 13- to 110-gallon capacity.

"Extreme environmental conditions" means any of the following: the weather all of the time, temperatures frequently above 95°C (203°F), detergents, abrasive and scouring agents, solvents, corrosive atmospheres, or similar environmental conditions.

"Extreme performance coatings" means coatings intended for exposure to extreme environmental conditions.

"High performance architectural coating" means a coating:

1. Applied to extruded aluminum architectural subsections intended for use on exteriors of buildings of more than one story;

2. Satisfying the Architectural Aluminum Manufacturer's Association publication number AAMA 605.2-1980; and

3. Applied at a facility located in a county which is attainment for ozone and had a population of less than 15000 according to the 1980 census.

"Miscellaneous metal parts and products coating line" means a coating line in which a coating is applied to any miscellaneous metal parts and products.

"Miscellaneous parts and products" means any metal part or metal product, even if attached to or combined with a nonmetal part or product. Miscellaneous metal parts and products include, but are not limited to:

1. Large farm machinery (harvesting, fertilizing and planting machines, tractors, combines, etc);

2. Small farm machinery (lawn and garden tractors, lawn mowers, rototillers, etc.);

3. Small appliances (fans, mixers, blenders, crock pots, dehumidifiers, vacuum cleaners, etc.);

4. Commercial machinery (office equipment, computers and auxiliary equipment, typewriters, calculators, vending machines, etc.);

5. Industrial machinery (pumps, compressors, conveyor components, fans, blowers, transformers, etc.);

6. Fabricated metal products (metal covered doors, frames, etc.);

7. Any other industrial category that coats metal parts or products under the Standard Industrial Classification Codes of Major Group 33 (primary metal industries), Major Group 34 (fabricated metal products), Major Group 35 (nonelectric machinery), Major Group 36 (electrical machinery), Major Group 37 (transportation equipment), Major Group 38 (miscellaneous instruments), and Major Group 39 (miscellaneous manufacturing industries); and

8. Application of underbody antichip materials (e.g., underbody plastisol) and coating application operations other than prime, primer surfacer, topcoat, and final repair operations at automobile and light-duty truck assembly plants.

"Pail" means any cylindrical metal shipping container of 1- to 12-gallon capacity and constructed of 29-gauge and heavier material.

"Refinishing" means the repainting of used equipment.

(3) Standards as follow apply:

(a) No owner or operator of a miscellaneous metal parts and products coating line subject to this rule may cause or allow the application of any coating with VOC content in excess of the emission limits in Subparagraph (b) of this paragraph.

(b) If more than one emission limit in this subparagraph applies to a specific coating, then the least stringent emission limit shall be applied.

		kg/L[a]	lb/gal[a]
1.	High performance architectural coating	0.75	6.2
2.	Clear coating	0.52	4.3
3.	Steel pail and drum interior	0.52	4.3
4.	Air-dried coating	0.42	3.5
5.	Extreme performance coating	0.42	3.5
6.	All other coatings	0.36	3.0

[a]VOC content values are expressed in units of mass of VOC (kg, lb) per volume of coating (liter [L], gallon [gal]), excluding water and/or exempt compounds, as applied.

(c) As an alternative to compliance with the emission limits in Subparagraph (b) of this paragraph, an owner or operator of a miscellaneous metal parts and products coating line may meet the requirements of Paragraphs (4) or (5) of this rule.

(4) No owner or operator of a miscellaneous metal parts and products coating line that applies multiple coatings during the same day shall apply coatings on that line during any day whose weighted average VOC content exceeds the weighted average VOC content limit calculated using VOC content factors from Subparagraph (3)(b) of this rule.

(5) Control device requirements as follow apply:

(a) An owner or operator of a miscellaneous metal parts and products coating line subject to this rule may comply with this rule by:

1. Installing and operating a capture system and a control device on that line;

2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and

3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.

(b) An owner or operator of a miscellaneous metal parts and products coating line subject to this rule shall ensure that:

1. A capture system and control device are operated at all times that the line is in operation, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter, and;

2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

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1200-3-18-.21 COATING OF FLAT WOOD PANELING

(1) Applicability of this rule is as follows:

(a) This rule applies to all flat wood paneling coating lines.

(b) This rule does not apply to:

1. Class I hardwood panels, particle board used in furniture, insulation board, exterior siding, tileboard, and softwood plywood coating lines; or

2. Any flat wood paneling coating line within any facility:

(i) In Davidson, Rutherford, Sumner, Williamson, or Wilson County whose actual emissions without control devices from all flat wood paneling coating lines within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day or whose maximum theoretical emissions from all flat wood paneling coating lines within the facility are less than 10 tons of volatile organic compounds (VOC's) per year;

(ii) In Hamilton or Shelby County whose potential VOC emissions from all flat wood paneling coating lines within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or

(iii) In any other county whose potential VOC emissions from all flat wood paneling coating lines within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.

(2) For the purpose of this rule, the following definitions apply:

"Class II hardboard paneling finish" means finishes that meet the specifications of Voluntary Product Standard PS-59-73 as approved by the American National Standards Institute.

"Flat wood paneling coating line" means a coating line used in manufacturing to apply and dry or cure coatings applied to flat wood panels including: printed interior panels made of hardwood plywood and thin particle board (i.e., less than or equal to 0.64 centimeters (cm) (0.25 inches [in]) in thickness); natural finish hardwood plywood panels; and hardwood paneling with Class II finishes.

"Hardboard" is a panel manufactured primarily from interfelted ligno-cellulosic fibers that are consolidated under heat and pressure in a hot press.

"Hardwood plywood" is plywood whose surface layer is a veneer of hardwood.

"Natural finish hardwood plywood panels" means panels whose original grain pattern is enhanced by essentially transparent finishes frequently supplemented by fillers and toners.

"Printed interior panels" means panels whose grain or natural surface is obscured by fillers and basecoats upon which a simulated grain or decorative pattern is printed.

"Thin particleboard" is a manufactured board that is 0.64 cm (0.25 in) or less in thickness made of individual wood particles that have been coated with a binder and formed into flat sheets by pressure.

"Tileboard" means paneling that has a colored, waterproof surface coating.

(3) Standards as follow apply:

(a) No owner or operator of a flat wood paneling coating line subject to this rule shall cause or allow VOC emissions from the coating of any flat wood paneling product in excess of the following emission limits:

		kg/100 m^2[a]	lb/1,000 ft^2[a]
1.	Printed interior panels	2.9	6.0
2.	Natural finish hardwood plywood panels	5.8	12.0
3.	Class II finish on hardwood panels	4.8	10.0

[a]VOC content values are expressed in units of mass of VOC (kg, lb) per volume of surface to which the coating is applied (100 square meters [m^2], 1,000 square feet [ft^2]).

(b) As an alternative to compliance with the emission limits in Subparagraph (a) of this paragraph, an owner or operator of a flat wood paneling coating line may meet the requirements of Paragraph (4) or (5) of this rule.

(4) No owner or operator of a flat wood paneling coating line subject to this rule shall apply coatings on that line, during any day, whose weighted average VOC content, calculated in accordance with the procedure in this rule, exceeds the emission limits in this rule.

(5) Control device requirements as follow apply:

(a) An owner or operator of a flat wood paneling coating line subject to this rule may comply with this rule by:

1. Installing and operating a capture system and a control device on that line;

2. Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this rule or 95 percent; and

3. Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.

(b) An owner or operator of a flat wood paneling coating line subject to this rule shall ensure that:

1. A capture system and control device are operated at all times that the line is in operation, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter; and

2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

) The test methods found in this chapter and in this paragraph as follow shall be used to determine compliance:

(a) The weighted average VOC content, in units of mass of VOC per area of surface coated, of the coatings used on a day on a flat wood paneling coating line shall be calculated using the following equation:

$$VOC_w = \frac{\sum_{i=1}^{n} V_i C_i}{a}$$

where

VOC_w = The weighted average VOC content of the coatings, as applied, used in units of kg VOC/100 m^2 (lb VOC/1,000 ft^2);

n = The number of different coatings, as applied, each day;

V_i = The volume of each coating applied in units of L (gal), each day; and

C_i = The VOC content of each coating, as applied, in units of kg VOC/L of coating (lb VOC/gal);

a = Constant = 100 m^2 if using metric units; and
= 1,000 ft^2 if using english units.

(b) Calculate the required overall emission reduction efficiency of the control system for the day according to the following equation:

$$E = \frac{(VOC_a - S)}{VOC_a} \times 100$$

where:

E	=	The required overall emission reduction efficiency of the control system;
VOC_a	=	The maximum VOC content of the coatings, as applied, used each day in units of kg VOC/100 m^2 of surface area coated (lb VOC/1,000 ft^2), as determined by the applicable test methods and procedures; or the weighted average VOC content, as applied, of the coatings used each day in units of kg VOC/100 m^2 of surface area coated (lb VOC/1,000 ft^2); and
S	=	VOC emission limitation in terms of kg VOC/100 m^2 of surface area coated (lb VOC/1,000 ft^2).

(7) Recordkeeping and reporting requirements of this chapter and as follow apply:

(a) (Reserved)

(b) An owner or operator of a flat wood paneling coating line subject to this rule and complying with Paragraph (3) of this rule by means of the use of complying coatings shall comply with the following:

1. By April 22, 1994, or upon startup of a new coating line, or upon changing the method of compliance for a subject line from daily-weighted averaging or control devices to the use of complying coatings, the owner or operator shall certify to the Technical Secretary that the coating line is in compliance. Such certification shall include:

(i) The name and location of the facility;

(ii) The address and telephone number of the person responsible for the facility;

(iii) Identification of subject sources;

(iv) The name and identification number of each coating, as applied; and

(v) The mass of VOC per area of surface to which the coating is applied in terms of kg VOC/100 m^2 (lb VOC/1,000 ft^2) and the surface area coated.

2. On and after April 22, 1994, or on and after the initial startup date, the owner or operator shall collect and record the following information each day and maintain the information for a period of 3 years:

(i) The name and identification number of each coating, as applied; and

(ii) The mass of VOC per area of surface to which the coating is applied for each coating used each day in terms of kg VOC/100 m^2 (lb VOC/1,000 ft^2).

3. On and after April 22, 1994, the owner or operator shall notify the Technical Secretary in the following instances:

(i) Any record showing use of any non-complying coatings shall be reported by sending a copy of such record to the Technical Secretary within 30 calendar days following that use, and

(ii) At least 30 calendar days before changing the method of compliance from the use of complying coatings to daily-weighted averaging or control devices, the owner or operator shall comply with all requirements of Part (c)1 or (d)1 of this paragraph, respectively.

(c) An owner or operator of a flat wood paneling coating line subject to this rule and complying with Paragraph (3) of this rule by means of weighted averaging on that line shall comply with the following:

1. By April 22, 1994, or upon startup of a new flat wood paneling coating line, or upon changing the method of compliance for a flat wood paneling coating line from the use of complying coatings or control devices to daily-weighted averaging, the owner or operator shall certify to the Technical Secretary that the coating line is in compliance with this subparagraph. Such certification shall include:

(i) The name and location of the facility.

(ii) The address and telephone number of the person responsible for the facility.

(iii) Identification of subject sources.

(iv) The name and identification number of each coating line which will comply by means of weighted averaging;

(v) The instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating (excluding water and/or exempt compounds), as applied, used each day on each coating line;

(vi) The method by which the owner or operator will create and maintain records as required in Part 2 of this subparagraph, with an example of the format in which the records will be kept; and

(vii) Calculation of the weighted average, using the procedure in Subparagraph (6)(a) of this rule, for a day representative of current or projected maximum production levels.

2. On and after April 22, 1994, or on and after the initial startup date, the owner or operator shall collect and record all of the following information each day for each subject coating line and maintain the information for a period of 3 years:

(i) The name and identification number of each coating, as applied;

(ii) The mass of VOC per volume (excluding water and/or exempt compounds) and the volume of each coating (excluding water and/or exempt compounds), as applied, used each day; and

(iii) The weighted average VOC content of all coatings, as applied, calculated according to the procedure in Subparagraph (6)(a) of this rule.

3. On and after April 22, 1994, the owner or operator shall notify the Technical Secretary in the following instances:

(i) Any record showing noncompliance with the applicable daily-weighted average requirements shall be reported by sending a copy of the record to the Technical Secretary within 30 calendar days following the occurrence.

(ii) At least 30 calendar days before changing the method of compliance from daily-weighted averaging to the use of complying coatings or control devices, the owner or operator shall comply with all requirements of Part (b)1 or (d)1 of this paragraph, respectively.

(d) Any owner or operator of a flat wood paneling coating line subject to this rule and complying with Paragraph (3) of this rule by the use of control devices shall comply with the following:

1. By April 22, 1994, or upon startup of a new coating line, or upon changing the method of compliance for an existing coating line from the use of complying coatings or weighted averaging to control devices, the owner or operator of the subject coating line shall perform or shall have performed, as applicable, a compliance test. Testing shall be pursuant to the procedures in this chapter and Paragraph (6) of this rule. No later than 60 days after the completion of the performance testing, the owner or operator of the subject coating line shall submit to the Technical Secretary the results of all tests and calculations necessary to demonstrate that the subject coating line is in compliance.

2. On and after April 22, 1994, or on and after the initial startup date, the owner or operator shall collect and record all of the following information each day for each coating line and maintain the information for a period of 3 years:

(i) The name and identification number of each coating used;

(ii) The mass of VOC per area of surface to which the coating is applied in terms of kg VOC/100 m^2 (lb VOC/1,000 ft^2), and the surface area coated;

(iii) The maximum VOC content (mass of VOC per area of surface to which the coating is applied in terms of kg VOC/100 m^2 [lb VOC/1,000 ft^2] or the weighted average VOC content (mass of VOC per area of surface to which the coating is applied in terms of kg VOC/100 m^2 [lb VOC/1,000 ft^2]) of the coatings used;

(iv) The required overall emission reduction efficiency as determined in Subparagraph (6)(b) of this rule;

(v) The actual overall emission reduction efficiency achieved as determined in this chapter;

(vi) Control device monitoring data;

(vii) A log of operating time for the capture system, control device, monitoring equipment, and the associated coating line;

(viii) A maintenance log for the capture system, control device, and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages;

(ix) For thermal incinerators, all 3-hour periods of operation in which the average combustion temperature was more than 280°C (50°F) below the average combustion temperature during the most recent performance test that demonstrated that the facility was in compliance;

(x) For catalytic incinerators:

(I) Continuous records of the temperature of the gas stream both upstream and downstream of the incinerator.

(II) Records of all 3-hour periods of operation in which the average temperature measured before the catalyst bed is more than 28°C (50°F) below the gas stream temperature measured before the catalyst bed during the most recent determination of destruction efficiency of the catalyst incinerator that demonstrated that the facility was in compliance; and

(III) Records of all 3-hour periods for which the average temperature difference across the catalyst bed is less than 80 percent of the temperature difference measured during the most recent determination of the destruction efficiency of the catalytic incinerator that demonstrated that the facility was in compliance.

(xi) For carbon adsorbers, all 3-hour periods of operation during which the average VOC concentration or reading of organics in the exhaust gases is more than 20 percent greater than the average exhaust gas concentration or reading measured by the organics monitoring device during the most recent determination of the recovery efficiency of the carbon adsorber that demonstrated that the facility was in compliance. This specification applies only to carbon adsorbers for which stack emission testing was required to demonstrate compliance with a standard of this chapter.

3. On and after April 22, 1994, the owner or operator shall notify the Technical Secretary of any instance of noncompliance with the applicable requirements for control devices, such instance of noncompliance including any period of operation during which the parameter boundaries established during the most recent performance test are exceeded as specified in Subparts 2(ix), (x), and (xi) of this subparagraph, by sending a copy of that notice to the Technical Secretary within 30 calendar days following the occurrence.

Authority: *TCA 68-201-105 and 4-5-202*

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2nd Revision			
3rd Revision			

1200-3-18-.22 BULK GASOLINE PLANTS

(1) Applicability of this rule is as follows:

(a) This rule applies to all unloading, loading, and storage operations at bulk gasoline plants in Davidson, Rutherford, Shelby, Sumner, Williamson, and Wilson Counties and to gasoline tank trucks delivering or receiving gasoline at these bulk gasoline plants.

(b) The following are subject only to the requirements of Parts (3)(c)7, 8, and 9 of this rule:

1. Any stationary storage tank of 2,082 liters (L) (550 gallons [gal]) capacity or less notwithstanding Rule .06 of this chapter; or

2. Any bulk gasoline plant with an average daily throughput of gasoline of less than 15,000 L (4,000 gal) on a monthly average provided that records are maintained according to the requirements in Subparagraph (5)(a) of this rule. Any plant that becomes or is currently subject to all of the provisions of this rule by exceeding this applicability threshold will remain subject to these provisions even if its throughput later falls below the applicability threshold.

(2) (Reserved)

(3) Standards as follow apply:

(a) Each bulk gasoline plant subject to this rule shall be equipped with a vapor balance system between the gasoline storage vessel and the incoming gasoline tank truck designed to capture and transfer vapors displaced during filling of the gasoline storage vessel. These lines shall be equipped with fittings that are vapor tight and that automatically and immediately close upon disconnection.

(b) Each bulk gasoline plant subject to this rule shall be equipped with a vapor balance system between the gasoline storage vessel and the outgoing gasoline tank truck designed to capture and transfer vapors displaced during the loading of the gasoline tank truck. The vapor balance system shall be designed to prevent any vapors collected at one loading rack from passing to another loading rack.

(c) Each owner or operator of a bulk gasoline plant subject to this rule and owner or operator of each tank truck delivering or receiving gasoline at a plant subject to this rule, as applicable, shall act to ensure that the procedures described below are followed during all loading, unloading, and, with respect to the owner or operator of the plant, storage operations:

1. The vapor balance system shall be connected between the tank truck and storage vessel during all gasoline transfer operations;

2. All storage vessel openings, including inspection hatches and gauging and sampling devices shall be vapor tight when not in use;

3. The gasoline tank truck compartment hatch covers shall not be opened during the gasoline transfer;

4. All vapor balance systems shall be designed and operated at all times to prevent gauge pressure in the gasoline tank truck from exceeding 450 millimeters (mm) (18 inches [in]) of water and vacuum from exceeding 150 mm (5.9 in) of water during product transfers;

5. No pressure vacuum relief valve in the bulk gasoline plant vapor balance system shall begin to open at a system pressure of less than 450 mm (18 in) of water or at a vacuum of less than 150 mm (5.9 in) of water;

6. All product transfers involving gasoline tank trucks at bulk gasoline plants subject to this rule shall be limited to vapor-tight gasoline tank trucks;

7. Filling of storage vessels shall be restricted to submerged fill;

8. Loading of outgoing gasoline tank trucks shall be limited to submerged fill; and

9. Owners or operators of bulk gasoline plants or owners or operators of tank trucks shall observe all parts of the transfer and shall discontinue transfer if any leaks are observed.

(d) Each calendar month, the vapor balance systems and each loading rack handling gasoline shall be inspected for liquid or vapor leaks during gasoline transfer operations. For purposes of this subparagraph, detection methods incorporating sight, sound, or smell are acceptable. Each leak that is detected shall be repaired within 15 calendar days after it is detected. Dripping liquid resulting upon disconnect following gasoline transfer shall not constitute a leak.

(4) A pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument) capable of measuring 500 mm (20 in) of water gauge pressure within a $\pm$2.5 mm (0.098 in) of water precision, shall be calibrated and installed on the bulk gasoline plant vapor balance system at a pressure tap, located as close as possible to the connection with the gasoline tank truck, to allow determination of compliance with Part (3)(c)4 of this rule.

(5) The owner or operator of a facility subject to this rule shall maintain the following records for at least 3 years and shall make these records available to the Technical Secretary upon request:

(a) Daily records showing the quantity of gasoline loaded into gasoline tank trucks; and

(b) A record of each monthly leak inspection kept on file at the plant. Inspection records shall include, as a minimum, the following information:

1. Date of inspection;

2. Findings (may indicate no leaks discovered or location, nature, and severity of each leak);

3. Leak determination method;

4. Corrective action (date each leak repaired; reasons for any repair interval in excess of 15 calendar days); and

5. Inspector name and signature.

(6) The owner or operator of any facility containing sources subject to this rule shall comply with the requirements in Paragraphs .04(1) and (2) of this chapter.

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1200-3-18-.23 BULK GASOLINE TERMINALS

(1) Applicability of this rule is as follows:

(a) This rule applies to all loading racks at any bulk gasoline terminal which deliver liquid product into gasoline tank trucks and to gasoline tank trucks while loading at a terminal subject to this rule.

(b) Any facility that becomes or is currently subject to the provisions of this rule by exceeding the throughput specified in the definition of bulk gasoline terminal in Rule .01 of this chapter will remain subject to these provisions even if its throughput later falls below the applicability threshold.

(2) Standards as follow apply:

(a) Each loading rack at a bulk gasoline terminal subject to this rule shall be equipped with a vapor collection system designed to collect the total volatile organic compound (VOC) vapors displaced from tank trucks during product loading.

(b) Each vapor collection system shall be designed to prevent any VOC vapors collected at one loading rack from passing to another loading rack.

(c) In Davidson, Rutherford, Shelby, Sumner, Williamson, and Wilson Counties, loadings of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline tank trucks using the following procedures:

1. The owner or operator shall obtain the vapor-tightness documentation described in Subparagraphs (4)(a) and (b) of this rule for each gasoline tank truck that is to be loaded at the bulk gasoline terminal loading rack subject to this rule;

2. The owner or operator shall require the tank identification number, which allows for verification of vapor-tightness documentation, to be recorded as each gasoline tank truck is loaded at the terminal;

3. The owner or operator shall cross-check each tank identification number with the file of tank vapor-tightness documentation within 2 weeks after the corresponding tank is loaded;

4. The terminal owner or operator shall notify the owner or operator of each non-vapor-tight gasoline tank truck loaded at the bulk gasoline terminal loading rack that the truck is not vapor-tight subject to this rule within 3 weeks after the loading has occurred; and

5. The terminal owner or operator shall insure that the non-vapor-tight gasoline tank truck will not be reloaded at the bulk gasoline terminal loading rack subject to this rule until vapor-tightness documentation for that tank is obtained.

(d) The terminal owner or operator or tank truck owner or operator shall ensure that loadings of any gasoline tank truck at the bulk gasoline terminal loading rack subject to this rule is made only into a tank equipped with vapor collection equipment that is compatible with the terminal's vapor collection system.

(e) The terminal owner or operator or tank truck operator shall ensure that the terminal's and the tank truck's vapor collection systems are connected during each loading of a gasoline tank truck at the bulk gasoline terminal loading racks subject to this rule.

(f) The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the tank truck from exceeding 4,500 Pascals (Pa) (450 millimeters [mm] of water) during product loading. This level shall not be exceeded when measured by the procedures specified in Subparagraph (3)(a) of this rule.

(g) No pressure-vacuum vent in the bulk gasoline terminal's vapor collection system shall begin to open at a system pressure less than 4,500 Pa (450 mm of water).

(h) Each calendar month, the vapor collection system, the vapor control system, and each loading rack handling gasoline shall be inspected during the loading of gasoline tank trucks for liquid or vapor leaks. For purposes of this subparagraph, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a leak shall be recorded and the source of the leak repaired within 15 calendar days after it is detected. Dripping liquid resulting upon disconnect following gasoline transfer shall not constitute a leak.

(i) Emissions to the atmosphere from the vapor collection system due to the loading of gasoline tank trucks shall not exceed 80 milligrams per liter (mg/L) (4.7 grains per gallon [grain/ga]) of gasoline loaded.

(j) Loading of outgoing gasoline tank trucks shall be restricted to the use of submerged fill, with all hatches on the gasoline tank truck kept closed and securely fastened during loading.

(3) Test methods and procedures as follow apply:

(a) For the purpose of determining compliance with Subparagraph (2)(f) of this rule, the following procedures shall be used:

1. Calibrate and install a pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument) capable of measuring up to 500 mm (20 inches [in]) of water gauge pressure with +/- 2.5 mm (0.098 in) of water precision.

2. Connect the pressure measurement device to a pressure tap in the terminal's vapor collection system, located as close as possible to the connection with the gasoline tank truck.

3. During the performance test, record the pressure every 5 minutes (min) while a gasoline tank truck is being loaded, and record the highest instantaneous pressure that occurs during each loading. Every loading position shall be tested at least once during the performance test.

(b) For the purpose of determining compliance with the mass emission limitations of Subparagraph (2)(i) of this rule, the following reference methods shall be used:

1. For the determination of volume at the exhaust vent:

   (i) Reference Method 2B for combustion vapor processing systems; and

   (ii) Reference Method 2A for all other vapor processing systems.

2. For the determination of total organic compounds concentration at the exhaust vent, Reference Method 25A or 25B. The calibration gas shall be either propane or butane.

(c) Immediately prior to a performance test required for determination of compliance with Subparagraphs (2)(f) and (i) of this rule, all potential sources of vapor leakage in the terminal's vapor collection system equipment shall be monitored for leaks according to the procedures in Rule .85 of this chapter. The monitoring shall be conducted only while a gasoline tank truck is being loaded. A reading of 10,000 parts per million by volume (ppmv) or greater as methane shall be considered a leak. All leaks shall be repaired prior to conducting the performance test.

(d) The test procedure for determining compliance with Subparagraphs (2)(f) and (i) of this rule is as follows:

1. All testing equipment shall be prepared and installed as specified in the appropriate test methods;

2. The time period for a performance test shall be not less than 6 hours, during which at least 300,000 liters (L) (80,000 gallons [gal]) of gasoline are loaded. If the throughput criterion is not met during the initial 6 hours, the test may be either continued until the throughput criterion is met, or resumed the next day with another complete 6 hours of testing. As much as possible, testing should be conducted during the 6-hour period in which the highest throughput normally occurs;

3. For intermittent vapor processing systems:

   (i) The vapor holder level shall be recorded at the start of the performance test. The end of the performance test shall coincide with a time when the vapor holder is at its original level; and

   (ii) At least two startups and shutdowns of the vapor processor shall occur during the performance test. If this does not occur under automatically controlled operation, the system shall be manually controlled.

4. The volume of gasoline dispensed during the performance test period at all loading racks whose vapor emissions are controlled by the vapor processing system being tested shall be determined. This volume may be determined from terminal records or from gasoline dispensing meters at each loading rack;

5. An emission testing interval shall consist of each 5-minute period during the performance test. For each interval:

   (i) The reading from each measurement instrument shall be recorded; and

   (ii) The volume exhausted and the average total organic compounds concentration in the exhaust vent shall be determined, as specified in the appropriate test method. The average total organic compounds concentration shall correspond to the volume measurement by taking into account the sampling system response time;

6. The mass emitted during each testing interval shall be calculated as follows:

$$M_{ci} = 10^{-6} K V_{cs} C_c$$

where:

M_{ci} = Mass of total organic compounds (milligrams [mg]) emitted during testing interval i;

V_{cs} = Volume of air-vapor mixture exhausted (cubic meters [m^3]), at standard conditions;

C_c = Total organic compounds concentration (measured as carbon) at the exhaust vent (ppmv);

K = Density of calibration gas (milligrams/cubic meter [mg/m^3]) at standard conditions;

= 1.83×10^6 for propane;

= 2.41×10^6 for butane; and

s = Standard conditions, 20^0C and 760 millimeters of mercury (mm Hg); and

7. The total organic compounds mass emissions shall be calibrated as follows:

$$E = \frac{\sum_{i=1}^{n} M_{ci}}{L}$$

where:

E = mass of total organic compounds emitted per volume of gasoline loaded, mg/L;

M_{ei} = mass of total organic compounds emitted during testing interval i, mg;

L = total volume of gasoline loaded, L; and

n = number of testing intervals.

(e) The owner or operator may adjust the emission results to exclude the methane and ethane content in the exhaust vent by any method approved by the Technical Secretary and the EPA.

(4) The owner or operator of a facility subject to the requirements of this rule shall maintain the following records for at least 3 years and shall make these records available to the Technical Secretary upon request:

(a) The tank truck vapor-tightness documentation required under Subparagraph (2)(c) of this rule shall be kept on file at the terminal in a permanent form available for inspection.

(b) The documentation file for each gasoline tank truck shall be updated at least once per year to reflect current test results as determined by Reference Method 27. This documentation shall include, as a minimum, the following information:

1. Test title: Gasoline Delivery Tank Pressure Test--Reference Method 27;

2. Tank owner and address;

3. Tank identification number;

4. Testing location;

5. Date of test;

6. Tester name and signature;

7. Witnessing inspector, if any: Name, signature, and affiliation; and

8. Test results: Actual pressure change in 5 min, mm of water (average for two runs).

(c) A record of each monthly leak inspection required under Subparagraph (2)(h) of this rule shall be kept on file at the terminal. Inspection records shall include, as a minimum, the following information:

1. Date of inspection;

2. Findings (may indicate either no leaks discovered or the location, nature, and severity of each leak);

3. Leak determination method;

4. Corrective action (date each leak repaired, reasons for any repair interval in excess of 15 calendar days; and

5. Inspector name and signature.

(d) The terminal owner or operator shall keep documentation of all notifications required under Part (2)(c)4 of this rule on file at the terminal.

(e) Daily records shall be maintained of gasoline throughput.

(5) The owner or operator of any facility containing sources subject to this rule shall comply with the requirements in Paragraphs .04(1) and (2) of this chapter.

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1200-3-18-.24 GASOLINE DISPENSING FACILITIES - STAGE I AND STAGE II VAPOR RECOVERY

(1) Applicability of this rule is as follows:

(a) This rule applies to any gasoline dispensing facility in Davidson, Rutherford, Shelby, Sumner, Williamson, or Wilson County and the appurtenant equipment necessary to the gasoline dispensing facility and to any gasoline tank truck which transfers gasoline to storage vessels at such facilities.

(b) With respect to requirements concerning transfers from gasoline tank trucks to gasoline storage vessels at gasoline dispensing facilities, the following are subject only to Part (3)(a)1 of this rule:

1. Any transfer made to a gasoline dispensing facility storage tank that is equipped with a floating roof or an approved equivalent, this approval being a revision to the State Implementation Plan;

2. Any stationary gasoline storage container with a capacity that is less than 2,080 liters (L) (550 gallons [gal]) that is used exclusively for the fueling of implements of husbandry;

3. Any stationary storage tank with a capacity of less than 7,600 L (2,000 gal) that was constructed prior to January 1, 1979; and

4. Any stationary storage tank with a capacity of less than 950 L (250 gal) that was constructed after December 31, 1978.

(c) Any gasoline dispensing facility which dispenses less than 10,000 gallons of gasoline per month is subject only to the provisions of Part (3)(a)1 and Subparagraph (5)(b) of this rule.

(d) The requirements of Subparagraph (3)(c) of this rule do not apply to any gasoline dispensing facility which satisfies any of the following:

1. Is in a county other than Davidson, Rutherford, Sumner, Williamson, or Wilson County;

2. Dispenses less than 10,000 gallons of gasoline per month; or

3. Dispenses less than 50,000 gallons of gasoline per month and is owned by an independent small business marketer of gasoline.

4. Dispenses gasoline for only refueling of aircraft or marine vessels.

(e) Any gasoline dispensing facility that exceeds the applicability threshold specified in Subparagraph (c) or (d) of this paragraph shall be subject to all of the respective provisions of this rule for facilities exceeding the applicability threshold and shall remain subject to these provisions even if its throughput later falls below the threshold. The owner or operator shall inform the Technical Secretary within 30 days following the exceedance.

(2) For the purpose of this rule, the following definitions apply:

"Independent small business marketer of gasoline" means a person engaged in the marketing of gasoline who would be required to pay for procurement and installation of vapor recovery equipment, unless such person satisfies either of the following:

1. With respect to refining:

   (i) Is a refiner; or

   (ii) Controls, is controlled by, or is under common control with, a refiner; or

   (iii) Is otherwise directly or indirectly affiliated with a refiner or with a person who controls, is controlled by, or is under a common control with a refiner (unless the sole affiliation referred to herein is by means of a supply contract or an agreement or contract to use a trademark, trade name, service mark, or other identifying symbol or name owned by such refiner or any such person); or

2. Receives less than 50 percent of his annual income from refining or marketing of gasoline.

For the purpose of this definition, the term "refiner" shall not include any refiner whose total refinery capacity (including the refinery capacity of any person who controls, is controlled by, or is under common control with, such refiner) does not exceed 65,000 barrels per day. For purposes of this definition, "control" of a corporation means ownership of more than 50 percent of its stock. Verification of satisfaction of criteria specified in this definition shall be by notarized certification to the Technical Secretary, unless additional verification is requested by the Technical Secretary, in which case this additional verification shall be furnished to the Technical Secretary immediately.

"Vacuum assist system" means the gasoline vapor recovery system that employs a vacuum generating device to effect transfer of gasoline vapor displaced in fueling a vehicle tank to a gasoline storage tank, vapor storage tank, or vapor processing unit.

(3) Standards as follow apply:

(a) The owner or operator of each gasoline dispensing facility subject to this rule shall comply with the following requirements:

1. All gasoline storage vessels at gasoline dispensing facilities shall be loaded by submerged fill;

2. All vapor lines on the storage vessel shall be equipped with closures that automatically seal upon disconnect;

3. A vapor balance system shall be designed and installed such that, with a vapor-tight line from the gasoline storage tank to the gasoline tank truck, the back pressure in a gasoline tank truck unloading gasoline does not exceed 450 millimeters (mm) (18 inches [in]) of water pressure or 150 mm (5.9 in) of water vacuum;

4. If a gauging well separate from the fill tube is used for manual measurement, it shall be provided with a submerged drop tube that extends to within 150 mm (5.9 in) of the gasoline storage vessel bottom; and

5. Liquid fill connections for all systems shall be equipped with vapor-tight caps.

(b) The owner or operator of a gasoline tank truck shall not unload gasoline to a gasoline storage vessel subject to vapor-tightness requirements during unloading unless the following conditions are met:

1. All hoses, adaptors, and couplers in the vapor balance system are properly connected;

2. All vapor return hoses, couplers, and adapters used in the gasoline delivery are vapor-tight;

3. All vapor return equipment are compatible with the vapor balance equipment installed on the gasoline dispensing facility storage vessel;

4. All hatches on the gasoline tank truck are kept closed and securely fastened; and

5. The filling of storage vessels at gasoline dispensing facilities is limited to unloading by vapor-tight gasoline tank trucks.

(c) The owner or operator of each gasoline dispensing facility subject to this rule shall comply with the following requirements:

1. All gasoline dispensing shall be by equipment served by a vapor recovery system approved by the Technical Secretary, certified by the California Air Resources Board, and designed, installed, operated, and maintained to recover gasoline vapors displaced during dispensing to automobile fuel tanks, and accessible for inspection and testing;

2. The vapor recovery system shall include for any dispenser and system the following:

(i) Vapor-tight coaxial hose to conduct vapors captured during dispensing except on new vehicle fueling lines at motor vehicle assembly plants where vapor tight dual hoses on vacuum assist systems may be employed in lieu of vapor tight coaxial hose;

(ii) For balance systems:

(I) Installation of piping between the dispenser and the vapor collection tank which precludes liquid blockage in the piping; and

(II) No device which inhibits immediate testing for dynamic backpressure;

(iii) For vacuum assist systems, sufficient vacuum to prevent escape of gasoline vapors during dispensing;

(iv) Vapor-tight piping, fittings, caps, couplers, and adapters; and

(v) Maintenance of vapor tightness throughout the vapor recovery system, except during facility storage tank loading, gauging, and sampling and during maintenance and testing necessitating disruption in the integrity of the system.

3. Use of any aftermarket or rebuilt parts is restricted to parts approved by the California Air Resources Board.

4. Gasoline shall not be dispensed from a dispensing unit served by or permitted to be served by a component which does not satisfy the following:

(i) Each component required for operation of the system is in place and, to the extent it can be confirmed by sensory inspection, is unimpaired and operational;

(ii) Each nozzle boot is not torn in either of the following manners:

(I) Triangular - shaped or similar tear 1/2 inch or more to a side, or hole 1/2 inch or more in length; or

(II) Slit 1 inch or more in length.

(iii) Each faceplate or flexible cone is not damaged in the following manner:

(I) For balance nozzles and nozzles for aspirator and eductor assist type systems, damage such that the capability to achieve a seal with a fillpipe interface is diminished for an accumulated total of 1/4 of the circumference of the faceplace; or

(II) For nozzles for vacuum assist systems, more than 1/4 of the flexible cone is missing;

(iv) Each nozzle shutoff mechanism is operational;

(v) Each vacuum producing unit is operational;

(vi) Each vapor processing unit is operational;

(vii) Each fitting, cap, coupler, and adapter is vapor-tight; and

(viii) Each pressure/vacuum relief valve, vapor check valve, and dry break is operational.

5. The owner or operator shall conspicuously display fueling instructions and information in the gasoline dispensing area. These instructions and this information shall describe to customers clearly the proper procedure to be used for fueling vehicles from the dispenser. These instructions and this information shall include instruction about the

proper method of reporting system defects first to facility management, and, then if defects are not corrected, to the Technical Secretary. The notice of the method of reporting to the Technical Secretary shall be displayed no earlier than 3 months after and no later than 6 months after the display of the other instructions and information listed above.

(4) Test methods as follow apply:

(a) Unless otherwise specified in this rule, the test method found in Rule .85 of this chapter to determine compliance with the vapor-tight requirements of Paragraph (3) of this rule for lines, piping, caps, couplers, adapters, and fittings;

(b) The test methods found in Appendix J, Technical Guidance - Stage II Vapor Recovery Systems for Control of Vehicle Refueling Emissions at Gasoline Dispensing Facilities, Volume II, EPA - 450/3-91-022b (November 1991), to determine compliance with applicable requirements specified in Subparagraph (3)(c) of this rule; and/or

(c) Other methods necessary for demonstration of compliance approved by the Technical Secretary and the EPA.

(5) Recordkeeping requirements apply as follow:

(a) Each owner or operator subject to provisions of this rule shall comply with the recordkeeping requirements of this rule. Except as otherwise specified in this chapter, these records will be maintained for a minimum of 3 years and shall be made available to the Technical Secretary upon request.

(b) If any exemption based upon the quantity of gasoline dispensed is claimed for a facility subject to this rule, the owner or operator of the facility shall maintain records showing the quantity of gasoline dispensed each month at the facility.

(c) Required permits and required logs of maintenance shall be kept at the facility for which the permits are issued and the logs created.

(6) The owner or operator of any facility containing sources subject to this rule shall:

(a) Comply with the requirements in Paragraphs .04(1) and (2) of this chapter, including an initial compliance demonstration with the applicable requirements specified in Subparagraph (3)(c) by the applicable test methods specified in Subparagraphs (4)(b) and (c) of this rule;

(b) Within 30 days following the occurrence of an incident which could reasonably be expected to have adversely affected the performance of the system, such as excavation near system piping or following replacement of the system, perform applicable testing to demonstrate compliance is maintained;

(c) Within 5 years following any compliance demonstration for the complete system, demonstrate the system maintains compliance; and

(d) Provide the Technical Secretary written notice of any compliance demonstration testing. This notice shall be provided to the Technical Secretary such that the Technical Secretary is informed of the proposed testing at least 14 days before the proposed date of testing, thereby providing the Technical Secretary opportunity to observe the testing.

(7) Compliance with the requirements of Subparagraph (3)(c) shall be as follows:

(a) For facilities subject to this rule owned by an independent small business marketer of gasoline:

1. No less than one-third of these facilities shall have achieved compliance by June 21, 1994;

2. No less than two-thirds of these facilities shall have achieved compliance by June 21, 1995;

3. All facilities shall have achieved compliance by June 21, 1996; and

4. By June 21, 1994, the independent small business marketer shall designate in writing to the Technical Secretary which facilities will achieve compliance by the respective dates of Parts 1, 2, and 3 of this subparagraph.

(b) For facilities subject to this rule not owned by an independent small business marketer of gasoline:

1. For which construction commenced after November 15, 1990, compliance shall be achieved by December 21, 1993;

2. Which dispense at least 100,000 gallons of gasoline per month, based on average monthly sales for the 2-year period before June 21, 1993, and for which construction commenced before November 15, 1990, compliance shall be achieved by June 21, 1994; and

3. Not accounted for in Parts 1 and 2 of this subparagraph, compliance shall be achieved by June 21, 1995.

Authority: *TCA 68-201-105 and 4-5-202*

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1200-3-18-.25 LEAKS FROM GASOLINE TANK TRUCKS

(1) This rule applies to any gasoline tank truck equipped for gasoline vapor collection. No exemptions are allowable based on number of gasoline tank trucks or total quantity of volatile organic compound (VOC) emissions.

(2) Each owner or operator of a gasoline tank truck subject to this rule shall ensure that the gasoline tank truck:

(a) Is a vapor-tight gasoline tank truck as demonstrated by Reference Method 27.

(b) Operates with hatches open only during measurement of product level or maintenance, with no product loading or unloading conducted during this measurement or maintenance.

(c) Retests for vapor-tightness documentation not more than 12 months from the month of the last vapor-tightness test.

(3) Monitoring for leaks from gasoline tank trucks shall be as follows:

(a) The Technical Secretary may, at any time, monitor a gasoline tank by the procedure referenced in Subparagraph (b) of this paragraph to confirm continuing compliance with this rule.

(b) Monitoring to confirm the continuing existence of leak-tight conditions shall be performed according to the procedures described in Appendix B of the OAQPS Guideline Series document, Control of Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems, EPA-450/2-78-051.

(c) Within 30 days of detection of a leak, the owner or operator shall certify in writing to the Technical Secretary that repairs have been made.

(4) The test procedure to determine compliance with Subparagraph (2)(a) of this rule shall be Reference Method 27.

(5) Recordkeeping and reporting requirements as follow apply:

(a) The owner or operator of a gasoline tank truck subject to this rule shall maintain records of all certification, testing, and repairs concerning vapor-tightness and leaks. The records shall identify the gasoline tank truck, the date of the tests or repair, and, if applicable, the type of repair and the date of retest. The records shall be maintained for at least 3 years after the date the testing or repair is completed. These records shall be made available to the Technical Secretary upon request.

(b) The records required by Subparagraph (a) of this paragraph with respect to vapor-tightness shall, as a minimum, contain:

1. The gasoline tank truck vessel tank identification number (serial number);

2. The initial test pressure;

3. The test pressure after 5 minutes;

4. The initial test vacuum;

5. The test vacuum after 5 minutes;

6. The testing company name and the date and location of the test; and

7. The signature of person conducting the test.

(c) The owner or operator of a gasoline tank truck subject to this rule shall certify and report to the Technical Secretary annually that the gasoline tank truck has been tested by Reference Method 27 as specified in Paragraph (4) of this rule. The certification shall include:

1. The name and address of the company and the name and telephone number of the responsible company representative under whose signature the certification is submitted; and

2. A copy of the information recorded to comply with Subparagraph (b) of this paragraph.

(d) Copies of all records and reports under this rule shall be made available to the Technical Secretary upon request.

Authority: *TCA 68-201-105 and 4-5-202*

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1200-3-18-.26 PETROLEUM REFINERY SOURCES

(1) Applicability of this rule is as follows:

(a) This rule applies to any vacuum-producing system, wastewater separator, and process unit turnaround at petroleum refinery sources. No exemptions are allowable based on size or throughput of a facility.

(b) This rule does not apply to segregated storm water run-off drain systems or to non-contact cooling water systems.

(2) For the purpose of this rule, the following definitions apply:

"Accumulator" means the reservoir of a condensing unit receiving the condensate from the condenser.

"Firebox" means the chamber or compartment of a boiler or furnace in which materials are burned but does not mean the combustion chamber of an incinerator.

"Forebays" means the primary sections of a wastewater separator.

"Hot well" means the reservoir of a condensing unit receiving the warm condensate from the condenser.

"Refinery fuel gas" means any gas that is generated by a petroleum refinery process unit and that is combusted, including any gaseous mixture of natural gas and fuel gas.

"Turnaround" means the procedure of shutting a refinery unit down after a run to perform necessary maintenance and repair work and returning the unit to operation.

"Vacuum producing system" means any reciprocating, rotary, or centrifugal blower or compressor, or any jet ejector or device that takes suction from a pressure below atmospheric and discharges against atmospheric pressure.

"Wastewater (oil/water) separator" means any device or piece of equipment that utilizes the difference in density between oil and water to remove oil and associated chemicals from water, or any device, such as a flocculation tank, clarifier, etc., that removes petroleum-derived compounds from wastewater.

(3) Standards as follow apply:

(a) No person shall permit the emission of any uncondensed volatile organic compound (VOC) from the condensers, hot wells, or accumulators of any vacuum producing system at a petroleum refinery. The standard shall be achieved by:

1. Piping the uncondensed vapors to a firebox or incinerator, or

2. Compressing the vapors and adding them to the refinery fuel gas.

(b) The owner or operator of any wastewater (oil/water) separator at a petroleum refinery shall:

1. Provide covers and seals on all separators and forebays, and

2. Equip all openings in covers, separators, and forebays with lids or seals and keep the lids or seals in the closed position at all times except when in actual use.

(c) The owner or operator of a petroleum refinery shall provide for the following during process unit turnaround:

1. Depressurization venting of the process unit or vessel to a vapor recovery system, flare, or firebox;

2. No emission of VOC from a process unit or vessel until its internal pressure is 136 kiloPascals (kPa) (19.7 pounds per square inch atmospheric [psia]) or less; and,

3. Recordkeeping of the following items:

(i) Date of every process unit or vessel turnaround; and

(ii) The internal pressure of the process unit or vessel immediately prior to venting to the atmosphere.

(4) The owner or operator of a petroleum refinery shall maintain the records required by Part (3)(c)3 of this rule for at least 3 years and shall make these records available to the Technical Secretary upon request.

(5) The owner or operator of any facility containing sources subject to this rule shall comply with the requirements in Paragraphs .04(1) and (2) of this chapter.

Authority: *TCA 68-201-105 and 4-5-202*

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1200-3-18-.27 LEAKS FROM PETROLEUM REFINERY EQUIPMENT

(1) Applicability of this rule is as follows:

(a) This rule applies to all equipment in volatile organic compound (VOC) service in any process unit at a petroleum refinery, regardless of size or throughput.

(b) The requirements of Paragraphs (4) through (8) of this rule do not apply to:

1. Any equipment in vacuum service;

2. Any pressure relief valve that is connected to an operating flare header or vapor recovery device;

3. Any liquid pump that has a dual mechanical pump seal with a barrier fluid system;

4. Any compressor with a degassing vent that is routed to an operating VOC control device; and

5. Pumps and valves in heavy liquid service except that if evidence of a leak is found by visual, audible, olfactory, or other detection method, the owner or operator shall confirm the presence of a leak using the methods specified in Rule .85 of this chapter. If a leak is confirmed, the owner or operator shall repair the leak as specified in Paragraph (7) of this rule.

(2) For the purpose of this rule, the following definitions apply:

"[In] gas/vapor service" means that the piece of equipment in VOC service contains process fluid that is in the gaseous state at operating conditions.

"[In] heavy liquid service" means that the piece of equipment in VOC service is not in gas/vapor service or in light liquid service.

"[In] light liquid service" means that the piece of equipment in VOC service contains a liquid that meets the following conditions:

1. The vapor pressure of one or more of the components is greater than 0.3 kPa (0.044 in Hg) at 20°C (68°F) (standard reference texts or ASTM D2879 shall be used to determine the vapor pressures);

2. The total concentration of the pure components having a vapor pressure greater than 0.3 kPa (0.044 in. Hg) at 20°C (68°F) is equal to or greater than 20 percent by weight; and

3. The fluid is a liquid at operating conditions.

"[In] vacuum service" means that the equipment in VOC service is operating at an interval pressure which is at least 5 kPa below ambient pressure.

"[In] VOC service" means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. The provisions of Subparagraph (9)(b) of this rule specify how to determine that a piece of equipment is not in VOC service.

(3) The owner or operator of a petroleum refinery complex subject to this regulation shall ensure that:

(a) Any open-ended line or valve is sealed with a second valve, blind flange, cap, or plug except during operations requiring process fluid flow through the open-ended line or valve;

(b) When a second valve is used, each open-ended line or valve equipped with a second valve is operated in such a manner that the valve on the process fluid end is closed before the second valve is closed; and

(c) When a double block-and-bleed system is used, the bleed valve or line is open only during operations that require venting of the line between the block valves and is closed at all other times.

(4) Equipment inspection program standards as follow apply:

(a) The owner or operator of a petroleum refinery shall conduct quarterly monitoring of each:

1. Compressor;

2. Pump in light liquid service;

3. Valve in light liquid service, except as provided in Paragraphs (5) and (6) of this rule;

4. Valve in gas/vapor service, except as provided in Paragraphs (5) and (6) of this rule; and

5. Pressure relief valve in gas/vapor service, except as provided in Paragraphs (5) and (6) of this rule.

(b) The owner or operator of a petroleum refinery shall conduct a weekly visual inspection of each pump in light liquid service;

(c) The owner or operator of a petroleum refinery shall monitor each pressure relief valve after each overpressure relief to ensure that the valve has properly reseated and is not leaking;

(d) When an instrument reading of 10,000 parts per million (ppm) or greater is measured, it shall be determined that a leak has been detected;

(e) If there are indications of liquid dripping from the equipment, it shall be determined that a leak has been detected; and

(f) When a leak is detected, the owner or operator shall affix a weatherproof, readily visible tag in a bright color such as red or yellow bearing the equipment identification number and the date on which the leak was detected. This tag shall remain in place until the leaking equipment is repaired. The requirements of this subparagraph apply to any leak detected by

the equipment inspection program and to any leak from any equipment that is detected on the basis of sight, sound, or smell.

(5) Alternative standards for skip period leak detection and repair apply as follows:

(a) An owner or operator shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in Paragraph (4) of this rule.

(b) After two consecutive quarterly leak detection periods with the percent of valves leaking equal or less than 2.0, an owner or operator may begin to skip one of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(c) After five consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 3 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(d) If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements as described in Paragraph (4) of this rule but can again elect to use the requirements in Paragraph (5) of this rule.

(e) The percent of valves leaking shall be determined by dividing the sum of valves found leaking during current monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements of this rule.

(f) An owner or operator shall keep a record of the percent of valves found leaking during each leak detection period.

(6) Alternative standards for unsafe-to-monitor valves and difficult-to-monitor valves apply as follow:

(a) Any valve that is designated, as described in Part (10)(e)1 of this rule, as an unsafe-to-monitor valve is exempt from the requirements of Paragraph (4) if:

1. The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with Paragraph (4); and

2. The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(b) Any valve that is designated, as described in Part (10)(e)2, as a difficult-to-monitor valve is exempt from the requirements of Paragraph (4) if:

1. The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters (m) (6.6 feet [ft]) above a support surface; and

2. The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

(7) The owner or operator of a petroleum refinery shall:

(a) Make a first attempt at repair for any leak not later than 5 calendar days after the leak is detected; and

(b) Repair any leak as soon as practicable, but not later than 15 calendar days after it is detected except as provided in Paragraph (8) of this rule.

(8) Delay of repair standards apply as follow:

(a) Delay of repair of equipment for which a leak has been detected will be allowed if the repair is technically infeasible without a process unit shutdown. Repair of such equipment shall occur before the end of the next process unit shutdown.

(b) Delay of repair of equipment will be allowed for equipment that is isolated from the process and that does not remain in VOC service.

(c) Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

(9) Test methods and procedures apply as follow:

(a) In conducting the tests required to comply with Paragraph (4) of this rule, the owner or operator shall use the test methods specified in Rule .85 of this chapter.

(b) The owner or operator shall test each piece of equipment as required under Paragraph (4) of this rule unless it is demonstrated that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:

1. Procedures that conform to the general methods in ASTM E260, E168, and E169 shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment;

2. Where the test methods in Part 1 of this subparagraph also measure exempt compounds, these compounds may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid; and

3. Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in VOC service. If the Technical Secretary disagrees with the judgment, Parts 1 and 2 of this subparagraph shall be used to resolve the disagreement.

(c) The owner or operator shall demonstrate that a piece of equipment is in light liquid service by showing that:

1. All of the following conditions apply:

   (i) The vapor pressure of one or more of the components is greater than 0.3 kiloPascals (kPa) at 20°C (0.09 inches of Mercury [in Hg] at 68°F); standard reference texts or ASTM D2879 shall be used to determine the vapor pressures;

   (ii) The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20°C (0.09 in Hg at 68°F) is equal to or greater than 20 percent by weight; and

   (iii) The fluid is a liquid at operating conditions.

2. The percent VOC evaporated is greater than 10 percent at 150°C (302°F) as determined by ASTM D86.

(d) Samples used in conjunction with Subparagraphs (b) and (c) of this paragraph shall be representative of the process fluid that is contained in or contacts the equipment.

(10) Recordkeeping requirements apply as follow:

(a) Each owner or operator subject to the provisions of this rule shall comply with the recordkeeping requirements of this rule. Except as noted, these records will be maintained for a minimum of 3 years and shall be made available to the Technical Secretary upon request.

(b) An owner or operator of more than one affected facility subject to the provisions of this rule may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.

(c) When each leak is detected as specified in Paragraph (4) of this rule, the following information shall be recorded in a log and shall be kept for 3 years:

1. The instrument and operator identification numbers and the equipment identification number;

2. The date the leak was detected and the dates of each attempt to repair the leak;

3. The repair methods employed in each attempt to repair the leak;

4. The notation "Above 10,000" if the maximum instrument reading measured by the methods specified in Rule .85 of this chapter after each repair attempt is equal to or greater than 10,000 ppm;

5. The notation "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak;

6. The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown;

7. The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days;

8. The dates of process unit shutdowns that occur while the equipment is unrepaired; and

9. The date of successful repair of the leak.

(d) A list of identification numbers of equipment in vacuum service shall be recorded in a log that is kept.

(e) The following information pertaining to all valves subject to the requirements of Paragraph (6) of this rule shall be recorded in a log that is kept for 3 years:

1. A list of identification numbers for valves that are designated as unsafe-to-monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve; and

2. A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult to monitor, and the schedule for monitoring each valve.

(f) The following information for valves complying with Paragraph (5) of this rule shall be recorded in a log that is kept for 3 years:

1. A schedule of monitoring; and

2. The percent of valves found leaking during each monitoring period as noted in Subparagraph (5)(f) of this rule.

(g) Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept 3 years in a readily accessible location for use in determining exemptions as provided in Paragraph (1) of this rule.

(11) The owner or operator of any facility containing sources subject to this rule shall comply with the requirements in Paragraphs .04(1) and (2) of this chapter.

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1200-3-18-.28 PETROLEUM LIQUID STORAGE IN EXTERNAL FLOATING ROOF TANKS

(1) Applicability of this rule is as follows:

(a) This rule applies to any petroleum liquid storage tank that is equipped with an external floating roof and that has a capacity greater than 150,000 liters (L) (40,000 gallons [gal]).

(b) This rule does not apply to any petroleum liquid storage tank that:

1. Is used to store waxy, heavy pour crude oil;

2. Has a capacity less than 1,600,000 L (420,000 gal) and is used to store produced crude oil and condensate prior to lease custody transfer;

3. Contains a petroleum liquid with a maximum true vapor pressure less than 10.5 kiloPascals (kPa) (1.5 pounds per square inch atmospheric [psia]) provided that records are kept consistent with Subparagraph (4)(b) of this rule;

4. Contains a petroleum liquid with a maximum true vapor pressure less than 27.6 kPa (4.0 psia); and

(i) Is of welded construction, and

(ii) Presently possesses a metallic-type shoe seal, a liquid-mounted foam seal, a liquid-mounted liquid-filled type seal, or other closure device of demonstrated equivalence approved as a revision to the State Implementation Plan; or

5. Is of welded construction, equipped with a metallic-type shoe primary seal and has a secondary seal from the top of the shoe seal to the tank wall (shoe-mounted secondary seal).

(2) For the purpose of this rule, the following definitions apply:

"Liquid-mounted seal" means a primary seal mounted in continuous contact with the liquid between the tank wall and the floating roof around the circumference of the tank.

"Vapor-mounted seal" means a primary seal mounted so there is an annular vapor space underneath the seal. The annual vapor space is bounded by the bottom of the primary seal, the tank wall, the liquid surface, and the floating roof.

"Waxy, heavy-pour crude oil" means a crude oil with a pour point of 10°C (50°F) or higher as determined by the American Society for Testing and Materials Standard D97-66, "Test for Pour Point of Petroleum Oils".

(3) No owner of a petroleum liquid storage vessel subject to this rule shall store a petroleum liquid in that tank unless:

(a) The tank has been fitted with:

1. A continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal); or

2. A closure or other device that controls VOC emissions with an effectiveness equal to or greater than a seal required under Part 1 of this subparagraph and is approved as a revision to the State Implementation Plan.

(b) All seal closure devices meet the following requirements:

1. There are no visible holes, tears, or other openings in the seal(s) or seal fabric;

2. The seal(s) are intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall; and

3. For vapor-mounted primary seals, the accumulated area of gaps exceeding 0.32 centimeters (cm) (0.125 inches [in]) in width between the secondary seal and the tank wall shall not exceed 21.2 square centimeters per meter (cm^2/m) (1.0 square inches per foot [in^2/ft]) of tank diameter, as determined by the method in Paragraph (6) of this rule.

(c) All openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves, are:

1. Equipped with covers, seals, or lids in the closed position except when the openings are in actual use; and

2. Equipped with projections into the tank that remain below the liquid surface at all times.

(d) Automatic bleeder vents are closed at all times except when the roof is being floated off or being landed on the roof leg supports.

(e) Rim vents are set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting.

(f) Emergency roof drains are provided with slotted membrane fabric covers or equivalent covers which cover at least 90 percent of the area of the opening.

(4) The owner or operator of a petroleum liquid storage tank with an external floating roof subject to this rule shall:

(a) Perform routine inspections semi-annually in order to ensure compliance with Paragraph (3) of this rule (the inspections shall include a visual inspection of the secondary seal gap); and

(b) Measure the secondary seal gap annually in accordance with Paragraph (6) of this rule when the floating roof is equipped with a vapor-mounted primary seal.

(5) Recordkeeping requirements apply as follow:

(a) The owner or operator of any petroleum liquid storage tank with an external floating roof subject to this rule shall maintain the following records for at least 3 years and shall make copies of the records available to the Technical Secretary upon request:

1. Records of the types of volatile petroleum liquids stored;

2. Records of the maximum true vapor pressure of the liquid as stored; and

3. Records of the results of the inspections performed in accordance with Paragraph (4) of this rule.

(b) The owner or operator of a petroleum liquid storage vessel with an external floating roof exempted from this rule by Part (1)(b)3, but containing a petroleum liquid with a true vapor pressure greater than 7.0 kPa (1.0 psi), shall maintain the following records for at least 3 years and shall make copies of the records available to the Technical Secretary upon request:

1. Records of the average monthly storage temperature;

2. Records of the type of liquid stored; and

3. Records of the maximum true vapor pressure for all petroleum liquids with a true vapor pressure greater than 7.0 kPa (1.0 psia).

(c) The Technical Secretary may, upon written notice, require more frequent inspections or modify the monitoring and recordkeeping requirements, when necessary to accomplish the purposes of this regulation.

(6) Compliance with Part (3)(b)3 of this rule shall be determined by:

(a) Physically measuring the length and width of all gaps around the entire circumference of the secondary seal in each place where a 0.32 cm (0.125 in) uniform diameter probe passes freely (without forcing or binding against the seal) between the seal and tank wall; and

(b) Summing the area of the individual gaps.

(7) The owner or operator of any facility containing sources subject to this rule shall comply with the requirements in Paragraphs .04(1) and (2) of this chapter.

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1200-3-18-.29 PETROLEUM LIQUID STORAGE IN FIXED ROOF TANKS

(1) Applicability of this rule is as follows:

(a) This rule applies to any fixed roof petroleum liquid storage tank with a capacity greater than 150,000 liters (L) (40,000 gallons [gal]).

(b) This rule does not apply to any petroleum liquid storage tank that:

1. Has a capacity of less than 1,600,000 L (420,000 gal) and is used to store produced crude oil and condensate prior to lease custody transfer;

2. Is a horizontal underground storage tank used to store JP-4 jet fuel; or,

3. Contains a petroleum liquid with a maximum true vapor pressure less than 10.5 kiloPascals (kPa) (1.5 pounds per square inch atmospheric [psia]), provided that records are maintained consistent with Subparagraph (5)(b) of this rule.

(2) For the purpose of this rule, "Internal floating roof" means a cover or roof in a fixed roof tank that 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.

(3) No owner or operator of a petroleum liquid storage tank subject to this rule shall store petroleum liquid in that tank unless:

(a) The tank is equipped with:

1. An internal floating roof equipped with a closure seal or seals to close the space between the roof edge and tank wall; or

2. An equally effective alternative control, approved as a revision to the State Implementation Plan.

(b) The tank is maintained such that there are no visible holes, tears, or other openings in the seal or any seal fabric or materials.

(c) All openings, except stub drains, are equipped with covers, lids, or seals such that:

1. The cover, lid, or seal is in the closed position at all times except when in actual use;

2. Automatic bleeder vents are closed at all times except when the roof is being floated off or being landed on the roof leg supports; and

3. 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) The owner or operator of a petroleum liquid storage tank with a fixed roof subject to this rule shall:

(a) Perform routine, semi-annual, visual inspections of the internal floating roof and its closure seal or seals through roof hatches; and

(b) Perform a complete inspection of cover and seal whenever the tank is emptied for non-operational reasons or at least every 5 years, whichever is more frequent.

(5) Recordkeeping requirements apply as follows:

(a) The owner or operator of a petroleum liquid storage tank with a fixed roof subject to this rule shall maintain the following records for at least 3 years and shall make copies of the records available to the Technical Secretary upon request:

1. Records of the types of volatile petroleum liquids stored in that tank;

2. Records of the maximum true vapor pressure of the liquid as stored; and

3. Records of the results of the inspections required in Paragraph (4) of this rule.

(b) The owner or operator of a petroleum liquid storage tank with a fixed roof exempted from this rule by Subparagraph (1)(b), but containing a petroleum liquid with a true vapor pressure greater than 7.0 kPa (1.0 psia), shall maintain the following records for at least 3 years and shall make copies of the records available to the Technical Secretary upon request:

1. Records of the average monthly storage temperature;

2. Records of the type of liquid stored; and

3. Records of the maximum true vapor pressure for any petroleum liquid with a true vapor pressure greater than 7.0 kPa (1.0 psia).

(6) The owner or operator of any facility containing sources subject to this rule shall comply with the requirements in Paragraphs .04(1) and (2) of this chapter.

Authority: *TCA 68-201-105 and 4-5-202*

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1200-3-18-.30 LEAKS FROM NATURAL GAS/GASOLINE PROCESSING EQUIPMENT

(1) Applicability of this rule is as follows:

(a) This rule applies to all equipment in volatile organic compound (VOC) service in any process unit at any on-shore natural gas/gasoline processing facility in Davidson, Rutherford, Sumner, Williamson, or Wilson County.

(b) This rule does not apply to:

1. Any equipment in vacuum service;

2. Any equipment in heavy liquid service; or

3. Wet gas reciprocating compressors in plants that do not have a VOC control device, such as a flare or a continuously burning process heater or boiler.

(c) The equipment inspection requirements in Paragraph (4) of this rule do not apply to:

1. Any natural gas/gasoline processing facility with a design field gas capacity of less than 2.8×10^5 standard cubic meters (10×10^6 standard cubic feet) per day that does not fractionate natural gas liquids;

2. Any pump with dual pump seals;

3. Any pressure relief valve that is connected to an operating flare header or vapor recovery device; or

4. Any compressor with a degreasing vent that is routed to an operating VOC control device.

(2) For the purpose of this rule, the following definitions apply:

"Equipment" means each pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service or in wet gas service and any devices or systems required by this rule.

"Field gas" means feedstock gas entering the natural gas processing plant.

"[In] gas/vapor service" means that the piece of equipment in VOC service contains process fluid that is in the gaseous state at operating conditions.

"[In] heavy liquid service" means that the piece of equipment in VOC service is not in gas/vapor service or in light liquid service.

"[In] light liquid service" means that the piece of equipment in VOC service contains a liquid that meets the following conditions:

1. The vapor pressure of one or more of the components is greater than 0.3 kPa (0.044 in. Hg) at 20°C (68°C) (standard reference texts or ASTM D2879 shall be used to determine the vapor pressures);

2. The total concentration of the pure components having a vapor pressure greater than 0.3 kPa (0.044 in. Hg) at 20°C (68°F) is equal to or greater than 20 percent by weight; and

3. The fluid is a liquid at operating conditions.

"Liquids dripping" means any visible leakage from a seal including spraying, misting, clouding, and ice formation.

"Natural gas liquids" means the hydrocarbons, such as ethane, propane, butane, and pentane, that are extracted from field gas.

"Natural gas processing plant" (gas plant) means any processing site engaged in the extraction of natural gas liquids from field gas, fractionation of mixed natural gas liquids to natural gas products, or both.

"Nonfractionating plant" means any gas plant that does not fractionate mixed natural gas liquids into natural gas products.

"On-shore" means all facilities except those that are located in the territorial seas or on the outer continental shelf.

"Process unit" means equipment assembled for the extraction of natural gas liquids from field gas, the fractionation of the liquids into natural gas products, or other operations associated with the processing of natural gas products. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the products.

"Reciprocating compressor" means a piece of equipment that increases the pressure of a process gas by positive displacement, employing linear movement of the driveshaft.

"[In] vacuum service" means that the equipment in VOC service is operating at an internal pressure which is at least 5 kPa below ambient pressure.

"[In] VOC service" means that the piece of equipment contains or contacts a process fluid that is at least 1 percent VOC by weight. The provisions of Subparagraph (9)(b) of this rule specify how to determine that a piece of equipment is not in VOC service.

"[In] wet gas service" means that a piece of equipment contains or contacts the field gas before the extraction step in the process.

(3) The owner or operator of a natural gas/gasoline processing facility subject to this rule shall ensure that:

(a) Any open-ended line or valve is sealed with a second valve, blind flange, cap, or plug except during operations requiring process fluid flow through the open-ended line or valve;

(b) When a second value is used, each open-ended line or valve equipped with a second valve is operated in such a manner that the valve on the process fluid end is closed before the second valve is closed; and

(c) When a double block-and-bleed system is used, the bleed valve or line is open only during operations that require venting of the line between the block valves and is closed at all other times.

(4) Equipment inspection program standards as follow apply:

(a) The owner or operator of a natural gas/gasoline processing facility subject to this rule shall conduct quarterly monitoring of each:

1. Compressor;

2. Pump in light liquid service;

3. Valve in light liquid service, except as provided in Paragraphs (5) and (6) of this rule;

4. Valve in gas/vapor service, except as provided in Paragraphs (5) and (6) of this rule; and

5. Pressure relief valve in gas/vapor service, except as provided in Paragraphs (5) and (6) of this rule.

(b) The owner or operator of a natural gas/gasoline processing facility subject to this rule shall conduct a weekly visual inspection of each pump in light liquid service.

(c) The owner or operator of a natural gas/gasoline processing facility subject to this rule shall monitor each pressure relief valve within 5 days after each overpressure relief to ensure that the valve has properly reseated and is not leaking.

(d) Pressure relief device requirements apply as follow:

1. Any pressure relief device that is located in a nonfractionating plant that is monitored only by non-plant personnel may be monitored after a pressure release the next time the monitoring personnel are on-site, instead of within 5 days; but

2. No pressure relief device described in Part 1 of this subparagraph shall be allowed to operate for more than 30 days after a pressure release without monitoring.

(e) Leak provisions apply as follow:

1. When an instrument reading of 10,000 parts per million (ppm) or greater is measured, it shall be determined that a leak has been detected; or

2. If there are indications of liquid dripping from the equipment, it shall be determined that a leak has been detected.

(f) When a leak is detected, the owner or operator shall affix a weatherproof, readily visible tag in a bright color such as red or yellow, bearing the equipment identification number and the date on which the leak was detected. This tag shall remain in place until the leaking equipment is repaired. The requirements of this subparagraph apply to any leak detected by the equipment inspection program and to any leak from any equipment that is detected on the basis of sight, sound, or smell.

(5) Alternative standards for skip period leak detection and repair apply as follows:

(a) An owner or operator shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in Paragraph (4) of this rule.

(b) After two consecutive quarterly leak detection periods with the percent of valves leaking equal or less than 2.0, an owner or operator may skip one of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(c) After five consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip three of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(d) If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements as described in Paragraph (4) of this rule but can again elect to use the requirements in Paragraph (5) of this rule.

(e) The percent of valves leaking shall be determined by dividing the sum of valves found leaking during current monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements of this rule.

(f) An owner or operator shall keep a record of the percent of valves found leaking during each leak detection period.

(6) Alternative standards for valves that are unsafe or difficult to monitor apply as follow:

(a) Any valve that is designated, as described in Part (10)(e)1 of this rule, as an unsafe-to-monitor valve is exempt from the requirements of Paragraph (4) if:

1. The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with Paragraph (4); and

2. The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(b) Any valve that is designated, as described in Part (10)(e)2, as a difficult-to-monitor valve is exempt from the requirements of Paragraph (4) if:

1. The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters (m) (6.6 feet [ft]) above a support surface; and

2. The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

(7) The owner or operator of a natural gas/gasoline processing facility shall:

(a) Make a first attempt at repair for any leak not later than 5 calendar days after the leak is detected; and

(b) Repair any leak as soon as practicable, but not later than 15 calendar days after it is detected except as provided in Paragraph (8) of this rule.

(8) Delay of repair standards apply as follow:

(a) Delay of repair of equipment for which a leak has been detected will be allowed if the repair is technically infeasible without a process unit shutdown. Repair of such equipment shall occur before the end of the next process unit shutdown.

(b) Delay of repair of equipment will be allowed for equipment that is isolated from the process and that does not remain in VOC service.

(c) Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

(9) Test methods and procedures apply as follow:

(a) In conducting the tests required to comply with Paragraph (4) of this rule, the owner or operator shall use the test methods specified in Rule .85 of this chapter.

(b) The owner or operator shall test each piece of equipment unless it is demonstrated that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 1 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:

1. Procedures that conform to the general methods in ASTM E260, E168 and E169 shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment;

2. Where the test methods in Part 1 of this subparagraph also measure exempt compounds, these compounds may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid; and

3. Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in VOC service. If the Technical Secretary disagrees with this judgement, Parts 1 and 2 of this subparagraph shall be used to resolve the disagreement.

(c) The owner or operator shall demonstrate that a piece of equipment is in light liquid service by showing that all of the following conditions apply:

1. The vapor pressure of one or more of the components is greater than 0.3 kilopascal (kPa) at 20°C (0.09 inches of mercury [in. Hg] at 68°F). Standard reference texts or ASTM D2879 shall be used to determine the vapor pressures;

2. The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20°C (0.09 in. Hg at 68°F) is equal to or greater than 20 percent by weight; and

3. The fluid is a liquid at operating conditions.

(d) Samples used in conjunction with Subparagraphs (b) and (c) of this paragraph shall be representative of the process fluid that is contained in or contacts the equipment.

(10) Recordkeeping requirements apply as follow:

(a) Each owner or operator subject to the provisions of this rule shall comply with the recordkeeping requirements of this rule.

(b) An owner or operator of more than one facility subject to the provisions of this rule may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by facility.

(c) When each leak is detected as specified in Paragraph (4) of this rule, the following information shall be recorded in a log and shall be kept for 3 years in a readily accessible location:

1. The instrument and operator identification numbers and the equipment identification number;

2. The date the leak was detected and the dates of each attempt to repair the leak;

3. The repair methods employed in each attempt to repair the leak;

4. The notation "Above 10,000" if the maximum instrument reading measured by the methods specified in Rule .85 of this chapter after each attempt is equal to or greater than 10,000 ppm;

5. The notation "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak;

6. The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown;

7. The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days;

8. The dates of process unit shutdowns that occur while the equipment is unrepaired; and

9. The date of successful repair of the leak.

(d) A list of identification numbers of equipment in vacuum service shall be recorded in a log that is kept in a readily accessible location.

(e) The following information pertaining to all valves subject to the requirements of Paragraph (6) of this rule shall be recorded in a log that is kept for 3 years in a readily accessible location:

1. A list of identification numbers for valves that are designated as unsafe-to-monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve; and

2. A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult to monitor, and the schedule for monitoring each valve.

(f) The following information pertaining to all valves complying with Paragraph (5) of this rule shall be recorded in a log that is kept for 3 years in a readily accessible location:

1. A schedule of monitoring; and

2. The percent of valves found leaking during each monitoring period.

(g) The following information shall be recorded in a log that is kept for 3 years in a readily accessible location for use in determining exemptions as provided in Paragraph (1) of this rule:

1. An analysis demonstrating the design capacity of the affected facility;

2. Information and data used to demonstrate that a piece of equipment is not in VOC service; and

3. Information and data used to demonstrate that a reciprocating compressor is in wet gas service.

(11) The owner or operator of any facility containing sources subject to this rule shall comply with the requirements in Paragraphs .04(1) and (2) of this chapter.

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1200-3-18-.31 SOLVENT METAL CLEANING

(1) This rule applies to all solvent metal cleaning sources with the following exemptions:

(a) Any open top vapor degreasing operation with an open area smaller than 1 square meter (m^2) (10.8 square feet [ft^2]) is exempt from Subparts (3)(b)3(ii) and (iv) of this rule;

(b) Any conveyorized degreaser with an air/solvent interface smaller than 2.0 m^2 (21.5 ft^2) is exempt from Part (3)(c)2 of this rule; and

(c) Sources within a facility:

1. In Hamilton or Shelby County whose potential VOC emissions from all solvent metal cleaning within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or

2. In any county other than Davidson, Hamilton, Rutherford, Shelby, Sumner, Williamson, or Wilson County whose potential VOC emissions from all solvent metal cleaning within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.

(2) For the purpose of this rule, the following definitions apply:

"Air/solvent interface" means the surface area defined by points of contact between the solvent liquid or vapor in the cleaner/degreaser and the surrounding air.

"Cold cleaning" means the batch process of cleaning and removing soils from a metal surface by spraying, brushing, flushing, or immersion while maintaining the solvent below its boiling point. Wipe cleaning is not included in this definition.

"Conveyorized degreasing" means the process of cleaning and removing soils from a continuous stream of metal parts using either cold or vaporized solvents.

"Freeboard height" means, for a cold cleaner, the distance from the liquid solvent level in the degreaser tank to the lip of the tank. For an open-top vapor degreaser, it is the distance from the vapor level in the tank during idling to the lip of the tank. For a vapor-conveyorized degreaser, it is the distance from the vapor level to the bottom of the entrance or exit opening, whichever is lower. For a cold-conveyorized degreaser, it is the distance from the liquid solvent level to the bottom of the entrance or exit opening, whichever is lower.

"Freeboard ratio" means the freeboard height divided by the smaller interior dimension (length, width, or diameter) of the degreaser tank.

"Open-top vapor degreasing" means the process using condensation of hot solvent vapor to clean and remove soils from a batch of metal parts.

"Refrigerated chiller" means a device mounted above both the water jacket and the primary condenser coils which carries a refrigerant that provides a chilled air blanket above the solvent vapor, thereby reducing emissions from the degreaser bath.

"Solvent metal cleaning" means the process of cleaning soils from metal surfaces by cold cleaning, open-top vapor degreasing, or conveyorized degreasing.

(3) Standards as follow apply:

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

1. Equip the cleaner with a cover that is easily operated with one hand, if:

(i) The solvent true vapor pressure is greater than 2 kiloPascals (kPa) (15 millimeters of Mercury [mm Hg] or 0.3 pounds per square inch [psi]) measured at 38°C (100°F) by ASTM D323-89;

(ii) The solvent is agitated; or

(iii) The solvent is heated;

2. Equip the cleaner with an internal drainage facility so that parts are enclosed under the cover while draining if the solvent true vapor pressure is greater than 4.3 kPa (32 mm Hg or 0.6 psi) measured at 38°C (100°F) by ASTM D323-89, except that the drainage facility may be external for applications where an internal type cannot fit into the cleaning system;

3. Implement one of the following control measures if the solvent true vapor pressure is greater than 4.3 kPa (32 mm of mercury or 0.6 psi) measured at 38°C (100°F) by ASTM D323-89, or if the solvent is heated above 50°C (120°F):

(i) Freeboard that gives a freeboard ratio greater than or equal to 0.7; or

(ii) Water cover at least 2.54 centimeters (1 inch) in depth (solvent shall be insoluble in and heavier than water); or

(iii) Another system of equivalent control, such as a refrigerated chiller or a carbon adsorber, approved as a revision to the State Implementation Plan;

4. Provide a permanent, legible, conspicuous label, summarizing the operating requirements;

5. Store waste solvent in covered containers;

6. Close the cover whenever parts are not being handled in the cleaner;

7. Drain the cleaned parts until dripping ceases;

8. If used, supply a solvent spray that is a solid fluid stream (not a fine, atomized, or shower-type spray) at a pressure that does not exceed 10 pounds per square inch gauge (psig); and

9. Degrease only materials that are neither porous nor absorbent.

(b) The owner or operator of an open top vapor degreaser shall:

1. Equip the vapor degreaser with a cover that can be opened and closed easily without disturbing the vapor zone;

2. Provide the following safety switches:

   (i) A vapor level thermostat that shuts off the sump heat if the condenser coolant is either not circulating or too warm; and

   (ii) A spray safety switch that shuts off the spray pump if the vapor level drops more than 10 centimeters (cm) (4 inches [in]);

3. Implement one of the following control measures:

   (i) Freeboard ratio greater than or equal to 0.75 and, if the degreaser opening is greater than 1 m^2 (10.8 ft^2), a powered cover;

   (ii) Refrigerated chiller;

   (iii) Enclosed design (cover or door opens only when the dry part is actually entering or exiting the degreaser);

   (iv) Carbon adsorption system, with ventilation greater than or equal to 15 cubic meters per minute per square meter ($m^3/min/m^2$) (50 cubic feet per minute per square foot [$ft^3/min/ft^2$]) of air/solvent interface (when cover is open), and exhausting less than 25 parts per million (ppm) of solvent averaged over one complete adsorption cycle, or 24 hours, whichever is less; or

   (v) A control system, demonstrated to have a capture efficiency equivalent to or greater than any of the above and approved as a revision to the State Implementation Plan;

4. Keep the cover closed at all times except when processing work loads through the degreaser;

5. Minimize solvent carryout by:

   (i) Racking parts so that solvent will drain freely and not be trapped;

   (ii) Moving parts in and out of the degreaser at less than 3.3 meters per minute (m/min) (11 feet per minute [ft/min]);

   (iii) Holding the parts in the vapor zone at least 30 seconds or until condensation ceases, whichever is longer;

   (iv) Tipping out any pools of solvent on the cleaned parts before removal from the vapor zone; and

(v) Allowing parts to dry within the degreaser for at least 15 seconds or until visually dry, whichever is longer.

6. Degrease only materials that are neither porous nor absorbent;

7. Occupy no more than one-half of the degreaser's open top area with a workload;

8. Always spray within the vapor level;

9. Repair solvent leaks immediately, or shut down the degreaser;

10. Store waste solvent only in covered containers;

11. Operate the cleaner such that water cannot be visually detected in solvent exiting the water separator;

12. Use no ventilation fans near the degreaser opening;

13. When the cover is open, not expose the open top vapor degreaser to drafts greater than 40 m/min (131 ft/min), as measured between 1 and 2 m upwind and at the time elevation as the tank lip;

14. If a lip exhaust is used on the open top vapor degreaser, not use a ventilation rate that exceeds 20 $m^3/min/m^2$ (65 $ft^3/min/ft^2$) of degreaser open area, unless a higher rate is necessary to meet OSHA requirements; and

15. Provide a permanent, conspicuous label, summarizing the operating procedures of Parts 4 through 14 of this subparagraph.

(c) The owner or operator of a conveyorized degreaser shall:

1. Use no workplace fans near the degreaser opening, and ensure that exhaust ventilation does not exceed 20 $m^3/min/m^2$ (65 $ft^3/min/ft^2$) of degreaser opening, unless a higher rate is necessary to meet OSHA requirements;

2. Install one of the following control devices:

(i) Refrigerated chiller;

(ii) Carbon adsorption system, with ventilation greater than or equal to 15 $m^3/min/m^2$ (50 $ft^3/min/ft^2$) of air/solvent interface (when downtime covers are open), and exhausting less than 25 ppm of solvent by volume averaged over one complete adsorption cycle, or 24 hours, whichever is less; or

(iii) A system demonstrated to have a capture efficiency equivalent to or greater than the device listed in Subpart 2(i) or (ii) of this subparagraph and approved as a revision to the State Implementation Plan;

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:

   (i) A condenser flow switch and thermostat that shut off the sump heat if the condenser coolant is either not circulating or too warm;

   (ii) A spray safety switch which shuts off the spray pump or the conveyor if the vapor level drops more than 10 cm (4 in); and

   (iii) A vapor level control thermostat that shuts off the pump heat 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 10 cm (4 in) 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 carryout emissions by:

   (i) Racking parts so that solvent will drain freely from parts and not be trapped; and

   (ii) Maintaining the vertical conveyor speed at less than 3.3 m/min (11 ft/min);

8. Store waste solvent only in covered containers;

9. Repair solvent leaks immediately, or shut down the degreaser;

10. Operate the cleaner such that water cannot be visually detected in solvent exiting the water separator;

11. Place downtime covers over entrances and exits of the conveyorized degreaser at all times, except during maintenance activities on the degreaser, when the conveyors and exhausts are not being operated; and

12. Degrease only materials that are neither porous nor absorbent.

(4) Compliance with Parts (3)(a)1 through 3, Subpart (3)(b)3(iv), Parts (3)(b)7 through 14, Part (3)(c)1, and Subpart (3)(c)2(ii) of this rule shall be determined by applying the following test methods, as appropriate:

   (a) Reference Methods 1-4 for determining flow rates.

   (b) Reference Method 18 for determining gaseous organic compound emissions by gas chromatography.

(c) Reference Method 25 for determining total gaseous non-methane organic emissions as carbon.

(d) Reference Method 25A or 25B for determining total gaseous organic concentrations using flame ionization or non-dispersive infrared analysis.

(e) ASTM D323-89 for measuring solvent true vapor pressure.

(5) Each owner or operator of a solvent metal cleaning source subject to this rule shall maintain the following records for at least 3 years and shall make these records available to the Technical Secretary upon request:

(a) A record of central equipment maintenance, such as replacement of the carbon in a carbon adsorption unit.

(b) The results of all tests conducted in accordance with the requirements in Paragraph (4) of this rule.

(6) The owner or operator of any facility containing sources subject to this rule shall:

(a) Comply with the initial compliance certification requirements of Paragraph .04(1) of this chapter;

(b) Comply with the requirements of Paragraph .04(2) of this chapter regarding reports of excess emissions; and

(c) Comply with the requirements of Paragraph .04(3) of this chapter for excess emissions related to any control devices used to comply with Subparts (3)(a)3(iii), (3)(b)3(iv) or (v), and (3)(c)1(ii) or (iii) of this rule.

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1200-3-18-.32 CUTBACK AND EMULSIFIED ASPHALT

(1) This rule applies to the manufacture, mixing, storage, use, and application of cutback and emulsified asphalts. No exemptions are allowable based on the size or throughput of an operation.

(2) For the purpose of this rule, the following definitions apply:

"Asphalt" means a dark-brown to black cementitious material (solid, semisolid, or liquid in consistency) of which the main constituents are bitumens that occur naturally or are a residue of petroleum refining.

"Cutback asphalt" means asphalt cement that has been liquefied by blending with petroleum solvents (diluents). Upon exposure to atmospheric conditions, the diluents evaporate, leaving the asphalt cement to perform its function.

"Emulsified asphalt" means an emulsion of asphalt cement and water that contains a small amount of an emulsifying agent; it is 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.

"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 coat penetrates the base, plugs the voids, and hardens and helps bind the top of the overlying asphalt course. The penetrating prime coat also reduces the necessity of maintaining an untreated base course prior to placing the asphalt pavement.

(3) Standards as follow apply:

(a) No person shall cause, allow, or permit the manufacture, mixing, storage, use, or application of cutback asphalts April 1 through October 31, except:

1. For long-life stockpile storage; and

2. When the cutback asphalt is to be used solely as a penetrating prime coat.

(b) April 1 through October 31, no person shall cause, allow, or permit the manufacturing, mixing, storage, or use of emulsified asphalt that contains any volatile organic compound (VOC).

(4) The owner or operator of any facility subject to this rule shall maintain records of the manufacture, mixing, storage, use, or application of any asphalt containing VOC April 1 through October 31. These records shall be maintained for a minimum of 3 years and shall be made available to the Technical Secretary upon request.

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1200-3-18-.33 MANUFACTURING OF SYNTHESIZED PHARMACEUTICAL PRODUCTS

(1) Applicability of this rule is as follows:

(a) This rule applies to the following sources of volatile organic compounds (VOC) at synthesized pharmaceutical manufacturing facilities:

1. Reactors;

2. Distillation operations;

3. Crystallizers;

4. Centrifuges;

5. Vacuum dryers;

6. Air dryers;

7. Production equipment exhaust systems;

8. Rotary vacuum filters and other filters;

9. In-process tanks; and

10. Leaks.

(b) This rule does not apply to sources in a facility:

1. In Hamilton or Shelby County whose potential emissions from all sources listed in Subparagraph (a) of this paragraph within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or

2. In any other county except Davidson, Hamilton, Rutherford, Shelby, Sumner, Williamson, and Wilson counties whose potential VOC emissions from all sources listed in Subparagraph (a) of this paragraph within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.

(2) For the purpose of this rule, the following definitions apply:

"Production equipment exhaust system" means a device for collecting and directing out of the work area VOC fugitive emissions from reactor openings, centrifuge openings, and other vessel openings for the purpose of protecting workers from excessive VOC exposure.

"Reactor" means a vat or vessel, which may be jacketed to permit temperature control, designed to contain chemical reactions.

"Separation operation" means a process that separates a mixture of compounds and solvents into two or more components. Specific mechanisms include extraction, centrifugation, filtration, and crystallization.

"Synthesized pharmaceutical manufacturing" means manufacture of pharmaceutical products and intermediates by chemical synthesis. The production and recovery of materials produced via fermentation, extraction of organic chemical from vegetative materials or animal tissues, and formulation and packaging of the product are not considered synthesized pharmaceutical manufacturing.

(3) Standards as follows apply:

(a) The owner or operator of a synthesized pharmaceutical manufacturing facility subject to this regulation shall control the VOC emissions from all vents from reactors, distillation operations, crystallizers, centrifuges, and vacuum dryers at the facility that emit 6.8 kilograms per day (kg/day) (15 pounds per day [lb/day]) or more of VOC as determined by the procedure in "Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products," Appendix B, EPA-450/2-78-029, December 1978. Surface condensers or equivalent controls shall be used, provided that:

1. If surface condensers are used, the condenser outlet gas temperature shall not exceed the allowable temperature limit described for each associated vapor pressure in the following table; or

Allowable Condenser Outlet Gas Temperature, °C	VOC Vapor Pressure at 20°C, kPa (psi)
-25	>40.01 (5.8)
-15	>20.0 (2.9)
0	>10.0 (1.5)
10	> 7.0 (1.0)
25	> 3.5 (0.5)

2. If equivalent controls such as carbon absorption or incineration are used, the VOC emissions shall be reduced by at least as much as they would be by using a surface condenser. The owner or operator shall calculate the efficiency equivalent to a condenser in accordance with the procedures specified on pages 4-2 through 4-6 in "Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products," Appendix B, EPA-450/2-78-029, December 1978.

(b) The owner or operator of a synthesized pharmaceutical manufacturing facility subject to this regulation shall reduce the VOC emissions from all air dryers and production equipment exhaust systems:

1. By at least 90 percent if emissions are 150 kg/day (330 lb/day) or more of VOC; or

2. To 15.0 kg/day (33 lb/day) or less if emissions are less than 150 kg/day (330 lb/day) of VOC.

(c) The owner or operator of a synthesized pharmaceutical manufacturing facility subject to this regulation shall reduce the VOC emissions from storage tanks by:

1. 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 7,500 liters (L) (2,000 gallons [gal])

2. Installing pressure/vacuum conservation vents set at 0.2 kPa (0.03 pounds per square inch atmospheric [psia]) on all storage tanks that store VOC with vapor pressures greater than 10.0 kPa (1.5 psi) at 20°C (68°F).

(d) The owner or operator of a synthesized pharmaceutical facility subject to this regulation shall enclose all centrifuges, rotary vacuum filters, and other filters having an exposed liquid surface where the liquid contains VOC and exerts a total VOC vapor pressure of 3.50 kPa (0.5 psi) or more at 20°C (68°F).

(e) The owner or operator of a synthesized pharmaceutical facility subject to this regulation shall install covers on all in-process tanks that contain VOC at any time. These covers shall remain closed, unless production, sampling, maintenance, or inspection procedures require operator access.

(f) The owner or operator of a synthesized pharmaceutical manufacturing facility subject to this regulation shall repair all leaks from which a liquid containing VOC can be observed running or dripping. The repair shall be completed as soon as practicable but no later than 15 calendar days after the leak is found. If the leaking component cannot be repaired until the process is shut down, the leaking component shall then be repaired before the process is restarted.

(4) (Reserved)

(5) Monitoring for air pollution control equipment shall be as follows:

(a) At a minimum, continuous monitors for the following parameters shall be installed on air pollution control equipment used to control sources subject to this rule:

1. Destruction device combustion temperature;

2. Temperature rise across a catalytic incinerator bed;

3. VOC concentration on a carbon absorption unit to determine breakthrough;

4. Outlet gas temperature of a refrigerated condenser; and

5. Temperature of a non-refrigerated condenser coolant supply system.

(b) Each monitor shall be equipped with a recording device.

(c) Each monitor shall be calibrated quarterly.

(d) Each monitor shall operate at all times while the associated control equipment is operating.

(6) Recordkeeping shall be as follows:

(a) The owner or operator of a pharmaceutical manufacturing facility subject to this rule shall maintain the following records:

1. Parameters listed in Paragraph (5) of this rule shall be recorded; and

2. For sources subject to this rule, the solvent true vapor pressure as determined by ASTM D323-89 shall be recorded for every process.

(b) For any leak subject to Subparagraph (3)(f) of this rule, which cannot be readily repaired within 1 hour after detection, the following records shall be kept:

1. The name of the leaking equipment;

2. The date and time the leak is detected;

3. The action taken to repair the leak; and

4. The date and time the leak is repaired.

(7) The owner or operator of any facility containing sources subject to this rule shall comply with the requirements in Paragraphs .04(1) and (2) of this chapter.

Authority: *T.C.A. 68-201-105 and 4-5-202.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF September 16, 1996

	Date Submitted to EPA	Date Approved by EPA	Final Federal Register Notice
Original Reg	FEB 21, 1995	JUL 18, 1996	61 FR 37387
1st Revision			
2nd Revision			
3rd Revision			

1200-3-18-.34 PNEUMATIC RUBBER TIRE MANUFACTURING

(1) Applicability of this rule is as follows:

(a) This rule applies to the following operations in pneumatic rubber tire manufacturing facilities:

1. Undertread cementing;

2. Tread-end cementing;

3. Bead cementing; and

4. Green tire spraying.

(b) The provisions of this rule do not apply to the production of specialty tires for antique or other vehicles when produced on an irregular basis or with short production runs. This exemption applies only to tires produced on equipment separate from normal production lines for passenger-type tires.

(c) This rule does not apply to operations in a facility:

1. In Hamilton or Shelby County whose potential VOC emissions from all operations listed in Subparagraph (a) of this paragraph within the facility are less than 25 tons of volatile organic compounds (VOC's) per year; or

2. In any other county except Davidson, Hamilton, Rutherford, Shelby, Sumner, Williamson, and Wilson Counties whose potential VOC emissions from all operations listed in Subparagraph (a) of this paragraph within the facility are less than 100 tons of volatile organic compounds (VOC's) per year.

(2) For the purpose of this rule, the following definitions apply:

"Bead cementing operation" means the system that is used to apply cement to the bead rubber before or after it is wound into its final, circular form. A bead cementing operation consists of a cement application station, such as a dip tank, spray booth and nozzles, cement trough and roller or swab applicator, and all other equipment necessary to apply cement to wound beads or bead rubber and to allow evaporation of solvent from cemented beads.

"Green tire" means an assembled, uncured tire.

"Green tire spraying operation" means the system used to apply a mold-release agent and lubricant to the inside and/or outside of green tires to facilitate the curing process and to prevent rubber from sticking to the curing press. A green tire spraying operation consists of a booth where spraying is performed, the spray application station, and related equipment, such as the lubricant supply system.

"Passenger-type tire" means an agricultural, airplane, industrial, mobile home, light- or medium-duty truck, or passenger vehicle tire with a bead diameter up to 50.8 centimeters (cm) (20.0 inches [in.]) and cross-sectional dimension up to 32.5 cm (12.8 in.).

"Pneumatic rubber tire manufacturing" means the production of pneumatic rubber passenger-type tires on a mass-production basis.

"Sidewall cementing operation" means the system used to apply cement to a continuous strip of sidewall component or any other continuous strip component (except combined tread/sidewall component) that is incorporated into the sidewall of a finished tire. A sidewall cementing operation consists of a cement application station and all other equipment, such as the cement supply system and feed and takeaway conveyors, necessary to allow evaporation of solvent from the cemented rubber.

"Tread-end cementing operation" means the system used to apply cement to one or both ends of the tread or combined tread/sidewall component. A tread and cementing operation consists of a cement application station and all other equipment, such as the cement supply system and feed and takeaway conveyors, necessary to apply cement to tread ends and to allow evaporation of solvent from the cemented tread ends.

"Undertread cementing operation" means the system used to apply cement to a continuous strip of tread or combined tread/sidewall component. An undertread cementing operation consists of a cement application station and all other equipment, such as the cement system and feed and takeaway conveyors, necessary to apply cement to tread or combined tread/sidewall strips and to allow evaporation of solvent from the cemented tread or combined tread/sidewall.

"Water-based green tire spray" means any mold release agent and lubricant applied to the inside or outside of green tires that contains 12 percent or less, by weight, of VOC as sprayed.

(3) Standards as follow apply:

(a) The owner or operator of an undertread cementing operation subject to this rule shall:

1. Install and operate a capture and control system for emissions from the undertread cementing operation that achieves an overall emission reduction of at least 75 percent calculated according to the procedures in this chapter, or

2. Meet the equipment design and performance specifications in the July 1, 1991, 40 CFR 60.543(j)(1), (2), and (4) through (6), or under paragraphs (j)(1) and (3) through (6), and conduct a control device efficiency performance test to determine compliance as described under paragraph (j)(7), or

3. Maintain total (uncontrolled) VOC use less than or equal to the levels specified in the July 1, 1991, 40 CFR 60.542(a)(1)(ii)(A) through (E).

(b) The owner or operator of a sidewall cementing operation subject to this rule shall:

1. Install and operate a capture and control system for emissions from the sidewall cementing operation that achieves an overall emission reduction of at least 75 percent calculated according to the procedures in this chapter, or

2. Meet the equipment design and performance specifications in the July 1, 1991, 40 CFR 60.543(j)(1), (2), and (4) through (6) or under paragraphs (j)(1) and (3) through (6), and conduct a control device efficiency performance test to determine compliance as described under paragraph (j)(7), or

3. Maintain total (uncontrolled) VOC use less than or equal to the levels specified in the July 1, 1991, 40 CFR 60.542(a)(2)(ii)(A) through (E).

(c) Alternate standards for undertread cementing and sidewall cementing as follow apply:

1. The owner or operator of each undertread cementing and sidewall cementing operation at a rubber tire manufacturing facility that meets the criteria in Subparts 2(i) through (iii) of this subparagraph shall have the option of complying with the alternate standard in the July 1, 1991, 40 CFR 60.542a in lieu of the standards in Subparagraphs (a) and (b) of this paragraph. The election of complying with this option shall be irreversible.

2. The owner or operator may elect to comply with the alternate standard in the July 1, 1991, 40 CFR 60.542(a) provided that the undertread cementing and sidewall cementing operation meets all of the following criteria:

(i) Commenced construction, modification, or reconstruction after January 20, 1983, and before September 15, 1987;

(ii) Uses 25 g or less of VOC per tire per month; and

(iii) Does not use a control device to control VOC emissions from these operations.

(d) The owner or operator of a green tire spraying operation subject to this rule:

1. Using only water-based sprays shall meet the g/tire limits in the July 1, 1991, 40 CFR 60.542(a)(5)(i) and (ii).

2. Using only organic solvent-based sprays shall:

(i) Install and operate a capture and control system for emissions from the green tire spraying operation that achieves an overall emission reduction of at least 75 percent calculated according to the procedures in this chapter;

(ii) Meet the equipment design and performance specifications in the July 1, 1991, 40 CFR 60.543(j)(1), (2), and (4) through (6), or under paragraphs (j)(1) and (3) through (6), and conduct a control device efficiency performance test to determine compliance as described under paragraph (j)(7); or

(iii) Meet the g/tire limits in the July 1, 1991, 40 CFR 60.542(a)(6)(ii)(A) through (E).

3. Using both water-based and organic solvent-based sprays shall meet the emission limits in the July 1, 1991, 40 CFR 60.542(a)(7).

(e) The owner or operator of a tread-end cementing operation subject to this rule shall:

1. Install and operate a capture and control system for emissions from these operations that achieves an overall emission reduction of at least 75 percent calculated according to the procedures in this chapter; or

2. Meet the g/tire limit in the July 1, 1991, 40 CFR 60.542(a)(3).

(f) The owner or operator of a bead cementing operation subject to this rule shall:

1. Install and operate a capture and control system for emissions from these operations that achieves an overall emission reduction of at least 75 percent calculated according to the procedures in this chapter; or

2. Meet the g/bead limit in the July 1, 1991, 40 CFR 60.542(a)(4).

(4) The compliance procedures as follow shall be used to determine compliance with the standards in Paragraph (3) of this rule:

(a) An owner or operator of a tread-end cementing operation who does not use a VOC control device and who is seeking to comply with the g/tire standards in Part (3)(e)2 shall:

1. Determine the density and weight fraction VOC (including dilution VOC) of each cement by analysis of the cement using Reference Method 24.

2. Calculate the total mass of VOC used at the tread-end cementing operation for the day (M_d) as follows:

(i) For each tread-end cementing operation subject to this rule for which cement is delivered in batch or via a distribution system that serves only that tread-end cementing operation, use the following equation to calculate the total mass of VOC used per day (M_d):

$$M_d = \sum_{i=1}^{a} L_{ci} D_{ci} W_{ci}$$

where:

a = The number of different cements used during the day that are delivered in batch or via a distribution system that serves only a single operation subject to this rule.

L_c = Volume of cement used for a day (liters).

D_c = Density of cement (grams per liter).

W_o = Weight fraction of VOC in a cement.

(ii) For each tread-end cementing operation subject to this rule for which cement is delivered via a common distribution system that also serves other operations that may or may not be subject to this rule:

(I) Calculate the total mass of VOC used for all operations served by the common distribution system for the day (M):

$$M = \sum_{i=1}^{b} L_{ci} D_{ci} W_{ci}$$

where:

b = The number of different cements used during the day that are delivered via a common distribution system that also serves other operations.

(II) Determine the fraction (F_o) of M used at the operation subject to this rule by comparing the production records and process specifications for the material cemented at the subject operation for the day to the production records and process specifications for all the material cemented at all other operations served by the common distribution system for the day.

(III) Calculate the total mass of VOC used at the operation subject to this rule for the day (M_d):

$$M_d = MF_o$$

where:

M = Total mass of VOC used for a day by all operations served by a common cement distribution system (grams).

F_o = Fraction of total mass of VOC used in a day by all operations served by a common cement distribution system that is used by a particular operation subject to this rule served by the common distribution system.

3. Determine the total number of tread or combined tread/sidewall components that receive an application of cement for the day at the tread-end cementing operation subject to this rule (T_o).

4. Calculate the mass of VOC used per tire cemented at the tread-end cementing operation subject to this rule for the day (G):

$$G = \frac{M_d}{T_o}$$

5. Calculate the mass of VOC emitted per tire cemented at the tread-end cementing operation subject to this rule for the day (N):

$$N = G$$

(b) An owner or operator of a bead cementing operation who does not use a VOC control device and who is seeking to comply with the g/bead standard in Part (3)(f)2 shall:

1. Determine the density and weight fraction VOC of each cement as specified under Part (a)1 of this paragraph.

2. Calculate the total mass of VOC used at the bead cementing operation subject to this rule for the day (M_d) as specified under Part (a)2 of this rule.

3. Determine the number of beads cemented at the operation subject to this rule for the day (B_d) using production records; B_d equals the number of beads that receive an application of cement for the day.

4. Calculate the mass of VOC used per bead cemented at the operation subject to this rule (G_b):

$$G_b = \frac{M_d}{B_d}$$

5. Calculate the mass of VOC emitted per bead cemented at the operation subject to this rule for the day (N_b):

$$N_b = G_b$$

(c) For each tread-end cementing operation or each bead cementing operation that uses a VOC control device that destroys VOC (e.g., an incinerator), the owner or operator shall use the following procedure to determine compliance with the g/tire or g/bead standards in Parts (3)(e)2 and (f)2 of this rule:

1. Calculate the mass of VOC used per tire cemented (G) at the tread-end cementing operation subject to this rule as specified under Parts (a)1 through (a)4 of this paragraph, or calculate the mass of VOC used per bead cemented (G_b) at the bead cementing operation subject to this rule as specified in Parts (b)1 through (b)4 of this paragraph.

2. Calculate the mass of VOC emitted per tire cemented (N) or per bead cemented (N_b) at the operation subject to this rule:

$$N = G(1-R)$$
$$N_b = G_b(1-R)$$

where:

R = Overall efficiency of an emission reduction system (fraction) as determined by the procedures specified in Subparts 3(i) through 3(iii) of this subparagraph.

3. For the initial compliance test, determine the overall reduction efficiency (R) as follows:

(i) The owner or operator shall construct a temporary total enclosure around the application and drying areas during the test for the purpose of capturing fugitive VOC emissions. The enclosure shall be maintained at a negative pressure to ensure that all evaporated VOC are measurable. Determine the fraction (F_c) of total VOC used at the operation subject to this rule that enters the control device:

$$F_c = \frac{\sum_{i=1}^{m} C_{bi}Q_{bi}}{\sum_{i=1}^{m} C_{bi}Q_{bi} + \sum_{i=1}^{n} C_{fi}Q_{fi}}$$

where:

C_b = Concentration of VOC in the gas stream in the vents prior to a control device (parts per million by volume);

C_f = Concentration of VOC in each gas stream vented directly to the atmosphere from an operation subject to this rule or from a temporary total enclosure around an operation subject to this rule (parts per million by volume);

m = The number of vents from the operation subject to this rule to the control device;

n = The number of vents from the operation subject to this rule to the atmosphere and from the temporary total enclosure;

Q_b = Volumetric flow rate in the vents before a control device (dry standard cubic meters per hour); and

Q_f = Volumetric flow rate of each stream vented directly to the atmosphere from an operation subject to this rule or from a temporary total enclosure around an operation subject to this rule (dry standard cubic meters per hour).

(ii) Determine the destruction efficiency of the control device (E) by using values of the volumetric flow rate (Q) of each of the gas streams and the VOC concentration (as carbon) (C) of each of the gas streams in and out of the control device:

$$E = \frac{\sum_{i=1}^{m} C_{bi}Q_{bi} - \sum_{i=1}^{p} C_{ai}Q_{ai}}{\sum_{i=1}^{m} C_{bi}Q_{bi}}$$

where:

p = Number of vents after the control device;

C_a = Concentration of VOC in the gas stream in the vents after the control device (parts per million by volume); and

Q_a = Volumetric flow rate in vents after the control device (dry standard cubic meters per hour).

(iii) Determine the overall reduction efficiency (R):

$$R = EF_c$$

4. If subsequent compliance tests are required, the owner or operator may use the most recently determined overall reduction efficiency (R) if the conditions under which the capture system and control device are being operated have not changed since R was most recently determined. If the conditions under which the capture system and control device are being operated are different from those in effect when R was determined, the owner or operator shall re-establish R as specified in Subparts 3(i) through 3(iii).

(d) For each tread-end cementing operation and each bead cementing operation subject to this rule that uses a VOC emission reduction system with a control device that recovers VOC (e.g., a carbon adsorber), the owner or operator shall use the following procedure to determine compliance with the g/tire or g/bead standards specified under Parts (3)(e)2 and (3)(f)2 of this rule:

1. Calculate the mass of VOC used per tire cemented at the operation subject to this rule for the day (G) as specified under Parts (a)1 through (a)4 of this paragraph or the mass of VOC used per bead cemented for the day (G_b) as specified in Parts (b)1 through (b)4 of this paragraph.

2. Calculate the total mass of VOC recovered from the operation subject to this rule for the day (M_r):

$$M_r = L_r D_r$$

where:

L_r = Volume of VOC recovered by a control device for a day (liters); and

D_r = Density of VOC recovered by a control device (grams per liter).

3. Calculate the overall reduction efficiency for the VOC emission reduction system (R) for the day:

$$R = \frac{M_r}{M_o}$$

4. Calculate the mass of VOC emitted per tire cemented at the operation subject to this rule for the day (N) or mass of VOC emitted per bead cemented at the operation subject to this rule for the day (N_b):

$$N = G(1-R)$$
$$N_b = G_b(1-R)$$

(e) An instance of operation of a control device outside of the parameter boundaries listed in Paragraph (6) of this rule shall be an instance of excess emission and noncompliance.

(5) Each owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:

(a) Where a thermal incinerator is used for VOC emission reduction, a temperature monitoring device equipped with a continuous recorder for the temperature of the gas stream in the combustion zone of the incinerator. The temperature monitoring device shall have an accuracy of ± 1 percent of the combustion temperature being measured in ^{0}C or ± 0.5 ^{0}C, whichever is greater.

(b) Where a catalytic incinerator is used for VOC emission reduction, temperature monitoring devices, each equipped with a continuous recorder, for the temperature in the gas stream immediately before and after the catalyst bed of the incinerator. The temperature monitoring devices shall have an accuracy of ± 1 percent of the combustion temperature being measured in ^{0}C or ± 0.5 ^{0}C, whichever is greater.

(c) Where a carbon adsorber is used for VOC emission reduction, and stack emission testing was required to demonstrate compliance with a standard in this rule, an organics monitoring device used to indicate the concentration level of organic compounds based on a detection principle such as infrared, photoionization, or thermal conductivity, equipped with a continuous recorder, for the outlet of the carbon bed.

(6) Recordkeeping requirements as follow apply:

(a) Each owner or operator of a facility subject to this rule that uses a thermal incinerator shall maintain the following records:

1. Continuous records of the temperature of the gas stream in the combustion zone of the incinerator; and

2. Records of all 3-hour periods of operation for which the average temperature of the gas stream in the combustion zone was more than 28°C (50°F) below the combustion zone temperature measured during the most recent determination of the destruction efficiency of the thermal incinerator that demonstrated that the facility was in compliance.

(b) Each owner or operator of a facility subject to this rule that uses a catalytic incinerator shall maintain the following records:

1. Continuous records of the temperature of the gas stream both upstream and downstream of the incinerator;

2. Records of all 3-hour periods of operation for which the average temperature measured before the catalyst bed is more than 28°C (50°F) below the gas stream temperature measured before the catalyst bed during the most recent determination of destruction efficiency of the catalytic incinerator that demonstrated that the facility was in compliance; and

3. Records of all 3-hour periods for which the average temperature difference across the catalyst bed is less than 80 percent of the temperature difference measured during the most recent determination of the destruction efficiency of the catalytic incinerator that demonstrated that the facility was in compliance.

(c) Each owner or operator of a facility subject to this rule that uses a carbon adsorber shall maintain continuous records of all 3-hour periods of operation during which the average VOC concentration level or reading of organics in the exhaust gases is more than 20 percent greater than the reading measured by the organics monitoring device during the most recent determination of the removal efficiency of the carbon adsorber that demonstrated that the facility was in compliance. This specification applies only to carbon adsorbers for which stack emission testing was required to demonstrate compliance with a standard of this rule.

(7) The owner or operator of any facility containing emission sources subject to this rule shall comply with the reporting requirements in Paragraphs .04(1) and (2) of this chapter.

Authority: *TCA 68-201-105 and 4-5-202*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF April 28, 1995.

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Original Reg	MAY 18, 1993	FEB 27, 1995	60 FR 10504
1st Revision			
2nd Revision			
3rd Revision			

1200-3-18-.35 GRAPHIC ARTS SYSTEMS

(1) This rule applies to any packaging rotogravure, publication rotogravure, or flexographic printing press at any facility whose potential VOC emissions from all such printing presses is greater than or equal to 90.7 megagrams (Mg) (100 tons) per year.

(2) For the purpose of this rule, the following definitions apply:

"Flexographic printing press" means a printing press that uses a roll printing technique in which the pattern to be applied is raised above the printing roll and the image carrier is made of rubber or other elastomeric materials.

"Packaging rotogravure printing press" means a rotogravure printing press used to print on paper, paper board, metal foil, plastic film, and other substrates that are, in subsequent operations, formed into packaging products and labels, and other nonpublication products.

"Publication rotogravure printing press" means a rotogravure printing press on which the paper products such as the following are printed:

1. Catalogues, including mail order and premium;

2. Direct mail advertisements, including circulars, letters, pamphlets, cards, and printed envelopes;

3. Display advertisements, including general posters, outdoor advertisements, car cards, window posters; counter and floor displays; point-of-purchase, and other printed display material;

4. Magazines, books;

5. Miscellaneous advertisements, including brochures, pamphlets, catalogue sheets, circular folders, announcements, package inserts, book jackets, market circulars, magazine inserts, and shopping news;

6. Newspapers, magazine and comic supplements for newspapers, and pre-printed newspaper inserts;

7. Periodicals; or

8. Telephone and other directories, including business reference services.

"Rotogravure printing press" means any printing press designed to print on a substrate using a gravure cylinder.

(3) Standards as follow apply:

(a) No owner or operator of a packaging rotogravure or flexographic printing press subject to this rule shall apply any coating or ink unless the VOC content is equal to or less than one of the following:

1. 40 percent VOC by volume of the coating or ink, excluding water, as applied;

2. 25 percent VOC by volume of the volatile content in the coating or ink, as applied; or

3. 0.5 kilogram (kg) VOC per kg (0.5 pound [lb] VOC per lb) coating or ink solids, as applied.

(b) No owner or operator of a publication rotogravure printing press subject to this rule shall apply any coating or ink unless the VOC content is equal to or less than one of the following:

1. 40 percent VOC by volume of the coating or ink, excluding water, as applied; or

2. 25 percent VOC by volume of the volatile content in the coating or ink, as applied.

(c) As an alternative to compliance with the limits in Subparagraphs (a) or (b) of this paragraph, an owner or operator of a packaging rotogravure, publication rotogravure, or flexographic printing press may comply with the requirements of this rule by meeting the requirements of Paragraph (4) or (5) of this rule.

(4) Weighted average limitations as follow apply:

(a) No owner or operator of a packaging rotogravure, publication rotogravure, or flexographic printing press shall apply coatings and/or inks on the subject printing press unless the weighted average, by volume, VOC content of all coatings and/or inks, as applied, each day on the subject printing press is equal to or less than the limitation specified in either Part (3)(a)1 or (3)(b)1 [as determined by Subparagraph (4)(d)]; (3)(a)2 or (3)(b)2 [as determined by Subparagraph (4)(e)]; or, in the case of packaging rotogravure or flexographic printing, (3)(a)3 [as determined by Subparagraph (4)(f)] of this rule.

(b) An owner or operator may comply with the weighted average limitation by grouping coatings and/or inks used on a printing press into two categories that meet the conditions in Parts 1 and 2 of this subparagraph as follow. (Any use of averaging between the two categories of coatings and/ or inks used on a packaging rotogravure press or on a flexographic press requires compliance with the emission standard in Part (3)(a)3, as determined by the equation in Subparagraph (f) of this paragraph.):

1. The weighted average VOC content for the first category shall comply with Part (3)(a)1 or (3)(b)1 of this rule, as determined by applying the equation in Subparagraph (d) of this paragraph to the coatings and/or inks in this first category.

2. The weighted average VOC content for the second category shall comply with Part (3)(a)2 or (3)(b)2 of this rule, as determined by applying the equation in Subparagraph (e) of this paragraph to the coatings and/or inks in this second category.

(c) (Reserved)

(d) The following equation shall be used to determine if the weighted average VOC content of all coatings and/or inks, as applied, on the subject printing press exceeds the limitation specified in Part (3)(a)1 or (3)(b)1 of this rule:

$$VOC_{(i)(A)} = \frac{\sum_{i=1}^{n} L_i V_{VOC_i}}{\sum_{i=1}^{n} L_i (V_{si} + {}_{VOC_i})} \times 100$$

where:

$VOC_{(i)(A)}$ = The weighted average VOC content in units of percent VOC by volume of all coatings and/or inks (excluding water and/or exempt compounds) used each day;

i = Subscript denoting a specific coating or ink, as applied;

n = The number of different coatings and/or inks, as applied, each day on a printing press;

L_i = The liquid volume of each coating or ink, as applied, used that day in units or liters (L) (gallons [gal]);

V_{si} = The volume fraction of solids in each coating or ink, as applied; and

V_{VOC_i} = The volume fraction of VOC in each coating or ink, as applied.

(e) The following equation shall be used to determine if the weighted average VOC content of all coatings and/or inks, as applied, on the subject printing press exceeds the limitation specified in Part (3)(a)2 or (3)(b)2 of this rule:

$$VOC_{(i)(B)} = \frac{\sum_{i=1}^{n} L_i V_{VOC_i}}{\sum_{i=1}^{n} L_i V_{VCi}} \times 100$$

where:

$VOC_{(i)(B)}$ = The weighted average VOC content in units of percent VOC by volume of the volatile content of all coatings and/or inks used each day;

i = Subscript denoting a specific coating or ink, as applied;

n = The number of different coatings and/or inks, as applied, each day on a printing press;

L_i = The liquid volume of each coating or ink, as applied, in units or L (gal);

V_{VOCi} = The volume fraction of VOC in each coating or ink, as applied; and

V_{VCi} = The volume fraction of volatile matter in each coating or ink, as applied.

(f) The following equation shall be used to determine if the weighted average VOC content of all coatings and/or inks, as applied, on the subject printing press exceeds the limitation specified in Part (3)(a)3 of this rule:

$$VOC_{(i)(C)} = \frac{\sum_{i=1}^{n} L_i D_i W_{VOCi}}{\sum_{i=1}^{n} L_i D_i W_{si}}$$

where:

$VOC_{(i)(C)}$ = The weighted average VOC content in units of mass of VOC per mass of coating and/or ink solids;

i = Subscript denoting a specific coating or ink, as applied;

n = The number of different coatings and/or inks, as applied, each day on a printing press;

L_i = The liquid volume of each coating or ink, as applied, used on the day in units of L (gal);

D_i = The density of each coating or ink, as applied, in units of mass of coating or ink per unit volume of coating or ink;

W_{VOCi} = The weight fraction of VOC in each coating or ink, as applied; and

W_{si} = The weight fraction of solids in each coating or ink, as applied.

(5) Control device requirements as follow apply:

(a) No owner or operator of a packaging rotogravure, publication rotogravure, or flexographic printing press equipped with a control system shall operate the printing press unless the owner or operator meets the following requirements:

1. A carbon adsorption, incineration, or other control device is used that reduces the VOC emissions delivered from the capture system to the control device by at least 90 percent by weight; and

2. The printing press is equipped with a capture system and control device that provides an overall emission reduction efficiency of at least:

(i) 75 percent for a publication rotogravure printing press;

(ii) 65 percent for a packaging rotogravure printing press; or

(iii) 60 percent for a flexographic printing press.

(b) An owner or operator of a packaging rotogravure, publication rotogravure, or flexographic printing press equipped with a control system shall ensure that:

1. A capture system and control device are operated at all times that the printing press is in operation, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter; and

2. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

(6) The VOC content of each coating and ink and the efficiency of each capture system and control device shall be determined by the applicable test methods and procedures specified in this chapter to establish the records required under Paragraph (7) of this rule.

(7) Recordkeeping and reporting requirements as follow apply:

(a) By April 22, 1994, any owner or operator of a printing press that is exempt from the requirements of this rule because of the criteria in Paragraph (1) of this rule shall comply with the following:

1. The owner or operator of a facility in Davidson, Knox, Rutherford, Shelby, Sumner, Williamson, or Wilson County shall certify to the Technical Secretary that the facility is exempt under the provisions of Paragraph (1) of this rule. Such certification shall include:

(i) The name and location of the facility;

(ii) The address and telephone number of the person responsible for the facility;

(iii) A declaration that the facility is exempt from this rule because of the criteria in Paragraph (1) of this rule; and

(iv) Calculations demonstrating that total potential VOC emissions of VOC from all flexographic and rotogravure printing presses at the facility are less than 90.7 Mg (100 tons) per calendar year.

2. The owner or operator shall collect and record all of the following information each year for each printing press and maintain the information for a period of 3 years:

   (i) The name and identification number of each coating and ink, as applied each year;

   (ii) The weight of VOC per volume of coating solids and the volume of solids of each coating and ink, as applied, each year; and

   (iii) The total emissions as calculated for that year.

3. Any record showing that total emissions of VOC from all flexographic and rotogravure printing presses exceeded 90.7 Mg (100 tons) in any calendar year, before the application of capture systems and control devices, shall be reported by sending a copy of such record to the Technical Secretary within 30 calendar days after the exceedance occurs.

(b) Any owner or operator of a printing press subject to this rule and complying by means of use of complying coatings and/or inks, shall comply with the following:

1. By April 22, 1994, or upon initial startup of a new printing press, the owner or operator of a subject printing press shall certify to the Technical Secretary that the printing press is in compliance with Subparagraph (3)(a) or (3)(b) of this rule. Such certification shall include:

   (i) The name and location of the facility;

   (ii) The address and telephone number of the person responsible for the facility;

   (iii) Identification of subject sources;

   (iv) The name and identification number of each coating and ink, as applied; and

   (v) The VOC content of all coatings and inks, as applied, expressed in units of the applicable standard.

2. By April 22, 1994, or on and after the initial startup date, the owner or operator of a printing press subject to the limitations of this rule and complying with Subparagraph (3)(a) or (3)(b) shall collect and record all of the following information for each printing press and maintain the information for a period of 3 years:

   (i) The name and identification number of each coating and ink used or, in the alternative, each coating and ink kept available for use on the press if only complying coatings and inks are used, as applied; and

   (ii) The VOC content of each coating and ink, as applied, expressed in units of the applicable standard.

3. Any record showing an exceedance of the VOC content standards of Subparagraph (3)(a) or (3)(b) of this rule shall be reported by the owner or operator of the subject printing press to the Technical Secretary within 30 calendar days following the exceedance; and

(c) Any owner or operator of a printing press subject to the limitations of this rule and complying by means of weighted averaging shall comply with the following:

1. By April 22, 1994, or upon initial startup of a new printing press, the owner or operator of the subject printing press shall certify to the Technical Secretary that the printing press is in compliance with Paragraph (4) of this rule. Such certification shall include:

(i) The name and location of the facility;

(ii) The address and telephone number of the person responsible for the facility;

(iii) The name and identification of each printing press which will comply by means of Paragraph (4) of this rule;

(iv) The name and identification number of each coating and/or ink kept in inventory for use on each printing press;

(v) The VOC content of each coating and/or ink, as applied, each day on each printing press, expressed in units necessary to determine compliance;

(vi) The instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating and/or ink, as applied, each day on each printing press;

(vii) The method by which the owner or operator will create and maintain records each day as required in Part 2 of this subparagraph; and

(viii) An example of the format in which the records required in Part 2 of this subparagraph will be kept.

2. On and after April 22, 1994, or on and after the initial startup date, the owner or operator of a printing press subject to the limitations of this rule and complying by means of weighted averaging shall collect and record all of the following information each day for each printing press and maintain the information for a period of 3 years:

(i) The name and identification number of each coating and/or ink, as applied;

(ii) The VOC content and the volume of each coating and/or ink, as applied, expressed in units necessary to determine compliance; and

(iii) The weighted average VOC content of all coatings and/or inks, as applied;

3. On and after April 22, 1994, the owner or operator of a subject printing press shall notify the Technical Secretary of any instance of noncompliance with Paragraph (4) by sending a copy of the calculation showing such noncompliance to the Technical Secretary within 30 calendar days following the occurrence.

(d) Any owner or operator of a printing press subject to this rule and complying by means of control devices shall comply with Paragraph .03(5) of this chapter.

Authority: *TCA 68-201-105 and 4-5-202*

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1st Revision			
2nd Revision			
3rd Revision			

1200-3-18-.36 PETROLEUM SOLVENT DRY CLEANERS

(1) Applicability of this rule is as follows:

(a) This rule applies to petroleum solvent dry cleaning facilities in Davidson, Rutherford, Sumner, Williamson, and Wilson Counties.

(b) Of the facilities referred to in Subparagraph (a) of this paragraph, any petroleum solvent dry cleaning facility that consumes less than 123,000 liters (L) (32,500 gallons [gal]) of petroleum solvent per year is subject only to the requirements of Subparagraph (5)(a) of this rule.

(c) This rule does not apply to facilities that use only petroleum-based solvents that contain chlorine.

(2) For the purpose of this rule, the following definitions apply:

"Filter cartridge" means a replaceable filter unit containing filtration paper and carbon or carbon only.

"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.

"Petroleum solvent cartridge filtration system" means a process in which soil-laden solvent is pumped under pressure from a washer through a sealed vessel containing filter cartridges that remove entrained solids and impurities from the solvent.

"Petroleum solvent dry cleaning facility" means a facility engaged in the cleaning of fabrics, clothing, and other articles in a petroleum solvent by means of one or more washes in the solvent, extraction of excess solvent by spinning, and drying by tumbling in an airstream. Equipment at the facility includes, but is not limited to, any petroleum solvent washer, dryer, solvent filter system, settling tank, vacuum still, and any other container or conveyor of petroleum solvent.

"Settling tank" means a container, and any associated piping and ductwork, that gravimetrically separates oils, grease, and dirt from petroleum solvent.

"Solvent filter" means a discrete solvent filter unit containing a porous medium that traps and removes contaminants from petroleum solvent, together with the piping and ductwork used in the installation of this device.

"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.

"Standard dryer" means a device that dries dry-cleaned articles by tumbling in a heated airstream.

"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.

"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.

(3) Standards as follow apply:

(a) The owner or operator of a petroleum solvent dry cleaning facility subject to this rule shall ensure that:

1. There are no perceptible leaks from any portion of the equipment; and

2. All washer lint traps, button traps, access doors, and other parts of the equipment where solvent may be exposed to the atmosphere are kept closed at all times except when opening is required for proper operation or maintenance.

(b) The owner or operator of a petroleum solvent dry cleaning facility subject to this rule shall repair any perceptible leaks in any portion of the dry cleaning equipment within 3 working days after the leak is detected. If necessary repair parts are not on hand, the owner or operator shall order these parts within 3 working days and repair the leaks no later than 3 working days after the parts arrive.

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

1. Limit the volatile organic compound (VOC) emissions from each standard dryer to 1.6 kilograms (kg) (3.5 pounds [lb]) VOC per 45 kg (100 lb) dry weight of articles dry cleaned, or

2. Install, maintain, and operate a solvent-recovery dryer such that the dryer remains closed and the recovery phase continues until a final recovered solvent flow rate of no greater than 50 milliliters per minute (ml/min) (0.013 gallons per minute [gal/min]) is attained.

(d) The owner or operator of a petroleum solvent filtration system subject to this rule shall:

1. Reduce the VOC content in filtration waste to 1 kg (2.2 lb) VOC per 100 kg (220 lb) dry weight of articles dry cleaned, or

2. As an alternative:

(i) Install, maintain, and operate a cartridge filtration system according to the manufacturer's instructions, and

(ii) Drain all filter cartridges in their sealed housings for 8 hours or more before their removal.

(4) Test methods and procedures as follow apply:

(a) To be in compliance with Part (3)(c)1 of this rule, each owner or operator of a petroleum solvent dry cleaning facility subject to this rule shall:

1. Calculate the weight of VOC's vented from the dryer emission control device calculated by using Reference Methods 1, 2, and 25A with the following specifications:

   (i) Field calibration of the flame ionization analyzer with propane standards;

   (ii) Laboratory determination of the ratio of the flame ionization analyzer response to a given parts per million (ppm) by volume concentration of propane to the response to the same ppm concentration of the VOC's to be measured; and

   (iii) Determination of the weight of VOC's vented to the atmosphere by:

      (I) Multiplying the ratio determined in Subpart (ii) of this part by the measured concentration of VOC gas (as propane) as indicated by the flame ionization analyzer response output record;

      (II) Converting the ppm by volume value calculated in Item (I) of this subpart into a mass concentration value for the VOC's present; and

      (III) Multiplying the mass concentration value calculated in Item (II) of this subpart by the exhaust flow rate determined by using Reference Methods 1 and 2.

2. Calculate the dry weight of articles dry cleaned; and

3. Repeat Parts 1 and 2 of this subparagraph for normal operating conditions that encompass at least 30 dryer loads, which total not less than 1,800 kg (4,000 lb) dry weight and represent a normal range of variations in fabrics, solvents, load weights, temperatures, flow rates, and process deviations.

(b) To determine initial compliance with Part (3)(c)2 of this rule, the owner or operator of a petroleum solvent dry cleaning facility shall:

1. 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 ml/min (0.013 gal/min) by using the following procedure:

   (i) Determine the appropriate location for measuring the flow rate of recovered solvent; the suggested point is at the outlet of the solvent-water separator;

   (ii) Near the end of the recovery cycle, divert the flow of recovered solvent to a graduated cylinder;

   (iii) Continue the cycle until a flow rate of solvent no greater than 50 ml/min (0.013 gal/min) is reached; and

   (iv) Record the type of articles dry cleaned and the length of the cycle.

2. To determine initial compliance with Part (3)(c)2 of this rule, conduct the procedure in Part 1 of this subparagraph for at least 50 percent of the dryer loads over a period of no less than 2 consecutive weeks.

(c) To be in compliance with Subparagraph (3)(d) of this rule, the owner or operator of a petroleum solvent dry cleaning facility subject to this rule shall:

1. Calculate the weight of volatile organic compounds contained in each of at least five 1-kg (2.2-lb) samples of filtration waste material taken at intervals of at least 1 week, by employing ASTM D322-80 (Standard Test Method for Gasoline Diluent in Used Gasoline Engine Oils by Distillation);

2. Calculate the total dry weight of articles dry cleaned during the intervals between removal of filtration waste samples, as well as the total mass of filtration waste produced in the same period; and

3. Calculate the weight of VOC's contained in filtration waste material per 100 kg (220 lb) dry weight of articles dry cleaned.

(d) Compliance with Paragraph (3) of this rule requires that each owner or operator of a petroleum solvent dry cleaning facility subject to this rule make weekly inspections of washers, dryers, solvent filters, settling tanks, vacuum stills, and all containers and conveyors of petroleum solvent to identify perceptible VOC vapor or liquid leaks.

(5) Recordkeeping requirements as follow apply:

(a) The owner or operator of a petroleum solvent dry cleaning facility claiming exemption from this regulation by the provisions of Subparagraph (1)(b) shall maintain records of annual solvent consumption for at least 3 years to document whether the applicability threshold in Subparagraph (1)(b) of this rule has been exceeded.

(b) The owner or operator of a petroleum solvent dry cleaning facility subject to this rule shall maintain the following records for at least 3 years:

1. Records of the weight of VOC's vented from the dryer emission control device calculated according to Part (4)(a)1 of this rule;

2. Records of the dry weight of articles dry cleaned for use in the calculations required in Subparagraphs (4)(a), (4)(b), and (4)(c) of this rule;

3. Records of the weight of VOC's contained in the filtration waste samples required by Part (4)(c)1 of this rule; and

4. Records of the weight of VOC's in filtration waste material per 100 kg (220 lb) dry weight of articles dry cleaned.

(6) The owner or operator of any facility containing sources subject to this rule shall:

(a) Comply with the initial compliance certification requirements of Paragraph .04(1) of this chapter; and

(b) Comply with the requirements of Paragraph .04(2) of this chapter for excess emissions related to the control devices required to comply with Subparagraph (3)(b) and Parts (3)(c)2 and (3)(d)2 of this rule.

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1200-3-18-.37 (RESERVED)

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1200-3-18-.38 LEAKS FROM SYNTHETIC ORGANIC CHEMICAL, POLYMER, AND RESIN MANUFACTURING EQUIPMENT

(1) Applicability of this rule is as follows:

(a) For general applicability:

1. This rule applies to all equipment in volatile organic compound (VOC) service in any process unit at a synthetic organic chemical, polymer, and resin manufacturing facility in Davidson, Rutherford, Sumner, Williamson, or Wilson County.

2. A piece of equipment is not in VOC service if the VOC content of the process fluid can never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:

(i) Procedures that conform to the general methods in ASTM E260, E168, and E169 shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment;

(ii) Organic compounds that are not volatile organic compounds, including exempt compounds, may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid; and

(iii) Engineering judgment may be used to estimate the VOC content. If the Technical Secretary disagrees with the judgment, Parts (9)(b)1 and (9)(b)2 of this rule shall be used to resolve the disagreement.

(b) This rule does not apply to any synthetic organic chemical, polymer, or resin manufacturing facility whose annual design production capacity is less than 1,000 megagrams (Mg) (1,100 tons) of product.

(c) The requirements of Paragraph (4) of this rule do not apply to:

1. Any equipment in vacuum service;

2. Any pressure-relief valve that is connected to an operating flare header or vapor recovery device;

3. Any liquid pump that has a dual mechanical pump seal with a barrier fluid system; or

4. Any compressor with a degassing vent that is routed to an operating VOC control device.

(2) For the purpose of this rule, the following definitions apply:

"[In] gas/vapor service" means that the piece of equipment in VOC service contains process fluid that is in the gaseous state at operating conditions.

"[In] heavy liquid service" means that the piece of equipment in VOC service is not in gas/vapor service or in light liquid service.

"[In] light liquid service" means that the piece of equipment in VOC service contains a liquid that meets the following conditions:

1. The vapor pressure of one or more of the components is greater than 0.3 kPa (0.044 in Hg) at 20°C (68°F) (standard reference texts or ASTM D2879 shall be used to determine the vapor pressures);

2. The total concentration of the pure components having a vapor pressure greater than 0.3 kPa (0.044 in Hg) at 20°C (68°F) is equal to or greater than 10 percent by weight; and

3. The fluid is a liquid at operating conditions.

"Process unit" means components assembled to produce, as intermediate or final products, one or more of the chemicals listed in 40 CFR 60.489 as of July 1, 1991. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for product.

"[In] vacuum service" means that the equipment in VOC service is operating at an internal pressure which is at least 5 kPa below ambient pressure.

"[In] VOC service" means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. The provisions of Part (1)(a)2 of this rule specify how to determine that a piece of equipment is not in VOC service.

(3) The owner or operator of a synthetic organic chemical, polymer, or resin manufacturing facility subject to this rule shall ensure that:

(a) Any open-ended line or valve is sealed with a second valve, blind flange, cap, or plug except during operations requiring process fluid flow through the open-ended line or valve;

(b) When a second valve is used, each open-ended line or valve equipped with a second valve is operated in such a manner that the valve on the process fluid end is closed before the second valve is closed; and

(c) When a double block-and-bleed system is used, the bleed valve or line is open only during operations that require venting of the line between the block valves and is closed at all other times.

(4) The owner or operator of a synthetic organic chemical, polymer, or resin manufacturing facility shall conduct the equipment inspection program described in Subparagraphs (a) through (c) of this paragraph using the test methods specified in this chapter, leak determination, and tagging procedure as follow:

(a) The owner or operator of a synthetic organic chemical, polymer, or resin manufacturing facility shall conduct quarterly monitoring of each:

1. Compressor;

2. Pump in light liquid service;

3. Valve in light liquid service, except as provided in Paragraphs (5) and (6) of this rule;

4. Valve in gas/vapor service, except as provided in Paragraphs (5) and (6) of this rule; and

5. Pressure relief valve in gas/vapor service, except as provided in Paragraphs (5) and (6) of this rule.

(b) The owner or operator of a synthetic organic chemical or resin manufacturing facility shall conduct a weekly visual inspection of each pump in light liquid service.

(c) The owner or operator of a synthetic organic chemical, polymer, or resin manufacturing facility shall inspect each pressure relief valve immediately after each overpressure relief to ensure that the valve has properly reseated and is not leaking.

(d) Leak determination is as follows:

1. When an instrument reading of 10,000 parts per million (ppm) or greater is measured, it shall be determined that a leak has been detected.

2. If there is liquid dripping from the equipment, it shall be determined that a leak has been detected.

(e) When a leak is detected, the owner or operator shall affix a weatherproof, readily visible tag in a bright color such as red or yellow, bearing the equipment identification number and the date on which the leak was detected. This tag shall remain in place until the leaking equipment is repaired. The requirements of this subparagraph apply to any leak detected by the equipment inspection program and to any leak from any equipment that is detected on the basis of sight, sound, or smell.

(f) Following any attempt to repair a leak which it is believed has been successfully repaired, testing by the methods listed in Subparagraph (d) of this paragraph shall be conducted.

(5) An owner or operator shall comply with the requirements for valves in gas/vapor service and valves in light liquid service as described in Paragraph (4) of this rule except as follows:

(a) If the percent of valves leaking is equal or less than 2.0 for two consecutive quarters, an owner or operator may skip alternate quarterly leak detection periods for the valves in gas/vapor and light liquid service;

(b) If the percent of valves leaking is equal to or less than 2.0 for five consecutive quarters, an owner or operator may skip three of the quarterly leak detection periods per year for the valves in gas/vapor and light liquid service, provided that each valve shall be monitored once year;

(c) If at any time the percent of valves leaking is greater than 2.0, the owner or operator shall resume compliance with the requirements in Paragraph (4) of this rule but may again elect to comply with the alternative standards in this paragraph.

(d) The percent of valves leaking shall be determined by dividing the sum of valves found leaking during current monitoring and previously leaking valves for which repair has been delayed by the total number of valves subject to the requirements of this rule.

(e) An owner or operator shall keep a record of the percent of valves found leaking during each leak detection period.

(6) Alternative standards for unsafe-to-monitor valves and difficult-to-monitor valves apply as follow:

(a) Any valve is exempt from the requirements of Paragraph (4) as an unsafe-to-monitor valve if:

1. The owner or operator of the valve demonstrates that the valve is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with Paragraph (4); and

2. The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(b) Any valve is exempt from the requirements of Paragraph (4) as a difficult-to-monitor valve if:

1. The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters (m) (6.6 feet [ft]) above a support surface; and

2. The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

(c) The alternative standards of Paragraph (5) are not available to valves subject to the requirements of this paragraph.

(7) The owner or operator of a synthetic organic chemical, polymer, or resin manufacturing facility refinery shall:

(a) Make a first attempt at repair for any leak not later than 5 calendar days after the leak is detected; and

(b) Repair any leak as soon as practicable, but not later than 15 calendar days after it is detected except as provided in Paragraph (8) of this rule.

(8) Delay of repair standards apply as follow:

(a) Delay of repair of equipment for which a leak has been detected will be allowed if repair is technically infeasible without a process unit shutdown. Repair of such equipment shall occur before the end of the first process unit shutdown after detection of the leak.

(b) Delay of repair of equipment will also be allowed for equipment that is isolated from the process and that does not remain in VOC service after detection of the leak.

(c) Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, and if valve assembly supplies have been depleted, where valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the first process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

(9) Test methods and procedures apply as follow:

(a) In conducting the monitoring required to comply with Paragraph (4) of this rule, the owner or operator shall use the test methods specified in this chapter.

(b) The owner or operator shall demonstrate that a piece of equipment is in light liquid service by showing that all of the following conditions apply:

1. The vapor pressure of one or more of the components is greater than 0.3 kiloPascal (kPa) (0.044 inches of mercury [in Hg]) at 20°C (68°F) with standard reference texts or ASTM D2879 used to determine the vapor pressures;

2. The total concentration of the pure components having a vapor pressure greater than 0.3 kPa (0.044 in Hg) at 20°C (68°F) is equal to or greater than 20 percent by weight; and

3. The fluid is a liquid at operating conditions.

(c) Samples shall be representative of the process fluid that is contained in or contacts the equipment.

(10) Recordkeeping requirements apply as follow:

(a) Each owner or operator subject to the provisions of this rule shall comply with the recordkeeping requirements of this rule.

(b) An owner or operator of more than one facility subject to the provisions of this rule may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.

(c) When each leak is detected as specified in Paragraph (4) of this rule, the following information shall be recorded in a log and shall be kept for 3 years:

1. The instrument and operator identification numbers and the equipment identification number;

2. The date the leak was detected and the dates of each attempt to repair the leak;

3. The repair methods employed in each attempt to repair the leak;

4. The notation of and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak;

5. The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown;

6. The dates of process unit shutdowns that occur while the equipment is unrepaired; and

7. The date of successful repair of the leak.

(d) A list of identification numbers of equipment in vacuum service shall be recorded in a log that is kept for 3 years.

(e) The following information for valves complying with Paragraph (5) of this rule shall be recorded in a log that is kept for 3 years.

1. A schedule of monitoring, and

2. The percent of valves found leaking during each monitoring period.

(f) The following information pertaining to all valves subject to the requirements of Paragraph (6) of this rule shall be recorded in a log that is kept for 3 years:

1. A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve, and

2. A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the schedule for monitoring each valve.

(g) The following information shall be recorded in a log that is kept for 3 years for use in determining exemptions as provided in Paragraph (1) of this rule:

1. An analysis demonstrating the design capacity of the affected facility; and

2. Information and data used to demonstrate that a piece of equipment is not in VOC service.

(11) The owner or operator of any facility containing sources subject to this rule shall comply with the requirements in Paragraphs .04(1) and (2) of this chapter.

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1200-3-18-.39 MANUFACTURE OF HIGH-DENSITY POLYETHYLENE, POLYPROPYLENE, AND POLYSTYRENE RESINS

(1) Applicability of this rule is as follows:

(a) This rule applies to the following process sections at facilities in Davidson, Rutherford, Sumner, Williamson, and Wilson Counties engaged in the manufacture of high-density polyethylene, polypropylene, and polystyrene:

1. For the manufacture of high-density polyethylene using a liquid-phase slurry process: each material recovery section and each product finishing section;

2. For the manufacture of polypropylene using a liquid-phase process: each polymerization reaction section, each material recovery section, and each product finishing section; and

3. For the manufacture of polystyrene using a continuous process: each material recovery section.

(b) Facilities having all process sections with uncontrolled emission rates at or below those identified as follow are exempt from the requirements of this rule except that owners or operators seeking to comply with this rule by complying with the uncontrolled emission rates in this subparagraph are still required to comply with the initial certification requirements at Paragraph .04(1) of this chapter:

Production Process	Process Section	Uncontrolled emission rate, megagram of product per year (Mg/yr)
1. High density polyethylene, liquid-phase slurry process.	material recovery section	7
2. High density polyethylene, liquid-phase slurry process	product finishing section	19
3. Polypropylene, liquid-phase process	polymerization reaction section	7
4. Polypropylene, liquid-phase process	material recovery section	8
5. Polypropylene, liquid-phase process	product finishing section	36
6. Polystyrene, continuous process	material recovery section	7

(2) For the purpose of this rule, the following definitions apply:

"Continuous process" means a polymerization process in which reactants are introduced in a continuous manner and products are removed either continuously or intermittently at regular intervals so that the process can be operated and polymers produced essentially continuously.

"Flame zone" means that portion of the combustion chamber in a boiler occupied by the flame envelope.

"High-density polyethylene" means a linear, thermoplastic polymer comprised of at least 50 percent ethylene by weight and having a density greater than 0.94 grams per cubic centimeter (g/cm^3) (59 pounds per cubic foot [lb/ft^3]).

"Liquid-phase process" means a polymerization process in which the polymerization reaction is carried out in the liquid phase; i.e.,the monomer(s) and any catalyst are dissolved or suspended in a liquid solvent.

"Liquid-phase slurry process" means a liquid-phase polymerization process in which the monomer(s) are in solution (completely dissolved) in a liquid solvent, but the polymer is in the form of solid particles suspended in the liquid reaction mixture during the polymerization reaction, sometimes called a particle-form process.

"Polypropylene" means a polymer comprised of at least 50 percent propylene by weight.

"Polystyrene" means a thermoplastic polymer comprised of at least 80 percent styrene or para-methylstyrene by weight.

"Process line" means a group of equipment assembled that can operate independently if supplied with sufficient raw materials to produce polypropylene, high-density polyethylene, polystyrene. A process line consists of the equipment in the following process sections (to the extent that these process sections are present at a plant): raw materials preparation, polymerization reaction, product finishing, product storage, and material recovery.

"Process section" means the equipment designed to accomplish a general but well-defined task in polymer production. Process sections include raw materials preparation, polymerization reaction, material recovery, product finishing, and product storage and may be dedicated to a single process line or common to more than one process line.

"Product finishing section" means the equipment that treats, shapes, or modifies the polymer or resin to produce the finished end product of the particular facility. Product finishing equipment may accomplish extruding and pelletizing, cooling and drying, blending, additives introduction, curing, or annealing. Product finishing does not include polymerization or shaping such as fiber spinning, molding, or fabricating or modification such as fiber stretching and crimping.

(3) The owner or operator of a high-density polyethylene or polypropylene process line containing a process section subject to this rule shall comply with the following:

(a) Reduce emissions of total volatile organic compounds (VOC's) by 98 weight percent, determined according to the procedure specified in Subparagraph (5)(a) of this rule, or to a VOC concentration of 20 parts per million volumetric (ppmv), as determined by the procedure

specified in Subparagraph (5)(b) of this rule, on a dry basis, whichever is less stringent. Total VOC is expressed as the sum of the actual compounds, not carbon equivalents. If an owner or operator elects to comply with the 20 ppmv concentration standard, the concentration shall include a correction to 3 percent oxygen only when supplemental combustion air is used to combust the vent stream. The procedure in Subparagraph (5)(c) shall be used to correct the concentration to 3 percent oxygen;

(b) Combust the emissions in a boiler or process heater with a design heat input capacity of 150 million British thermal units per hour (Btu/hr) or greater by introducing the vent stream into the flame zone of the boiler or process heater; or

(c) Combust the emissions in a flare as follows:

1. Flares shall be designed for and operated with no visible emissions as determined by the method specified in Part (5)(d)1 of this rule, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours;

2. Flares shall be operated with a flame present at all times, as determined by the method specified in Part (5)(d)2 of this rule;

3. Flares used to comply with provisions of this rule shall be steam-assisted, air-assisted, or non-assisted;

4. Flares shall be used only with the net heating value of the gas being combusted being 11.2 megaJoules per standard cubic meter (MJ/scm) (300 Btu per standard cubic foot [Btu/scf]) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is non-assisted. The net heating value of the gas being combusted shall be determined by the method specified in Part (5)(e)7 of this rule.

5. Consistent with exit velocity requirements as follow:

(i) Steam-assisted and non-assisted flares shall be designed for and operated with an exit velocity, as determined by the method specified in Part (5)(e)4 of this rule, less than 18.3 meters per second (m/s) (60 feet per second [ft/s]), except as provided in Subparts (ii) and (iii) of this part;

(ii) Steam-assisted and non-assisted flares designed for and operated with an exit velocity, as determined by the methods specified in Part (5)(e)4 of this rule, equal to or greater than 18.3 m/s (60 ft/s) but less than 122 m/s (400 ft/s) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf); and

(iii) Steam-assisted and non-assisted flares designed for and operated with an exit velocity, as determined by the methods specified in Part (5)(e)4 of this rule, less than the velocity, V_{max}, as determined by the method specified in Part (5)(e)5 of this rule and less than 122 m/s (400 ft/s) are allowed.

6. Air-assisted flares shall be designed and operated with an exit velocity less than the velocity, V_{max}, as determined by the method specified in Part (5)(e)6 of this rule.

(4) The owner or operator of a polystyrene process line containing process sections subject to this rule shall comply with the following:

(a) Not allow continuous VOC emissions from the material recovery section to be greater than 0.12 kg (kilograms) VOC per 1,000 kg of product (0.12 pounds [lb] VOC per 1,000 lb of product); or

(b) Not allow the outlet gas stream from each final condenser in the material recovery section to exceed -25°C (-13°F).

(5) Test methods and procedures as follow apply:

(a) The owner or operator shall determine compliance with the percent emission reduction standard in Subparagraph (3)(a) of this rule as follows:

1. The emission reduction of total VOC shall be determined using the following equation:

$$P = \frac{E_{inlet} - E_{outlet}}{E_{inlet}} \times 100$$

where:

P = Percent emission reduction, by weight.

E_{inlet} = Mass rate of total VOC entering the control device, kg VOC/hr.

E_{outlet} = Mass rate of total VOC discharged to the atmosphere, kg VOC/hr.

2. The mass rates of total VOC (E_i, E_o) shall be computed using the following equations:

$$E_i = K_1 \left(\sum_{j=1}^{n} C_{ij} M_{ij} \right) Q_i$$

$$E_o = K_1 \left(\sum_{j=1}^{n} C_{oj} M_{oj} \right) Q_o$$

where:

C_{ij}, C_{oj} = Concentration of sample component "j" of the gas stream at the inlet and outlet of the control device, respectively, dry basis, ppmv.

M_{ij}, M_{oj} = Molecular weight of sample component "j" of the gas stream at the inlet and outlet of the control device respectively, g/gmole (lb/lb-mole).

Q_i, Q_o = Flow rate of the gas stream at the inlet and outlet of the control device, respectively, dscm/hr (dscf/hr).

K_1 = 4.157×10^{-8} [(kg)/(g-mole)]/[(g)(ppm)(dscm)] {2.95×10^{-9} [(lb)(/(lb-mole)]/[(lb)(ppm)(dscf)]}.

3. Reference Method 18 shall be used to determine the concentration of each individual organic component (C_{ij}, C_{oj}) in the gas stream. Reference Method 1 or 1A, as appropriate, shall be used to determine the inlet and outlet sampling sites. The inlet site shall be before the inlet of the control device and after all product recovery units.

4. Reference Method 2, 2A, 2C, or 2D, as appropriate, shall be used to determine the volumetric flow rates (Q_i, Q_o). If necessary, Method 4 shall be used to determine the moisture content. Both determinations shall be compatible with the Reference Method 18 determinations.

5. Inlet and outlet samples shall be taken simultaneously. The sampling time for each run shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at 15 minute intervals.

(b) The owner or operator shall determine compliance with the emission concentration standard in Subparagraph (3)(a) of this rule as follows:

1. The total VOC concentration is the sum of the individual components and shall be computed for each run using the following equation:

$$C_{voc} = \underset{j=1}{\overset{n}{\text{SUM}}} C_j$$

where:

C_{voc} = Concentration of total VOC, dry basis, ppmv;

C_j = Concentration of sample component j, ppm; and

n = Number of components in the sample.

2. Reference Method 18 shall be used to determine the concentration of each individual inorganic component (C_j) in the gas stream. Reference Method 1 or 1A as appropriate, shall be used to determine the sampling site at the outlet of the control device. Reference Method 4 shall be used to determine the moisture content, if necessary.

3. The sampling time for each run shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at 15 minute intervals.

(c) Correction for supplemental combustion air shall be as follows:

1. If supplemental combustion air is used, the total VOC concentration shall be corrected to 3 percent oxygen and shall be computed using the following equation:

$$C_{CORR} = C_{MEAS} \frac{17.9}{20.9 - \%O_{2d}}$$

C_{CORR} = Concentration of total VOC corrected to 3 percent oxygen, dry basis, ppmv;

C_{MEAS} = Concentration of total VOC, dry basis, ppmv, as calculated in Part (5)(b)1 above; and

$\%O_{2d}$ = Concentration of O_2, dry basis, percent by volume.

2. The emission rate correction factor, integrated sampling and analysis procedure of Reference Method 3 shall be used to determine the oxygen concentration ($\%O_{2d}$). The sampling site shall be the same as that of the total VOC sample and the samples shall be taken during the same time that the total VOC samples are taken.

(d) When a flare is used to comply with Subparagraph (3)(c) of this rule:

1. Reference Method 22 shall be used to determine the compliance of flares with the visible emission requirement in Part (3)(c)1 of this rule. The observation period is 2 hours and shall be used according to Reference Method 22; and

2. The presence of a flare pilot flame shall be monitored using a thermocouple or other equivalent monitoring device to detect the presence of a flame.

(e) The test methods shall be used for determining the VOC emission rate in terms of kg emission per megagram (Mg) of product, exit velocities, or net heating value of the gas combusted to determine compliance under Paragraphs (3) and (4) of this rule as follows:

1. Reference Method 1 or 1A, as appropriate, for selection of the sampling site. The sampling site for the molar composition and vent stream flow rate determination prescribed in Parts 2 and 3 of this subparagraph shall be prior to the inlet of any combustion device and prior to any dilution of the stream with air.

2. The composition of the process vent stream shall be determined as follows:

(i) Reference Method 18 and ASTM D2504-67 (reapproved 1977) to measure the concentration of VOC and the concentration of all other compounds present except water vapor and carbon monoxide, and

(ii) Reference Method 4 to measure the content of water vapor.

3. The volumetric flow rate shall be determined using Reference Method 2, 2A, 2C, or 2D, as appropriate;

4. The actual exit velocity of a flare shall be determined by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by Reference Method 2, 2A, 2C, or 2D as appropriate, by the unobstructed (free) cross-sectional area of the flare tip;

5. The maximum permitted velocity, V_{max}, for flares complying with Subpart (3)(c)5(i) of this rule shall be determined using the following equation:

$$\mathrm{Log}_{10}(V_{max}) = \frac{H_T + 28.8}{31.7}$$

where:

V_{max} = Maximum permitted velocity, m/s;

28.8 = Constant;

31.7 = Constant; and

H_T = The net heating value as determined in Part 7 of this subparagraph.

6. The V_{max} for air-assisted flares shall be determined by the following equation:

$$V_{max} = 8.706 + 0.7084\,(H_T)$$

where:

V_{max} = Maximum permitted velocity, m/s;

8.706 = Constant;

0.7084 = Constant; and

H_T = The net heating value as determined in Part 7 of this subparagraph.

7. The net heating value of the process vent stream being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^{n} C_i H_i$$

where:

H_T = Net heating value of the sample, MJ/scm, where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 millimeters of Mercury (mm Hg) (77°F and 29.92 inches of Mercury [in Hg]), but the standard temperature for determining the volume corresponding to one mole is 20°C (68°F);

K = Constant:

$$K = 1.740 \times 10^{-7} \frac{(1)}{ppm} \frac{(g\ mole)}{scm} \frac{(MJ)}{kcal}$$

where standard temperature for (g mole)/scm is 20°C.

C_i = Concentration of sample components i in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-82; and

H_i = Net heat of combustion of sample component i, kcal/g-mole at 25°C (77°F) and 760 mm Hg (29.92 in Hg). The heats of combustion of process vent stream components may be determined using ASTM D2382-76 (reapproved 1977) if published values are not available or cannot be calculated;

8. The emission rate of VOC in the process vent stream shall be calculated using the following equation:

$$E_{voc} = K \left(\sum_{i=1}^{n} C_i M_i \right) Q_s$$

where:

E_{voc} = Emission rate of total organic compounds in the sample, kilogram per hour (kg/h);

K = Constant, 2.494×10^{-6} (1/ppm)(g-mole/scm)(kg/g)(min/h), where standard temperature for (g-mole/scm) is 20°C (68°F);

C_i = Concentration of sample component i, ppm;

M_i = Molecular weight of sample component i, g/g-mole; and

Q_s = Vent stream flow rate (scm/min), at a standard temperature of 20°C (68°F).

9. The rate of polymer produced, P_p (kg/h), shall be determined by dividing the weight of polymer pulled in kg from the process line during the performance test by the number of hours (h) taken to perform the performance test. The polymer pulled, in kg, shall be

determined by direct measurement or, if approved by the Technical Secretary and approved as a revision to the State Implementation Plant, computed from materials balance by good engineering practice; and

10. The emission rate of VOC in terms of kilograms of emissions per megagram of production shall be calculated using the following equation:

$$ER_{voc} = \frac{VOC}{P_p \times \frac{1Mg}{1{,}000\ kg}}$$

where:

ER_{voc} = Emission rate of VOC, kg VOC/Mg product;

E_{voc} = Emission rate of VOC in the sample, kg/h; and

P_p = The rate of polymer produced, kg/h.

(6) The owner or operator of a facility subject to this rule shall maintain the following records for at least 3 years and shall make these records available to the Technical Secretary upon request:

(a) For facilities complying with the standards listed in Subparagraph (3)(a), parameters listed in Subparagraphs (5)(a), (5)(b), and, where applicable, (5)(e);

(b) For facilities complying with the standards listed in Subparagraph (3)(b), parameters listed in Subparagraphs (5)(c), and, where applicable, (5)(e);

(c) For facilities complying with the standards listed in Subparagraph (3)(c), parameters listed in Subparagraphs (5)(d), and, where applicable, (5)(e);

(d) For facilities complying with the standards listed in Paragraph (4), parameters listed in Subparagraph (5)(e) where applicable; and

(e) For all facilities containing sources subject to this rule, the following records shall be kept:

1. The time, date, and duration of any excess emissions;

2. The subject source of any excess emissions;

3. The cause of any excess emissions;

4. The estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and the calculations used in determining the magnitude of any excess emissions; and

5. Any corrective actions and schedules utilized to correct the conditions causing any excess emissions.

(7) The owner or operator of any facility containing sources subject to this rule shall:

(a) Comply with the initial compliance certification requirements of Paragraph .04(1) of this chapter; and

(b) Comply with the requirements of Paragraph .04(2) of this chapter for excess emissions related to the control devices required to comply with Subparagraph (3)(b), (3)(c), or (4)(b) of this rule.

Authority: *TCA 68-201-105 and 4-5-202*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF September 16, 1996.

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1200-3-18-.40 AIR OXIDATION PROCESSES IN THE SYNTHETIC ORGANIC CHEMICAL MANUFACTURING INDUSTRY

(1) Applicability of this rule is as follows:

(a) This rule applies to the following air oxidation facilities in Davidson, Rutherford, Sumner, Williamson, and Wilson Counties in the synthetic organic chemical manufacturing industry:

1. Each air oxidation reactor not discharging its vent stream into a recovery system;

2. Each combination of an air oxidation reactor and the recovery system into which its vent stream is discharged; and

3. Each combination of two or more air oxidation reactors and the common recovery system into which their vent streams are discharged.

(b) Any air oxidation reactor vent stream that has a total resource effectiveness (TRE) index value greater than 1.0 is exempt from all provisions of this rule except the requirements in Paragraph (3) and Subparagraphs (5)(b) and (6)(j) of this rule.

(2) For the purpose of this rule, the following definitions apply:

"Air oxidation facility" means a product recovery system and all associated air oxidation process reactors discharging directly into that system or any such reactors discharging directly into the atmosphere.

"Air oxidation process" means a reactor in which air is used as an oxidizing agent to produce an organic chemical.

"Air oxidation reactor" means any device or process vessel in which one or more organic reactants are combined with air or a combination of air and oxygen to produce one or more organic compounds. Ammoxidation and oxychlorination are included in this definition.

"Air oxidation reactor recovery train" means an individual recovery system receiving the vent stream from at least one air oxidation reactor, along with all air oxidation reactors feeding vent streams into this system.

"Product recovery system" means any equipment used to collect volatile organic compounds (VOC's) for use, reuse, or sale. Such equipment includes, but is not limited to, absorbers, adsorbers, condensers, and devices that recover non-VOC's such as ammonia and HCl.

"Synthetic organic chemical manufacturing industry" means the industry that produces, as intermediates or final products, one or more of the chemicals listed at 40 CFR 60.489, as of July 1, 1991.

"Total resource effectiveness index value," or TRE index value, means a measure of the supplemental total resource requirement per unit of VOC emission reduction associated with an individual air oxidation vent stream, based on vent stream flow rate, emission rate of VOC, net heating value, and corrosive properties, as quantified by the equation given under Subparagraph (4)(a) of this rule.

"Vent stream" means any gas stream containing nitrogen that was introduced as air to the air oxidation reactor, released to the atmosphere directly from any air oxidation reactor recovery train or indirectly, after diversion through other process equipment.

(3) For each vent stream from an air oxidation reactor or combination air oxidation reactor and recovery train subject to this rule, the owner or operator shall comply with Subparagraph (a), (b), or (c) as follows:

(a) Reduce total VOC emissions by 98 weight percent or to 20 parts per million volumetric (ppmv) on a dry basis corrected to 3 percent oxygen, whichever is less stringent. If a boiler or process heater is used to comply with this subparagraph, the vent stream shall be introduced into the flame zone of the boiler or process heater;

(b) Combust the emissions in a flare that meets the requirements of 40 CFR 60.18, as of July 1, 1991; or

(c) Maintain a TRE index value greater than 1.0 without the use of VOC emission control devices.

(4) Monitoring requirements as follow apply:

(a) The owner or operator of an air oxidation facility that uses an incinerator to seek to comply with the VOC emission limit specified under Subparagraph (3)(a) of this rule, shall install, calibrate, maintain, and operate according to manufacture's specifications the following equipment:

1. A temperature monitoring device equipped with a continuous recorder and having an accuracy of ± 1 percent of the temperature being monitored expressed in degrees Celsius or $\pm 0.5^{0}$C, whichever is greater.

(i) Where an incinerator other than a catalytic incinerator is used, a temperature monitoring device shall be installed in the firebox.

(ii) Where a catalytic incinerator is used, temperature monitoring devices shall be installed in the gas stream immediately before and after the catalyst bed.

2. A flow indicator that provides a record of vent stream flow to the incinerator at least once every hour for each air oxidation facility. The flow indicator shall be installed in the vent stream from each air oxidation facility at a point closest to the inlet of each incinerator and before being joined with any other vent stream.

(b) The owner or operator of an air oxidation facility that uses a flare to seek to comply with Subparagraph (3)(b) of this rule shall install, calibrate, maintain, and operate according to manufacture's specifications the following equipment:

1. A heat sensing device, such as an ultra-violet sensor or thermocouple, at the pilot light to indicate the continuous presence of a flame.

2. A flow indicator that provides a record of vent stream flow to the flare at least once every hour for each air oxidation facility. The flow indicator shall be installed in the vent stream from each air oxidation facility at a point closest to the flare and before being joined with any other vent stream.

(c) The owner or operator of an air oxidation facility that uses a boiler or process heater to seek to comply with Subparagraph (3)(a) of this rule shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:

1. A flow indicator that provides a record of vent stream flow to the boiler or process heater at least once every hour for each air oxidation facility. The flow indicator shall be installed in the vent stream from each air oxidation reactor within a facility at a point closest to the inlet of each boiler or process heater and before being joined with any other vent stream.

2. A temperature monitoring device in the firebox equipped with a continuous recorder and having an accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or $\pm 0.5^{0}$C, whichever is greater, for boilers or process heaters of less than 44 MW (150 million Btu/hr) heat input design capacity.

3. Monitor and record the periods of operation of the boiler or process heater if the design input capacity of the boiler or process heater is 44 MW (150 million Btu/hr) or greater. The records shall be readily available for inspection.

(d) The owner or operator of an air oxidation facility that seeks to demonstrate compliance with the TRE index value limit specified under Subparagraph (3)(c) of this rule shall install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment:

1. Where an absorber is the final recovery device in a recovery system:

(i) A scrubbing liquid temperature monitoring device having an accuracy of ± 1 percent of the temperature being monitored, expressed in degrees Celsius or $\pm 0.5^{0}$C, whichever is greater, and a specific gravity monitoring device having an accuracy of ± 0.02 specific gravity unit, each equipped with a continuous recorder; and

(ii) An organic monitoring device used to indicate the concentration level of organic compounds exiting the recovery device based on a detection principle such as infrared, photoionization, or thermal conductivity, each equipped with a continuous recorder.

2. Where a condenser is the final recovery device in a recovery system:

(i) A condenser exit (product site) temperature monitoring device equipped with a continuous recorder and having an accuracy of ± 1 percent of the temperature being monitored expressed in degrees Celsius or $\pm 0.5^{0}$C, whichever is greater; and

(ii) An organic monitoring device used to indicate the concentration level of organic compounds exiting the recovery device based on a detection principle such as infrared, photoionization, or thermal conductivity, each equipped with a continuous recorder.

3. Where a carbon adsorber is the final recovery device in a recovery system:

(i) An integrating steam flow monitoring device having an accuracy of ± 10 percent, and a carbon bed temperature monitoring device having an accuracy of ± 1 percent of the temperature being monitored expressed in degrees Celsius or $\pm 0.5^{0}$C, whichever is greater, both equipped with a continuous recorder; and

(ii) An organic monitoring device used to indicate the concentration level of organic compounds exiting the recovery device based on a detection principle such as infrared, photoionization, or thermal conductivity, each equipped with a continuous recorder.

(5) The following methods shall be used to demonstrate compliance with Paragraph (3) of this rule:

(a) The following equation shall be used to calculate the TRE index for a given vent stream:

$$TRE = 1/E\,[a+b\,(FL)^{0.88} + C(FL) + d(FL)H_T + e(FL)^{0.88}(H_T)^{0.88} + f(FL)^{0.5}]$$

where:

TRE = The total resource effectiveness index value.

E = The measured hourly emissions in units of kilograms/hour (kg/h).

FL = The vent stream flow rate in scm/min, at a standard temperature of 20°C. For a Category E stream (see Table 1), the factor $f(FL)^{0.5}$ should be replaced with

$$f\,[(FL)\,\frac{(H_T)^{0.5}}{3.6}]$$

where:

H_T = Vent stream net heating value in units of MJ/scm, where the net enthalpy per mole of offgas is based on combustion at 25°C (68°F) and 760 millimeters of Mercury (mm Hg), but the standard temperature for determining the volume corresponding to one mole is 20°c, as in the definition of FL.

a, b, c, d, e, and f = Specific coefficients for six different general categories of process vent streams. The set of coefficients that apply to a given air oxidation process vent stream are specified in Table 1.

TABLE 1. COEFFICIENTS OF THE TOTAL RESOURCE EFFECTIVENESS (TRE) INDEX EQUATION

A1. For Chlorinated Process Vent Streams, if 0 ≤ Net Heating Value (MJ/scm) ≤ 3.5:

FL - Vent Stream Flow Rate (scm/min)	a	b	c	d	e	f
FL ≤ 13.5	48.73	0	0.404	-0.1632	0	0
13.5 < FL ≤ 700	42.35	0.624	0.404	-0.1632	0	0.0245
700 < FL ≤ 1,400	84.38	0.678	0.404	-0.1632	0	0.0346
1,400 < FL ≤ 2,100	126.41	0.712	0.404	-0.1632	0	0.0424
2,100 < FL ≤ 2,800	168.44	0.747	0.404	-0.1632	0	0.0490
2,800 < FL ≤ 3,500	210.47	0.758	0.404	-0.1632	0	0.0548

A2. For Chlorindated Process Vent Streams, if 3.5 < Net Heating Value (MJ/scm):

FL - Vent Stream Flow Rate (scm/min)	a	b	c	d	e	f
FL ≤ 13.5	47.76	0	0.292	0	0	0
13.5 < FL ≤ 700	41.58	0.605	0.292	0	0	0.0245
700 < FL ≤ 1,400	82.84	0.658	0.292	0	0	0.0346
1,400 < FL ≤ 2,100	123.10	0.691	0.292	0	0	0.0424
2,100 < FL ≤ 2,800	165.36	0.715	0.292	0	0	0.0490
2,800 < FL ≤ 3,500	206.62	0.734	0.292	0	0	0.0548

B. For Nonchlorinated Process Vent Streams, if 0 ≤ Net Heating Value (MJ/scm) ≤ 0.48:

FL - Vent Stream Flow Rate (scm/min)	a	b	c	d	e	f
FL ≤ 13.5	19.05	0	0.113	-0.214	0	0
13.5 < FL ≤ 1,350	16.61	0.239	0.113	-0.214	0	0.0245
1,350 < FL ≤ 2,700	32.91	0.260	0.113	-0.214	0	0.0346
2,700 < FL ≤ 3,500	49.21	0.273	0.113	-0.214	0	0.0424

C. For Nonchlorindated Process Vent Streams, if 0.48 < Net Heating Value (MJ/scm) ≤ 1.9:

FL - Vent Stream Flow Rate (scm/min)	a	b	c	d	e	f
FL ≤ 13.5	19.74	0	0.400	-0.202	0	0
13.5 < FL ≤ 1,350	18.30	0.138	0.400	-0.202	0	0.0245
1,350 < FL ≤ 2,700	36.28	0.150	0.400	-0.202	0	0.0346
2,700 < FL ≤ 4,050	54.26	0.158	0.400	-0.202	0	0.0424

D. For Nonchlorinated Process Vent Streams, if 1.9 < Net Heating Value (MJ/scm) ≤ 3.6:

FL - Vent Stream Flow Rate (scm/min)	a	b	c	d	e	f
FL ≤ 13.5	15.24	0	0.033	0	0	0
13.5 < FL ≤ 1,190	13.63	0.157	0.033	0	0	0.0245
1,190 < FL ≤ 2,380	26.95	0.171	0.033	0	0	0.0346
2,380 < FL ≤ 3,570	40.27	0.179	0.033	0	0	0.0424

E. For Nonchlorinated Process Vent Streams, if 3.6 < Net Heating Value (MJ/scm):

FL - Vent Stream Flow Rate (scm/min)	a	b	c	d	e	f
FL ≤ 13.5	15.24	0	0	0.0090	0	0
13.5 < FL ≤ 1,190	13.63	0	0	0.0090	0.0503	0.0245
1,190 < FL ≤ 2,380	26.95	0	0	0.0090	0.0546	0.0346
2,380 < FL ≤ 3,570	40.27	0	0	0.0090	0.0573	0.0424

(b) Each owner or operator of an air oxidation facility seeking to comply with Subparagraph (1)(b) or (3)(c) of this rule shall recalculate the TRE index value for that air oxidation facility whenever process changes are made. Some examples of process changes are changes in production capacity, feedstock type, or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. The TRE index value shall be recalculated based on test data, or on best engineering estimates of the effects of the change to the recovery system.

(c) Reference Method 1 or 1A, as appropriate, for selection of the sampling sites. The control device inlet sampling site for determination of vent stream molar composition or VOC reduction efficiency shall be prior to the inlet of the control device and after the recovery system.

(d) Reference Method 2, 2A, 2C, or 2D, as appropriate, for determination of the volumetric flow rates.

(e) The emission rate correction factor, integrated sampling and analysis procedure of Method 3 shall be used to determine the oxygen concentration ($\%O_{2d}$) for the purposes of determining compliance with the 20 ppmv limit. The sampling site shall be the same as that of the VOC samples and the samples shall be taken during the same time that the VOC samples are taken. The VOC concentration corrected to 3 percent O_2 (C_2) shall be computed using the following equation:

$$C_o = C_{voc} \frac{17.9}{20.9 - \%0_{2d}}$$

where:

C_o = Concentration of VOC corrected to 3 percent 0_2, dry basis, ppm by volume.

C_{voc} = Concentration of VOC, dry basis, ppm by volume.

$\%0_{2d}$ = Concentration of 0_2, dry basis, percent by volume.

(f) Reference Method 18 to determine concentration of VOC in the control device outlet and the concentration of VOC in the inlet when the reduction efficiency of the control device is to be determined, according to the following:

1. The sampling time for each run shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at 15-minute intervals.

2. The emission reduction (R) of VOC shall be determined using the following equation:

$$R = \frac{E_i - E_o}{E_i} \times 100$$

where:

R = Emission reduction, percent by weight.

E_i = Mass rate of VOC entering the control device, kg VOC/hr.

E_o = Mass rate of VOC discharged to the atmosphere, kg VOC/hr.

3. The mass rates of VOC (E_i, E_o) shall be computed using the following equations:

$$E_i = K_2 \left(\sum_{j=1}^{n} C_{ij} M_{ij} \right) Q_i$$

$$E_o = K_2 \left(\sum_{j=1}^{n} C_{oj} M_{oj} \right) Q_o$$

where:

C_{ij}, C_{oj} = Concentration of sample component "j" of the gas stream at the inlet and outlet of the control device, respectively.

M_{ij}, M_{oj} = Molecular weight of sample component "j" of the gas stream at the inlet and outlet of the control device, respectively, g/g-mole (lb/lb-mole).

Q_i, Q_o = Flow rate of gas stream at the inlet and outlet of the control device, respectively, dscm/min (dscf/hr).

K_2 = Constant, 2.494×10^{-6} (1/ppm) (g-mole/scm) (kg/g) (min/h), where standard temperature for (g-mole/scm) is 20°C.

4. The VOC concentration (C_{voc}) is the sum of the individual components and shall be computed for each run using the following equation:

$$C_{voc} = \sum_{j=1}^{n} C_j$$

where:

C_{voc} = Concentration of VOC, dry basis, ppm by volume.

C_j = Concentration of sample components in the sample.

n = Number of components in the sample.

(g) When a flare is used to seek to comply with Subparagraph (3)(b) of this rule, the flare shall comply with the requirements of 40 CFR 60.18, as of July 1, 1991.

(h) The following test methods shall be used for determining the net heating value of the gas combusted to determine compliance under Subparagraph (3)(b) of this rule, and for determining the process vent stream TRE index value to determine compliance under Subparagraph (3)(c) of this rule:

1. For selection of sampling site:

(i) Reference Method 1 or 1A, as appropriate, for selection of the sampling site. The sampling site for the vent stream flow rate and molar composition determination prescribed in Parts 2 and 3 of this subparagraph shall be, except for the situations outlined in Subpart (ii) of this part, prior to the inlet of any control device, prior to any post-reactor dilution of the stream with air, and prior to any post-reactor introduction of halogenated compounds into the vent stream. No transverse site selection method is needed for vents smaller than 4 inches in diameter.

(ii) If any gas stream other than the air oxidation vent stream is normally conducted through the final recovery device:

(I) The sampling site for vent stream flow rate and molar composition shall be prior to the final recovery device and prior to the point at which the nonair oxidation stream is introduced.

(II) The efficiency of the final recovery device is determined by measuring the VOC concentration using Method 18 at the inlet to the final recovery device after the introduction of any nonair oxidation vent stream and at the outlet of the final recovery device.

(III) This efficiency is applied to the VOC concentration measured prior to the final recovery device and prior to the introduction of the nonair oxidation stream to determine the concentration of VOC in the air oxidation stream from the final recovery device. This concentration of VOC is then used to perform the calculations outlined in Parts 4 and 5 of this subparagraph.

2. For determining molar composition of the process vent stream:

(i) Reference Method 18 to measure the concentration of VOC including those containing halogens.

(ii) ASTM D1946-77 to measure the concentration of carbon monoxide and hydrogen.

(iii) Reference Method 4 to measure the content of water vapor.

3. For volumetric flow rate Reference Method 2, 2A, 2C, or 2D, as appropriate.

4. For net heating value of the vent stream, the following equation:

$$H_T = K_1 \sum_{j=1}^{n} C_j H_j$$

where:

H_T = Net heating value of the sample, MJ/scm, where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20°C, as in the definition of Q_s (offgas flow rate).

K_1 = Constant, $1.740 \times 10^{-7} \frac{(1)}{ppm} \frac{(g\text{-}mole)}{scm} \frac{(MJ)}{kcal}$

where standard temperature for $\frac{(g\text{-}mole)}{scm}$ is 20°C.

C_j = Concentration of compound j in ppm, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-77 as indicated in Part 2 of this subparagraph.

H_j = Net heat of combustion of compound j, kcal/g-mole, based on combustion at 25°C and 760 mm Hg. The heats of combustion of vent stream components would be required to be determined using ASTM D2382-76 if published values are not available or cannot be calculated.

5. For emission rate of VOC in the process vent stream, the following equation:

$$E_{voc} = K_2 \left(\sum_{j=1}^{n} C_j M_j \right) Q_s$$

where:

E_{voc} = Emission rate of VOC in the sample, kg/hr.

K_2 = Constant, 2.494×10^{-6} (1/ppm) (g-mole/scm) (kg/g) (min/hr), where standard temperature for (g-mole/scm) is 20°C.

C_j = Concentration on a dry basis of compound j in ppm as measured by Reference Method 18 as indicated in Part 2 of this subparagraph.

M_j = Molecular weight of sample j, g/g-mole.

Q_s = Vent stream flow rate (scm/min) at a standard temperature of 20°C.

(6) The owner or operator of a facility subject to this rule shall keep the records specified in this paragraph for at least 3 years. These records, as follow, shall be made available to the Technical Secretary immediately upon request:

(a) Where an owner or operator subject to this rule seeks to demonstrate compliance with Subparagraph (3)(a) of this rule through the use of either a thermal or catalytic incinerator:

1. The average firebox temperature of the incinerator (or the average temperature upstream and downstream of the catalyst bed for a catalytic incinerator), measured at least every 15 minutes and averaged over the same time period as the compliance test, and

2. The percent reduction of VOC determined as specified in Subparagraph (3)(a) of this rule that is achieved by the incinerator, or the concentration of VOC determined as specified in Subparagraph (3)(a) of this rule at the outlet of the control device on a dry basis corrected to 3 percent oxygen.

(b) Where an owner or operator subject to the provisions of this rule seeks to demonstrate compliance with Subparagraph (3)(a) of this rule through the use of a boiler or process heater:

1. A description of the location at which the vent stream is introduced into the boiler or process heater, and

2. The average combustion temperature of the boiler or process heater with a design heat input capacity of less than 44 MW (150 million Btu/hr) measured at least every 15 minutes and averaged over the same time period of the compliance testing.

(c) Where an owner or operator subject to the provisions of this rule seeks to comply with Subparagraph (3)(b) of this rule through the use of a smokeless flare, flare design (i.e., steam-assisted, air-assisted, or non-assisted), all visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance test, continuous records of the flare pilot flame monitoring, and records of all periods of operation during which the pilot flame is absent.

(d) Where an owner or operator seeks to demonstrate compliance with Subparagraph (3)(c) of this rule:

1. Where an absorber is the final recovery device in a recovery system, the exit specific gravity and average exit temperature of the absorbing liquid, measured at least every 15 minutes and averaged over the same time period of the compliance testing (both measured while the vent stream is normally routed and constituted), or

2. Where a condenser is the final recovery device in a recovery system, the average exit (product side) temperature, measured at least every 15 minutes and averaged over the same time period of the compliance testing while the vent stream is normally routed and constituted, or

3. Where a carbon adsorber is the final recovery device in a recovery system, the total steam mass flow measured at least every 15 minutes and averaged over the same time period of the compliance test (full carbon bed cycle), temperature of the carbon bed after regeneration (and within 15 minutes of completion of any cooling cycle(s)), and duration of the carbon bed steaming cycle (all measured while the vent stream is normally routed and constituted), or

4. As an alternative to Part 1, 2, or 3 of this subparagraph, the concentration level or reading indicated by the organic monitoring device at the outlet of the absorber, condenser, or carbon adsorber measured at least every 15 minutes and averaged over the same time period of the compliance testing while the vent stream is normally routed and constituted.

5. All measurements and calculations performed to determine the TRE index value of the vent stream.

(e) Each owner or operator subject to the provisions of this rule shall keep up-to-date continuous records of the equipment operating parameters specified to be monitored under Subparagraphs (4)(a) and (4)(c) of this rule as well as up-to-date records of periods of operation during which the parameter boundaries established during the most recent compliance test are exceeded. The Technical Secretary may at any time require a report of these data. Where a combustion device is used by an owner or operator seeking to demonstrate compliance with Subparagraph (3)(a) or

(3)(c) of this rule, periods of operation during which the parameter boundaries established during the most recent performance tests are exceeded and therefore an instance of noncompliance has occurred are defined as follows:

1. For thermal incinerators, all 3-hour periods of operation during which the average combustion temperature was more than 28°C (50°F) below the average combustion temperature during the most recent test at which compliance with Subparagraph (3)(a) of this rule was determined.

2. For catalytic incinerators, all 3-hour periods of operation during which the average temperature of the vent stream immediately before the catalyst bed is more than 28°C (50°F) below the average temperature of the vent stream during the most recent test at which compliance with Subparagraph (3)(a) of this rule was determined. The owner or operator also shall record all 3-hour periods of operation during which the average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference of the device during the most recent test at which compliance with Subparagraph (3)(a) of this rule was determined.

3. All 3-hour periods of operation during which the average combustion temperature was more than 28°C (50°F) below the average combustion temperature during the most recent test at which compliance with Subparagraph (3)(a) of this rule was determined for boilers or process heaters with a design heat input capacity of less than 44 MW (150 million Btu/hr).

4. For boilers or process heaters, whenever there is a change in the location at which the vent stream is introduced into the flame zone as required under Subparagraph (3)(a) of this rule.

(f) Each owner or operator subject to the provisions of this rule shall keep up-to-date continuous records of the flow indication specified under Parts (4)(a)2, (4)(b)2, and (4)(c)1 of this rule, as well as up-to-date records of all periods when the vent stream is diverted from the control device or has no flow rate.

(g) Each owner or operator subject to the provisions of this rule who uses a boiler or process heater with a design heat input capacity of 44 MW or greater to comply with Subparagraph (3)(a) of this rule shall keep an up-to-date record of all periods of operation of the boiler or process heater. (Examples of such records could include records of steam use, fuel use, or monitoring data collected pursuant to other regulatory requirements.)

(h) Each owner or operator subject to the provisions of this rule shall keep up-to-date continuous records of the flare pilot flame monitoring specified in Subparagraph (4)(b) of this rule as well as up-to-date records of all periods of operations in which the pilot flame is absent.

(i) Each owner or operator subject to the provisions of this rule shall keep up-to-date continuous records of the equipment operating parameters specified to be monitored under Subparagraph (4)(c) of this rule as well as up-to-date records of periods of operation during which the parameter boundaries established during the most recent compliance test are exceeded. The Technical Secretary may at any time require a report of these data. Where the owner or operator seeks to demonstrate compliance with Subparagraph (3)(c) of this rule, periods of

operation during which the parameter boundaries established during the most recent compliance tests are exceeded and therefore an instance of noncompliance has occurred are defined as follows:

1. Where an absorber is the final recovery device in a recovery system, and where an organic monitoring device is not used:

   (i) All 3-hour periods of operation during which the average absorbing liquid temperature was more than 11°C (20°F) above the average absorbing liquid temperature during the most recent compliance test that demonstrated that the facility was in compliance, or

   (ii) All 3-hour periods of operation during which the average absorbing liquid specific gravity was more than 0.1 unit above, or more than 0.1 unit below, the average absorbing liquid specific gravity during the most recent compliance test that demonstrated that the facility was in compliance.

2. Where a condenser is the final recovery device in a recovery system, and where an organic monitoring device is not used, all 3-hour periods of operation during which the average exit (product site) condenser operating temperature was more than 6°C (11°C) above the average exit (product site) operating temperature during the most recent compliance test that demonstrated that the facility was in compliance.

3. Where a carbon adsorber is the final recovery device in a recovery system and where an organic monitoring device is not used:

   (i) All carbon bed regeneration cycles during which the total mass steam flow was more than 10 percent below the total mass steam flow during the most recent compliance test that demonstrated that the facility was in compliance, or

   (ii) All carbon bed regeneration cycles during which the temperature of the carbon bed after regeneration [and after completion of any cooling cycle(s)] was more than 10 percent greater than the carbon bed temperature (in degrees Celsius) during the most recent compliance test that demonstrated that the facility was in compliance.

4. Where an absorber, condenser, or carbon adsorber is the final recovery device in the recovery system and an organic monitoring device approved by the Technical Secretary is used, all 3-hour periods of operation during which the average concentration level or reading of organic compounds in the exhaust gases is more than 20 percent greater than the exhaust gas organic compound concentration level or reading measured by the monitoring device during the most recent compliance test that demonstrated that the facility was in compliance.

(j) Each owner or operator subject to the provisions of this rule and seeking to demonstrate compliance with Subparagraph (3)(c) of this rule shall keep up-to-date records of:

1. Any changes in production capacity, feedstock type, or catalyst type, or of any replacement, removal, or addition of recovery equipment or air oxidation reactors;

2. Any calculation of the TRE index value performed pursuant to Subparagraph (5)(b) of this rule.

3. The results of any test performed pursuant to the methods and procedures required by Subparagraph (4)(d) of this rule.

(7) The owner or operator of any facility containing sources subject to this rule shall:

(a) Comply with the initial compliance certification requirements of Paragraph .04(1) of this chapter; and

(b) Comply with the requirements of Paragraph .04(2) of this chapter for excess emissions related to the control devices required to comply with this rule.

Authority: *TCA 68-201-105 and 4-5-202*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF April 28, 1995.

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1st Revision			
2nd Revision			
3rd Revision			

1200-3-18-.42 WOOD FURNITURE FINISHING AND CLEANING OPERATION

(1) **Applicability of this rule is as follows:**

This rule applies to any wood furniture coating line within a facility located in Davidson, Rutherford, Sumner, Williamson or Wilson County whose maximum theoretical emissions from all wood furniture coating lines within the facility are 25 tons or more of volatile organic compounds (VOC's) per year.

(2) **For the purpose of this rule, the following definitions apply:**

(a) **"Adhesive"** means any chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means.

(b) **"Administrator"** means the Administrator of the United States Environmental Protection Agency or his or her authorized representative.

(c) **"Affected Source"** means a wood furniture manufacturing facility that meets the criteria listed in Subparagraph (1).

(d) **"Alternative method"** means any method of sampling and analyzing for an air pollutant that is not a reference or equivalent method but that has been demonstrated to the Technical Secretary and the Administrator's satisfaction to, in specific cases, produce results adequate for a determination of compliance.

(e) **"Basecoat"** means a coat of colored material, usually opaque, that is applied before graining inks, glazing coats, or other opaque finishing materials and is usually topcoated for protection.

(f) **"Baseline conditions"** means the conditions that exist prior to an affected source implementing controls, such as a control system.

(g) **"Cleaning operations"** means operations in which organic solvent is used to remove coating materials from equipment used in the coating operation.

(h) **"Coating Solids (or solids)"** mean the part of the coating that remains after the coating is dried or cured.

(i) **"Continuous coater"** means a finishing system that continuously applies finishing materials onto furniture parts moving along a conveyor system. Finishing materials that are not transferred to the part are recycled to the finishing material reservoir. Several types of application methods can be used with a continuous coater including spraying, curtain coating, roll coating, dip coating, and flow coating.

(j) **"Continuous compliance"** means that the affected source is meeting the emission limitations and other requirements of the rule at all times and is fulfilling all monitoring and recordkeeping provisions of the rule in order to demonstrate compliance.

(k) **"Conventional air spray"** means a spray coating method in which the coating is atomized by mixing it with compressed air at an air pressure greater than 10 pounds per square inch (gauge) at the point of atomization. Airless and air assisted airless spray technology are not conventional air spray because the coating is not atomized by mixing it with compressed air.

(l) **"Disposed offsite"** means sending used organic solvent or finishing material outside of the facility for disposal.

(m) **"Enamel"** means the coat of colored material, usually opaque, that is applied as a protective topcoat over a basecoat, primer, or a previously applied enamel coat. In some cases, another finishing material may be applied as a topcoat over enamel.

(n) **"Equivalent method"** means any method of sampling and analyzing for an air pollutant that has been demonstrated to the Technical Secretary and the Administrator's satisfaction to have a consistent and quantitatively known relationship to the reference method under specific conditions.

(o) **"Final touch-up and repair"** means the application of finishing materials after completion of the finishing operation to cover minor imperfections.

(p) **"Finishing application station"** means the part of a finishing operation where the finishing material is applied, e.g., a spray booth.

(q) **"Finishing material"** means a coating other than an adhesive. For the wood furniture manufacturing industry, such materials include, but are not limited to, basecoats, stains, washcoats, sealers, topcoats, and enamels.

(r) **"Finishing operation"** means those activities in which a finishing material is applied to a substrate and is subsequently air-dried, cured in an oven, or cured by radiation.

(s) **"Incinerator"** means, for the purposes of this industry, an enclosed combustion device that thermally oxidizes volatile organic compounds to CO and CO_2. This term does not include devices that burn municipal or hazardous waste material.

(t) **"Material safety data sheet (MSDS)"** means the documentation required by the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard for a solvent, cleaning material, finishing material, or other material that identifies select reportable hazardous ingredients of the material, safety and health considerations, and handling procedures.

(u) **"Normally closed container"** means a container that is closed unless an operator is actively engaged in activities such as emptying or filling the container.

(v) **"Operating parameter value"** means a minimum or maximum value established for a control device or process parameter that, if achieved by itself or in combination with one or more other operating parameter values, determines that an owner or operator has complied with an applicable emission limit.

(w) **"Organic solvent"** means a liquid containing volatile organic compounds that is used for dissolving or dispersing constituents in a coating, adjusting the viscosity of a coating, or cleaning equipment. When used in a coating the organic solvent evaporates during drying and does not become a part of the dried film.

(x) **"Permanent total enclosure"** means a permanently installed enclosure that completely surrounds a source of emissions such that all emissions are captured and contained for discharge through a control device.

(y) **"Recycled onsite"** means the reuse of an organic solvent in a process other than cleaning or washoff.

(z) **"Sealer"** means a finishing material used to seal the pores of a wood substrate before additional coats of finishing material are applied. Special purpose finishing materials that are used in some finishing systems to optimize aesthetics are not sealers.

(aa) **"Stain"** means any color coat having a solids content by weight of no more than 8.0 percent that is applied in single or multiple coats directly to the substrate. This includes, but is not limited to, nongrain raising stains, equalizer stains, sap stains, body stains, no-wipe stains, penetrating stains, and toners.

(bb) **"Storage containers"** means vessels or tanks, including mix equipment, used to hold finishing or cleaning materials.

(cc) **"Strippable booth coating"** means a coating that:

1. Is applied to a booth wall to provide a protective film to receive overspray during finishing operations;

2. That is subsequently peeled off and disposed of; and;

3. By achieving 1. and 2., reduces or eliminates the need to use organic solvents to clean booth walls.

(dd) **"Temporary total enclosure"** means an enclosure that meets the requirements of (7)(e)1.(i) through (iv) and is not permanent, but constructed only to measure the capture efficiency of the capture system of a given source. In addition to meeting the requirements of (7)(e)1.(i) through (iv), any exhaust point from the enclosure shall be at least 4 equivalent duct or hood diameters from each natural draft opening.

(ee) **"Topcoat"** means the last film-building finishing material applied in a finishing system.

(ff) **"Washcoat"** means a transparent special purpose coating having a solids content by weight of 12.0 percent or less. Washcoats are applied over initial stains to protect and control color and to stiffen the wood fibers in order to aid sanding.

(gg) **"Washoff"** operations means those operations in which organic solvent is used to remove coating from a substrate.

(hh) **"Waterborne"** coating means a coating that contains more than five percent water by weight in its volatile fraction.

(ii) **"Wood furniture"** facility means all of the pollutant-emitting activities that belong to the same wood furniture 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). The wood furniture industrial grouping includes the following SIC codes: 2434, 2511, 2512, 2517, 2519, 2521, 2531, 2541, and 2599.

(jj) **"Wood furniture manufacturing operations"** means the finishing and cleaning operations conducted at a wood furniture facility.

(kk) **"Working day"** means a day, or any part of a day, in which a facility is engaged in manufacturing.

(3) **The nomenclature used in this rule has the following meaning:**

(a) A_k = the area of each natural draft opening (k) in a total enclosure, in square meters.

(b) C = the VOC content of a coating (c), in kilograms of VOC per kilogram of coating solids (kg VOC/kg solids), as applied. Also given in pounds of VOC per pound of coating solids (lb VOC/lb solids), as applied.

(c) C_{aj} = the concentration of VOC in gas stream (j) exiting the emission control device, in parts per million by volume.

(d) C_{bi} = the concentration of VOC in gas stream (i) entering the emission control device, in parts per million by volume.

(e) C_{di} = the concentration of VOC in gas stream (i) entering the emission control device from the affected emission point(s), in parts per million by volume.

(f) C_{fk} = the concentration of VOC in each uncontrolled gas stream (k) emitted directly to the atmosphere from the affected emission point(s), in parts per million by volume.

(g) E = the emission limit to be achieved by the affected emission point(s), in kg VOC/kg solids.

(h) F = the control device efficiency, expressed as a fraction.

(i) FV = the average inward face velocity across all natural draft openings in a total enclosure, in meters per hour.

(j) N = the capture efficiency, expressed as a fraction.

(k) Q_{aj} = the volumetric flow rate of gas stream (j) exiting the emission control device, in dry standard cubic meters per hour.

(l) Q_{bi} = the volumetric flow rate of gas stream (i) entering the emission control device, in dry standard cubic meters per hour.

(m) Q_{di} = the volumetric flow rate of gas stream (i) entering the emission control device from the affected emission point(s), in dry standard cubic meters per hour.

(n) Q_{fk} = the volumetric flow rate of each uncontrolled gas stream (k) emitted directly to the atmosphere from the affected emission point(s), in dry standard cubic meters per hour.

(o) $Q_{in\,i}$ = the volumetric flow rate of gas stream (i) entering the total enclosure through a forced makeup air duct, in standard cubic meters per hour (wet basis).

(p) $Q_{out\,j}$ = the volumetric flow rate of gas stream (j) exiting the total enclosure through an exhaust duct or hood, in standard cubic meters per hour (wet basis).

(q) R = the overall efficiency of the control system, expressed as a percentage.

(4) **Emission Standards**

(a) Each owner or operator of an affected source subject to this rule shall limit VOC emissions from finishing operations by:

1. Using topcoats with a VOC content no greater than 0.8 kg VOC/kg solids (0.8 lb VOC/lb solids), as applied; or

2. Using a finishing system of sealers with a VOC content no greater than 1.9 kg VOC/kg solids (1.9 lb VOC/lb solids), as applied and topcoats with a VOC content no greater than 1.8 kg VOC/kg solids (1.8 lb VOC/lb solids), as applied; or

3. For affected sources using acid-cured alkyd amino vinyl sealers or acid-cured alkyd amino conversion varnish topcoats, using sealers and topcoats based on the following criteria:

(i) If the affected source is using acid-cured alkyd amino vinyl sealers and acid-cured alkyd amino conversion varnish topcoats, the sealer shall contain no more than 2.3 kg VOC/kg solids (2.3 lb VOC/lb solids), as applied, and the topcoat shall contain no more than 2.0 kg VOC/kg solids (2.0 lb VOC/lb solids), as applied; or

(ii) If the affected source is using a sealer other than an acid-cured alkyd amino vinyl sealer and acid-cured alkyd amino conversion varnish topcoats, the sealer shall contain no more than 1.9 kg VOC/kg solids (1.9 lb VOC/lb solids), as applied, and the topcoat shall contain no more than 2.0 kg VOC/kg solids (2.0 lb VOC/lb solids), as applied; or

(iii) If the affected source is using an acid-cured alkyd amino vinyl sealer and a topcoat other than an acid-cured alkyd amino conversion varnish topcoat, the sealer shall contain no more than 2.3 kg VOC/kg solids (2.3 lb VOC/lb solids),

as applied, and the topcoat shall contain no more than 1.8 kg VOC/kg solids (1.8 lb VOC/lb solids), as applied; or

4. Meeting the provisions established in Paragraph (10) for sources using an averaging approach and demonstrating that actual emissions from the affected source are less than or equal to allowable emissions using one of the following equations:

$$0.9\left(\sum_{i=1-N} 0.8(TC_i)\right) \geq \sum_{i=1-N} ER_{TCi}(TC_i) \qquad (1)$$

$$0.9\left(\sum_{i=1-N} 1.8(TC_i) + 1.9(SE_i) + 9.0(WC_i) + 1.2(BC_i) + 0.791(ST_i)\right) \geq \sum_{i=1-N} ER_{TCi}(TC_i) + ER_{SEi}(SE_i) + ER_{WCi}(WC_i) + ER_{BCi}(BC_i) + ER_{STi}(ST_i) \qquad (2)$$

where:

N	=	number of finishing materials participating in averaging;
TC_i	=	kilograms of solids of topcoat "i" used;
SE_i	=	kilograms of solids of sealer "i" used;
WC_i	=	kilograms of solids of washcoat "i" used;
BC_i	=	kilograms of solids of basecoat "i" used;
ST_i	=	liters of stain "i" used;
ER_{TCi}	=	VOC content of topcoat "i" in kg VOC/kg solids, as applied;
ER_{SEi}	=	VOC content of sealer "i" in kg VOC/kg solids, as applied;
ER_{WCi}	=	VOC content of washcoat "i" in kg VOC/kg solids, as applied;
ER_{BCi}	=	VOC content of basecoat "i" in kg VOC/kg solids, as applied; and
ER_{STi}	=	VOC content of stain "i" in kg VOC/liter (kg/l),as applied.

5. Using a control system that will achieve an equivalent reduction in emissions as the requirements of Part (a)1. or 2. of this Paragraph, as calculated using the compliance provisions in Part (6)(a)2. of this rule, as appropriate; or

6. Using a combination of the methods presented in Parts (4)(a)1., 2., 3., 4., and 5. of this rule.

(b) Each owner or operator of an affected source subject to this rule shall limit VOC emissions from cleaning operations when using a strippable booth coating. A strippable booth coating shall contain no more than 0.8 kg VOC/kg solids, as applied (0.8 lb VOC/lb solids).

(5) **Work Practice Standards**

(a) Work practice implementation plan.

1. Each owner or operator of an affected source subject to this rule shall prepare and maintain a written work practice implementation plan that defines environmentally desirable work practices for each wood furniture manufacturing operation and addresses each of the topics specified in Subparagraphs (b) through (j) of this paragraph. The plan shall be developed no more than 60 days after the compliance date. The written work practice implementation plan shall be available for inspection by the Technical Secretary, upon request. If the Technical Secretary determines that the work practice implementation plan does not adequately address each of the topics specified in Subparagraphs (b) through (j) of this Paragraph, the Technical Secretary shall require the affected source to modify the plan.

(b) Operator training course.

Each owner or operator of an affected source shall train all new and existing personnel, including contract personnel, who are involved in finishing or cleaning operations or implementation of the requirements of this rule. All personnel shall be given refresher training annually. The affected source shall maintain a copy of the training program with the work practice implementation plan. The training program shall include, at a minimum, the following:

1. A list of all personnel by name and job description that are required to be trained;

2. An outline of the subjects to be covered in the initial and refresher training for each person, or group of personnel;

3. Lesson plans for courses to be given at the initial and the annual refresher training that include, at a minimum, appropriate application techniques, appropriate cleaning procedures, appropriate equipment setup and adjustment to minimize finishing material usage and overspray, and appropriate management of cleanup wastes; and

4. A description of the methods to be used at the completion of initial or refresher training to demonstrate and document successful completion.

(c) Leak inspection and maintenance plan.

Each owner or operator of an affected source shall prepare and maintain with the work practice implementation plan a written leak inspection and maintenance plan that specifies:

1. A minimum visual inspection frequency of once per month for all equipment used to transfer or apply finishing materials or organic solvents;

2. An inspection schedule;

3. Methods for documenting the date and results of each inspection and any repairs that were made;

4. The time frame between identifying a leak and making the repair, which adheres to the following schedule:

   (i) A first attempt at repair (e.g., tightening of packing glands) shall be made no later than 5 working days after the leak is detected; and

   (ii) Final repairs shall be made within 15 working days, unless the leaking equipment is to be replaced by a new purchase, in which case repairs shall be completed within 3 months.

(d) Cleaning solvent accounting system.

Each owner or operator of an affected source shall develop an organic solvent accounting form to record:

1. The quantity and type of organic solvent used each month for washoff and cleaning;

2. The number of pieces washed off, and the reason for the washoff; and

3. The quantity of spent organic solvent generated from each activity, and the quantity that is recycled onsite or disposed offsite each month; and

(e) Each owner or operator of an affected source shall not use organic solvents containing more than 8.0 percent by weight of VOC for cleaning spray booth components other than conveyors, continuous coaters and their enclosures, and/or metal filters, unless the spray booth is being refurbished. If the spray booth is being refurbished, that is, the spray booth coating or other material used to cover the booth is being replaced, the affected source shall use no more than 1.0 gallon of organic solvent to clean the booth.

(f) Each owner or operator of an affected source shall use normally closed containers for storing finishing and cleaning materials.

(g) Each owner or operator of an affected source shall not use conventional air spray guns for applying finishing materials except under the following circumstances:

1. To apply finishing materials that have a VOC content no greater than 1.0 kg VOC/kg solids (1.0 lb VOC/lb solids), as applied;
2. For final touch-up and repair;

3. If spray is automated, that is, the spray gun is aimed and triggered automatically, not manually;

4. If emissions from the finishing application station are directed to a control device;

5. The conventional air gun is used to apply finishing materials and the cumulative total usage of that finishing material is less than 5 percent of the total gallons of finishing material used during that semiannual reporting period; or

6. The conventional air gun is used to apply coating on a part for which it is technically or economically infeasible to use any other spray application technology. The affected source shall demonstrate technical or economic infeasibility by submitting to the Technical Secretary a videotape, a technical report, or other documentation that supports the affected source's claim of technical or economic infeasibility. The following criteria shall be used, either independently or in combination, to support the affected source's claim of technical or economic infeasibility:

   (i) The production speed is too high or the part shape is too complex for one operator to coat the part and the application station is not large enough to accommodate an additional operator; or

   (ii) The excessively large vertical spray area of the part makes it difficult to avoid sagging or runs in the stain.

(h) Each owner or operator of an affected source shall pump or drain all organic solvent used for line cleaning into a normally closed container.

(i) Each owner or operator of an affected source shall collect all organic solvent used to clean spray guns into a normally closed container.

(j) Each owner or operator of an affected source shall control emissions from washoff operations by:

   (i) Using normally closed tanks for washoff; and

   (ii) Minimizing dripping by tilting or rotating the part to drain as much organic solvent as possible.

(6) **Compliance Procedures and Monitoring Requirements**

(a) The owner or operator of an affected source subject to the emission standards in Paragraph (4) of this rule shall demonstrate compliance with those provisions and with the initial compliance certification requirements of Paragraph .03(1) of this chapter, except that the date for submittal of the initial compliance certification for each existing source as of August 15, 1995, is November 15, 1996, and for each new source (after August 15, 1995) is within 180 days after the start-up of that source; and by using any of the following methods:

1. To support that each sealer, topcoat, and strippable booth coating meets the requirements of Parts (4)(a)1., 2., or 3. or Subparagraph (4)(b) of this rule, maintain documentation in

accordance with rule .81 of this chapter, or data from an alternative or equivalent method, to determine the VOC and solids content of the as supplied finishing material. If solvent or other VOC is added to the finishing material before application, the affected source shall maintain documentation showing the VOC content of the finishing material as applied, in kg VOC/kg solids.

2. To comply through the use of a control system as discussed in (4)(a)5.:

   (i) Determine the overall control efficiency needed to demonstrate compliance using Equation 3;

   $$R = ((C - E)/C)(100) \qquad (3)$$

   (ii) Document that the value of C in Equation 3 is obtained from the VOC and solids content of the as-applied finishing material;

   (iii) Calculate the overall efficiency of the control device, using the procedures in Subparagraph (7)(d) or (e), and demonstrate that the value of R calculated by Equation 6 is equal to or greater than the value of R calculated by Equation 3.

(b) Initial compliance.

1. Owners or operators of an affected source subject to the provisions of Parts (4)(a)1., 2., or 3. or Subparagraph (4)(b) that are complying through the procedures established in Part (6)(a)1. shall submit an initial compliance status report, as required by Subparagraph (9)(b), stating that compliant sealers and/or topcoats and strippable booth coatings are being used by the affected source.

2. Owners or operators of an affected source subject to the provisions of Parts (4)(a)1., 2., or 3. that are complying through the procedures established in Part (6)(a)1. and are applying sealers and/or topcoats using continuous coaters shall demonstrate initial compliance by:

   (i) Submitting an initial compliance status report stating that compliant sealers and/or topcoats, as determined by the VOC content of the finishing material in the reservoir and the VOC content as calculated from records, are being used; or

   (ii) Submitting an initial compliance status report stating that compliant sealers and/or topcoats, as determined by the VOC content of the finishing material in the reservoir, are being used and the viscosity of the finishing material in the reservoir is being monitored. The affected source shall also provide data that demonstrates the correlation between the viscosity of the finishing material and the VOC content of the finishing material in the reservoir.

3. Owners or operators of an affected source using a control system (capture device/control device) to comply with the requirements of this rule, as allowed by Parts (4)(a)5. and (6)(a)2. shall demonstrate initial compliance by:

(i) Submitting a monitoring plan that identifies the operating parameter to be monitored for the capture device and discusses why the parameter is appropriate for demonstrating ongoing compliance;

(ii) Conducting an initial performance test using the procedures and test methods listed in Subparagraph (7)(c) and (d) or (e);

(iii) Calculating the overall control efficiency (R) using Equation 6; and

(iv) Determining those operating conditions critical to determining compliance and establishing operating parameters that will ensure compliance with the standard.

(I) For compliance with a thermal incinerator, minimum combustion temperature shall be the operating parameter.

(II) For compliance with a catalytic incinerator equipped with a fixed catalyst bed, the minimum gas temperature both upstream and downstream of the catalyst bed shall be the operating parameter.

(III) For compliance with a catalytic incinerator equipped with a fluidized catalyst bed, the minimum gas temperature upstream of the catalyst bed and the pressure drop across the catalyst bed shall be the operating parameters.

(IV) For compliance with a carbon adsorber, the operating parameters shall be either the total regeneration mass stream flow for each regeneration cycle and the carbon bed temperature after each regeneration, or the concentration level of organic compounds exiting the adsorber, unless the owner or operator requests and receives approval from the Technical Secretary and the Administrator to establish other operating parameters.

(V) For compliance with a control device not listed in this section, the operating parameter shall be established using the procedures identified in Sub-part (6)(c)3.(vi).

(v) Owners or operators complying with Part (b)3. of this Paragraph shall calculate the site-specific operating parameter value as the arithmetic average of the maximum or minimum operating parameter values, as appropriate, that demonstrate compliance with the standards, during the test runs required by rule .84 of this chapter

4. Owners or operators of an affected source subject to the work practice standards in Paragraph (5) shall submit an initial compliance status report, as required by (9)(b), stating that the work practice implementation plan has been developed and procedures have been established for implementing the provisions of the plan.

(c) Continuous compliance demonstrations.

1. Owners or operators of an affected source subject to the provisions of paragraph (4) that are complying through the procedures established in Part (6)(a)(1) shall demonstrate continuous compliance by using compliant materials, maintaining records that demonstrate the finishing materials are compliant materials.

   (i) The compliance certification shall state that compliant sealers and/or topcoats and strippable booth coatings have been used each day, or should otherwise identify the days of noncompliance and the reasons for noncompliance. An affected source is in violation of the standard whenever a noncompliant material, as determined by records or by a sample of the finishing material, is used. Use of a noncompliant material is a separate violation for each day the noncompliant material is used.

   (ii) The compliance certification shall be signed by a responsible official of the company that owns or operates the affected source.

2. Owners or operators of an affected source subject to the provisions of Paragraph (4) that are complying through the procedures established in Part (6)(a)(1) and are applying sealers and/or topcoats using continuous coaters shall demonstrate continuous compliance by following the procedures in (i) or (ii) of this Part.

   (i) Using compliant materials, as determined by the VOC content of the finishing material in the reservoir and the VOC content as calculated from records.

      (I) The compliance certification shall state that compliant sealers and/or topcoats have been used each day, or should otherwise identify the days of noncompliance and the reasons for noncompliance. An affected source is in violation of the standard whenever a noncompliant material, as determined by records or by a sample of the finishing material, is used. Use of a noncompliant material is a separate violation for each day the noncompliant material is used.

      (II) The compliance certification shall be signed by a responsible official of the company that owns or operates the affected source.

   (ii) Using compliant materials, as determined by the VOC content of the finishing material in the reservoir, maintaining a viscosity of the finishing material in the reservoir that is no less than the viscosity of the initial finishing material by monitoring the viscosity with a viscosity meter or by testing the viscosity of the initial finishing material and retesting the material in the reservoir each time solvent is added, and maintaining records of solvent additions.

      (I) The compliance certification shall state that compliant sealers and/or topcoats, as determined by the VOC content of the finishing material in the reservoir, have been used each day. Additionally, the certification shall state that the viscosity of the finishing material in the reservoir has not been less than the viscosity of the initial finishing material, that is, the material that is initially mixed and placed in the reservoir.

(II) The compliance certification shall be signed by a responsible official of the company that owns or operates the affected source.

(III) An affected source is in violation of the standard when a sample of the as-applied finishing material exceeds the applicable limit established in 4(a)(1), (2), or (3), as determined according to and as provided for in rule .81 of this chapter, or an alternative or equivalent method, or the viscosity of the finishing material in the reservoir is less than the viscosity of the initial finishing material.

3. Owners or operators of an affected source subject to the provisions of Paragraph (4) that are complying through the use of a control system (capture/ control device) shall demonstrate continuous compliance by installing, calibrating, maintaining, and operating the appropriate monitoring equipment according to manufacturers specifications.

(i) Where a capture/control device is used, a device to monitor the site-specific operating parameter established in accordance with 6(b)3.(iv) is required.

(ii) Where an incinerator is used, a temperature monitoring device equipped with a continuous recorder is required.

(I) Where a thermal incinerator is used, a temperature monitoring device shall be installed in the firebox or in the ductwork immediately downstream of the firebox in a position before any substantial heat exchange occurs.

(II) Where a catalytic incinerator equipped with a fixed catalyst bed is used, temperature monitoring devices shall be installed in the gas stream immediately before and after the catalyst bed.

(III) Where a catalytic incinerator equipped with a fluidized catalyst bed is used, a temperature monitoring device shall be installed in the gas stream immediately before the bed. In addition, a pressure monitoring device shall be installed to determine the pressure drop across the catalyst bed. The pressure drop shall be measured monthly at a constant flow rate.

(iii) Where a carbon adsorber is used:

(I) An integrating regeneration stream flow monitoring device having an accuracy of $\pm$ 10 percent, capable of recording the total regeneration stream mass flow for each regeneration cycle; and a carbon bed temperature monitoring device having an accuracy of $\pm$1 percent of the temperature being monitored expressed in degrees Celsius or $\pm$0.5 C, whichever is greater, capable of recording the carbon bed temperature after each regeneration and within 15 minutes of completing any cooling cycle;

(II) An organic monitoring device, equipped with a continuous recorder, to indicate the concentration level of organic compounds exiting the carbon adsorber; or

(III) Any other monitoring device that has been approved by the Technical Secretary and the Administrator as allowed under (6)(c)3.(iv).

(iv) Owners or operators of an affected source shall not operate the capture or control device at a daily average value greater than or less than (as appropriate) the operating parameter value. The daily average value shall be calculated as the average of all values for a monitored parameter recorded during the operating day.

(v) Owners or operators of an affected source that are complying through the use of a catalytic incinerator equipped with a fixed catalyst bed shall maintain a constant pressure drop, measured monthly, across the catalyst bed.

(vi) An owner or operator using a control device not listed in this Paragraph shall submit to the Technical Secretary and the Administrator a description of the device, test data verifying the performance of the device, and appropriate operating parameter values that will be monitored to demonstrate continuous compliance with the standard. Compliance using this device is subject to both the Technical Secretary and the Administrator's approval.

4. Owners or operators of an affected source subject to the work practice standards in Paragraph (5) shall demonstrate continuous compliance by following the work practice implementation plan and submitting a compliance certification required by rule .03 of this chapter.

(i) The compliance certification shall state that the work practice implementation plan is being followed, or should otherwise identify the periods of noncompliance with the work practice standards. Each failure to implement an obligation under the plan during any particular day is a separate violation.

(ii) The compliance certification shall be signed by a responsible official of the company that owns or operates the affected source.

5. The owner or operator of an existing source or of a source having a state or local agency's construction permit before August 15, 1995, (instead of April 22,1993) and subject to this rule may petition for a source-specific compliance schedule according to and as provided for in rule .07 of this chapter. The petition for the source-specific compliance schedule must be received by Technical Secretary by February 15, 1996, (instead of October 22, 1993).

(7) **Performance Test Methods**

(a) The VOC content and the solids content by weight of the as supplied finishing materials shall be determined according to and as provided for in rule .81 of this chapter. The owner or operator of the affected source may request approval from the Technical Secretary and the Administrator to use an alternative or equivalent method for determining the VOC content of the finishing material. If it is demonstrated to the satisfaction of the Technical Secretary and the Administrator that a finishing material does not release VOC byproducts during the cure, for

example, all VOC is organic solvent, then batch formulation information shall be accepted. In the event of any inconsistency between the procedures described in rule .81 of this chapter and a facility's formulation data, that is, if the procedures described in rule .81 of this chapter result in higher values, these procedures (rule .81) shall govern.

(b) Owners or operators demonstrating compliance with the provisions of this rule via a control system shall determine the overall control efficiency of the control system (R) as the product of the capture and control device efficiencies, using the test methods cited in Subparagraph (7)(c) and the procedures in Subparagraph (7)(d) or (e).

(c) Owners or operators using a control system shall demonstrate initial compliance using the procedures in rule .84 of this chapter.

(d) Owners or operators using a control system to demonstrate compliance with this rule shall use the following procedures:

1. Construct the overall VOC control system so that volumetric flow rates and VOC concentrations can be determined by the test methods specified in rule .84 of this chapter;

2. Measure the capture efficiency from the affected emission point(s) by capturing, venting, and measuring all VOC emissions from the affected emission point(s). To measure the capture efficiency of a capture device located in an area with non-affected VOC emission point(s), the affected emission point(s) shall be isolated from all other VOC sources by one of the following methods:

   (i) Build a temporary total enclosure (see Subparagraph (2)(dd) of this rule) around the affected emission point(s);

   (ii) Shut down all non-affected VOC emission point(s) and continue to exhaust fugitive emissions from the affected emission point(s) through any building ventilation system and other room exhausts such as drying ovens. All exhaust air must be vented through stacks suitable for testing; or

   (iii) Use another methodology approved by the Technical Secretary and the Administrator provided that it is constructed and operated in accordance with the guidelines of the latest edition of the *Industrial Ventilation Manual*, of the American Conference of Governmental Industrial Hygienists.

3. Operate the control system with all affected emission point(s) connected and operating at maximum production rate;

4. Determine the efficiency (F) of the control device using Equation 4;

$$F = \frac{\sum_{i=1}^{n} Q_{bi} C_{bi} - \sum_{j=1}^{p} Q_{aj} C_{aj}}{\sum_{i=1}^{n} Q_{bi} C_{bi}}$$

(4)

5. Determine the efficiency (N) of the capture system using Equation 5;

$$N = \frac{\sum_{i=1}^{n} Q_{di} C_{di}}{\sum_{i=1}^{n} Q_{di} C_{di} + \sum_{k=1}^{p} Q_{fk} C_{fk}}$$

(5)

6. Compliance is demonstrated if the value of (R) in Equation 6 is greater than or equal to the value of R calculated by Equation 3 in accordance with Subpart (6)(a)2.(i).

R = (F x N)(100) (6)

(e) An alternative to the compliance method presented in Subparagraph (7)(d) is the installation of a permanent total enclosure. A permanent total enclosure presents prima facia evidence that all VOC emissions from the affected emission point(s) are directed to the control device. Each affected source that complies using a permanent total enclosure shall:

1. Demonstrate that the total enclosure meets the following requirements:

(i) The total area of all natural draft openings shall not exceed 5 percent of the total surface area of the total enclosure's walls, floor, and ceiling;

(ii) All sources of emissions within the enclosure shall be a minimum of four equivalent diameters away from each natural draft opening;

(iii) Average inward face velocity (FV) across all natural draft openings shall be a minimum of 3,600 meters per hour as determined by the following procedures:

(I) All forced makeup air ducts and all exhaust ducts are constructed so that the volumetric flow rate in each can be accurately determined by the test methods and procedures specified in rule .83 of this chapter. Volumetric flow rates shall be calculated without the adjustment normally made for moisture content; and

(II) Determine FV by the following equation:

(7)

$$FV = \frac{\sum_{j=1}^{n} Q_{out\,j} - \sum_{i=1}^{p} Q_{\epsilon\,i}}{\sum_{k=1}^{q} A_k}$$

(iv) All access doors and windows whose areas are not included as natural draft openings and are not included in the calculation of FV shall be closed during routine operation of the process.

2. Determine the control device efficiency using Equation 4, and the test methods and procedures specified in Subparagraph (7)(c).

3. If the permanent enclosure is demonstrated to be total, the value of N in Equation 5 is equal to 1.

4. For owners or operators using a control system to comply with the provisions of this rule, compliance is demonstrated if:

(i) The installation of a permanent total enclosure is demonstrated (N=1); and

(ii) The value of (R) calculated by Equation 6 in accordance with paragraph (7)(d) is greater than or equal to the value of R calculated by Equation 3 in accordance with Part (6)(a)2.

(8) **Recordkeeping Requirements**

(a) The owner or operator of an affected source subject to the emission limits in Paragraph (4) of this rule shall maintain records of the following:

1. A list of each finishing material and strippable booth coating subject to the emission limits in Paragraph (4);

2. The VOC and solids content, as applied, of each finishing material and strippable booth coating subject to the emission limits in Paragraph (4), and copies of data sheets documenting how the as applied values were determined.

(b) The owner or operator of an affected source following the compliance procedures of paragraph (6)(c)2. shall maintain the records required by paragraph (8)(a) and records of the following:

1. Solvent and finishing material additions to the continuous coater reservoir; and

2. Viscosity measurements.

(c) The owner or operator of an affected source following the compliance method of paragraph (6)(a)2. shall maintain the following records:

1. Copies of the calculations to support the equivalency of using a control system, as well as the data that are necessary to support the calculation of E in Equation 3 and the calculation of R in Equation 6;

2. Records of the daily average value of each continuously monitored parameter for each operating day. If all recorded values for a monitored parameter are within the range established during the initial performance test, the owner or operator may record that all values were within the range rather than calculating and recording an average for that day; and

3. Records of the pressure drop across the catalyst bed for facilities complying with the emission limitations using a catalytic incinerator with a fluidized catalyst bed.

(d) The owner or operator of an affected source subject to the work practice standards in Paragraph (5) of this rule shall maintain onsite the work practice implementation plan and all records associated with fulfilling the requirements of that plan, including, but not limited to:

1. Records demonstrating that the operator training program is in place;

2. Records maintained in accordance with the inspection and maintenance plan;

3. Records associated with the cleaning solvent accounting system;

4. Records associated with the limitation on the use of conventional air spray guns showing total finishing material usage and the percentage of finishing materials applied with conventional air spray guns; and;

5. Records showing the VOC content of solvent used for cleaning booth components, except for solvent used to clean conveyors, continuous coaters and their enclosures, and/or metal filters; and

6. Copies of logs and other documentation developed to demonstrate that the other provisions of the work practice implementation plan are followed.

(e) The owner or operator of an affected source shall maintain a copy of all other information submitted with the initial status report required by Subparagraph (9)(b).

(f) The owner or operator of an affected source shall maintain all records for a minimum of 5 years.

(g) Failure to maintain the records required by (a) through (f) of this Paragraph shall constitute a violation of the rule for each day records are not maintained.

(9) **Reporting Requirements**

(a) The owner or operator of an affected source using a control system to fulfill the requirements of this rule are subject to the following reporting requirements:

(b) The owner or operator of an affected source subject to this rule shall submit an initial compliance report by the compliance date. The report shall include the items required by Subparagraph (6)(b) of this rule.

(c) The owner or operator of an affected source subject to this rule and demonstrating compliance in accordance with Parts (6)(a)1. or 2. shall comply with rule .03 of this chapter, except that the date for compliance for an existing source as of August 15, 1995, is November 15, 1996, and for each new source (after August 15, 1995) is within 180 days after the start-up of that source.

(10) **Special Provisions for Sources Using an Averaging Approach**

The owner or operator of an affected source complying with the emission limitations established in Paragraph (4) through the procedures established in (4)(a)4. shall also meet the provisions established in (a) through (i) of this Paragraph.

(a) Program goals and rationale. The owner or operator of the affected source shall provide a summary of the reasons why the affected source would like to comply with the emission limitations through the procedures established in (4)(a)4. and a summary of how averaging can be used to meet the emission limitations. The affected source shall also document that the additional environmental benefit requirement is being met through the use of the equations in (4)(a)4. These equations ensure that the affected source is achieving an additional 10 percent reduction in emissions when compared to affected sources using a compliant coatings approach to meet the requirements of the rule.

(b) Program scope. The owner or operator of the affected source shall describe the types of finishing materials that will be included in the affected source's averaging program. Stains, basecoats, washcoats, sealers, and topcoats may all be used in the averaging program. Finishing materials that are applied using continuous coaters may only be used in an averaging program if the affected source can determine the amount of finishing material used each day.

(c) Program baseline. The baseline for each finishing material included in the averaging program shall be the lower of the actual or allowable emission rate as of the effective date of this rule (August 15, 1995). In no case shall the facility baseline emission rate be higher than what was presumed in the 1990 emissions inventory for the facility unless the State has accounted for the increase in emissions as growth.

(d) Quantification procedures. The owner or operator of the affected source shall describe how emissions and changes in emissions will be quantified, including methods for quantifying usage of each finishing material. Quantification procedures for VOC content are included in Paragraph (7). The quantification methods used shall be accurate enough to ensure that the affected source's actual emissions are less than the allowable emissions, as calculated using Equation 1 or 2 in Part (4)(a)4., on a daily basis.

(e) Monitoring, recordkeeping, and reporting. The owner or operator of an affected source shall provide a summary of the monitoring, recordkeeping, and reporting procedures that will be used to demonstrate daily compliance with the equations presented in (4)(a)4. The monitoring, recordkeeping, and reporting procedures shall be structured in such a way that inspectors and facility owners can determine an affected source's compliance status for any day.

(f) Implementation schedule. The owner or operator of an affected source shall submit an averaging proposal for Technical Secretary and the Administrator's approval for each existing source as of 180 days after August 15, 1995, and for each new source (after August 15, 1995) which is within 180 days after the start-up of that source. This must ensure that all sources are in compliance with the State's rule by the November 15, 1996. Submittal of the averaging proposal does not provide an exemption from this rule. The source must submit the averaging proposal by a date that allows sufficient time for the Administrator's approval.

Authority: *TCA 68-201-105 and 4-5-201 et. seq.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF September 16, 1996.

	Date Submitted to EPA	**Date Approved by EPA**	**Final Federal Register Notice**
Original Reg	APR 25, 1996	JUL 18, 1996	61 FR 37387
1st Revision			
2nd Revision			

1200-3-18-.43 OFFSET LITHOGRAPHIC PRINTING OPERATIONS.

(1) Applicability of this rule is as follows:

(a) This rule applies to offset lithographic printing operations in Davidson, Rutherford, Sumner, Williamson, and Wilson Counties.

(b) The emission limits of this rule do not apply to offset lithographic printing operations within any facility whose potential VOC emissions from all offset lithographic printing operations within the facility are less than 25 tons of volatile organic compounds (VOC's) per year.

(2) For the purpose of this rule, the following definitions apply:

(a) **"Alcohol substitute"** means nonalcohol additives that contain VOC's and are used in the fountain solution. Some additives are used to reduce the surface tension of water; others (especially in the newspaper industry) are added to prevent piling (ink build up).

(b) **"Batch"** means a supply of fountain solution that is prepared and used without alteration until completely used or removed from the printing process.

(c) **"Cleaning Solution"** means liquids to remove ink and debris from the operating surfaces of the printing press and its parts.

(d) **"Fountain Solution"** means a mixture of water, nonvolatile printing chemicals, and an additive (liquid) that reduces the surface tension of the water so that it spreads easily across the printing plate surface. The fountain solution wets the nonimage areas so that the ink is maintained within the image area. Isopropyl alcohol, a VOC, is the most common additive used to reduce the surface tension of the fountain solution.

(e) **"Heatset"** means any operation where heat is required to evaporate ink oil from the printing ink. Hot air dryers are used to deliver the heat.

(f) **"Lithography"** means a printing process where the image and nonimage area are chemically differentiated; the image area is oil receptive and the nonimage area is water receptive. This method differs from other printing methods, where the image is a raised or recessed surface.

(g) **"Non-heatset"** means any operation where the printing inks are set without the use of heat.

(h) **"Offset"** means a printing process that transfers the ink film from the lithographic plate to an intermediary surface (blanket), which, in turn, transfer the ink film to the substrate.

(i) **"Press"** means a printing production assembly composed of one or many units to produce a printed sheet or web.

(j) **"Sheet-fed"** means a printing operation where individual sheets of substrate are fed to the press.

(k) **"Unit"** means the smallest complete printing component of a printing press.

(l) **"Web"** means a continuous roll of paper used as the printing substrate.

(3) Standards as follow apply:

(a) No owner or operator of a heatset web offset lithographic printing press subject to this rule shall apply any fountain solution unless the VOC content is equal to or less than one of the following:

1. 1.6 percent VOC by volume of the fountain solution containing alcohol, as applied;

2. 3 percent VOC by volume of the fountain solution containing alcohol, as applied, if the fountain solution is refrigerated to less than 60°F.

3. 4.6 percent VOC by volume of the fountain solution, as applied, and use no alcohol in the fountain solution.

4. 6 percent VOC by volume of the fountain solution, as applied, if the fountain solution is refrigerated to less than 60°F and use no alcohol in the fountain solution.

(b) No owner or operator of a non-heatset web offset printing press subject to this rule shall apply any fountain solution that contains alcohol, nor shall any fountain solution be applied unless the VOC content is equal to or less than 5 percent by weight of the fountain solution, as applied.

(c) (Reserved.)

(d) No owner or operator of a sheet-fed offset lithographic printing press subject to this rule shall apply any fountain solution unless the VOC content is equal to or less than one of the following:

1. 5 percent VOC by volume of the fountain solution, as applied;

2. 8.5 percent VOC by volume of the fountain solution, as applied, if the fountain solution is refrigerated to less than 60°F.

(e) No owner or operator of an offset lithographic printing press subject to this rule shall apply any cleaning solutions unless:

1. The VOC composite partial vapor pressure of the cleaning solutions is less than 10mm Hg at 20°C, as applied; or

2. The VOC content of the cleaning solutions are less than or equal to 30 percent by weight, as applied.

(f) (Reserved.)

(g) Any person who owns or operates a heatset offset lithographic printing press subject to this rule shall reduce VOC emissions from the press dryer exhaust vent by 90 percent by weight of total organic (minus methane and ethane), or maintain a maximum control device outlet concentration of 50 ppmv, whichever is less stringent, when the press is in operation.

(h) As an alternative to compliance with the limits in Subparagraphs (3)(a), (d), (e), or (f) of this paragraph, an owner or operator of an offset lithographic printing press may comply with the requirements of Paragraph (4) of this rule.

(i) As an alternative to compliance with the limits in Subparagraphs (3)(g) of this paragraph, an owner or operator of an offset lithographic printing press may comply with the requirements of Paragraph (5) of this rule.

(4) Weighted average limitations as follow apply:

(a) No owner or operator of an offset lithographic printing press subject to this rule shall apply fountain solutions on the printing press unless the weighted average, by volume, VOC content of all fountain solutions, as applied, each day on the printing press is equal to or less than the limitation specified in either Part (3)(a) or (3)(d) [as determined by Subparagraph (4)(d)]; or, in the case of nonalcohol additives or alcohol substitute addition to fountain solution, (3)(c) [as determined by Subparagraph (4)(e)].

(b) (Reserved.)

(c) No owner or operator of an offset lithographic printing press subject to this rule shall apply cleaning solutions on the printing press unless VOC composite vapor pressure, as applied, each day on the printing press is equal to or less than the limitation specified in Subparagraph (3)(e)1 [as determined by Subparagraph (4)(f)] of this rule.

(d) The following equation shall be used to determine if the weighted average VOC content, by volume, of all fountain solutions, as applied, on the subject printing press exceeds the limitation specified in Part (3)(a) or (3)(d) of this rule:

$$VOC_{(i)(A)} = \frac{\sum_{i=1}^{n} L_i V_{VOCi}}{\sum_{i=1}^{n} L_i V_{VCi}} \times 100$$

where:

$VOC_{(i)(A)}$	=	The weighted average VOC content in units of percent VOC by volume of the volatile content of all fountain solutions used each day;
i	=	Subscript denoting a specific fountain solution, as applied;
n	=	The number of different fountain solutions, as applied, each day on a printing press;
L_i	=	The liquid volume of each fountain solution, as applied, used that day in units of liters (L) (gallons [gal]);

V_{VOCi}	=	The volume fraction of VOC in each fountain solution, as applied; and
V_{VCi}	=	The volume fraction of volatile matter in each fountain solution, as applied.

(e) The following equation shall be used to determine if the weighted average VOC content, by weight, of all fountain solutions, as applied, on the subject printing press exceeds the limitations specified in Part (4)(a) in case of fountain solution:

$$VOC_{(i)(B)} = \frac{\sum_{i=1}^{n} L_i D_i W_{VOCi}}{\sum_{i=1}^{n} L_i D_i W_{si}} \times 100$$

where:

$VOC_{(i)(B)}$	=	The weighted average VOC content in units of percent VOC by weight of the volatile content of all fountain solutions used each day;
i	=	Subscript denoting a specific fountain solution, as applied;
n	=	The number of different fountain solutions, as applied, each day on a printing press;
L_i	=	The liquid volume of each fountain solution, as applied, used on the day in units of L (gal);
D_i	=	The density of each fountain solution, as applied, in units of mass of fountain solution per unit volume of fountain solution;
W_{VOCi}	=	The weight fraction of VOC in each fountain solution, as applied; and
W_{si}	=	The weight fraction of solids in each fountain solution, as applied.

(f) The following equation shall be used to determine if the VOC composite partial pressure of cleaning solutions, as applied, exceeds the limitation specified in Part (3)(e) of this rule:

$$PP_c = \sum_{i=1}^{n} \frac{(W_i)(VP_i)/MW_i}{\frac{W_w}{MW_w} + \frac{W_e}{MW_e} + \sum_{i=1}^{n} \frac{W_i}{MW_i}}$$

PP_c	=	VOC composite partial pressure at 20°C, in mm Hg.
VP_i	=	Vapor pressure of the "i"th VOC compound at 20°, in mm Hg.
W_i	=	Weight of the "i"th cleaning solution, in grams;
W_w	=	Weight of the water, in grams;
W_e	=	Weight of exempt compound, in grams;
MW_i	=	Molecular weight of the "i"th cleaning solution, in grams;
MW_w	=	Molecular weight of the water, in grams;
MW_e	=	Molecular weight of exempt compound, in grams;
i	=	Subscript denoting a specific cleaning solution, as applied;
n	=	The number of different cleaning solutions, as applied, each day on a printing press.

(5) (Reserved.)

(6) Test methods and procedures as follow apply:

(a) The affected facility shall be run at typical operating conditions and flow rates during any emission testing.

(b) Emission tests shall include an initial test, within 90 days of initial startup, when the control device is installed and operating that demonstrates compliance with either the 90 percent (by weight) reduction or the 50 ppmv emission limit.

(c) In conducting the tests required to comply with Paragraph (3)(a), (b), (d), or (e)(2) of this rule, the owner or operator shall use the test methods specified in rule 1200-3-18-.81 of this chapter.

(d) In conducting the tests required to comply with Subparagraph (3)(g) of this rule, the owner or operator shall use the test methods specified in rule 1200-3-18-.84 of this chapter.

(e) To be in compliance with the fountain solution refrigeration requirements of this rule, the affected facility shall use a thermometer or other temperature detection device capable of reading to 0.5°F to ensure that a refrigerated fountain solution containing alcohol is below 60°F at all times.

(f) To be in compliance with the Subparagraph (3)(e)1 of this rule, if applicable, each owner or operator of an offset lithographic printing press subject to this rule shall determine VOC composite partial pressure as given in Subparagraph (4)(f).

(7) Monitoring requirement apply as follow:

(a) To be in compliance with the emission control requirements of this rule, the affected facility shall monitor any add-on dryer exhaust control device as follows:

1. The owner or operator of a subject heatset offset lithographic printing press shall install, calibrate, maintain, and operate a temperature monitoring device, according to the manufacturer's instructions, at the inlet and outlet of the control device. The monitoring temperature should be set during testing required to demonstrate compliance with the emission standard. Monitoring shall be required only when the unit is operational.

2. The temperature monitoring device shall be equipped with a continuous recorder and shall have an accuracy of 0.5°F.

3. The dryer pressure shall be maintained lower than the press room air pressure such that air flows into the dryer at all times when the press is operating. A 100 percent emissions capture efficiency for the dryer shall be established using an air flow direction indicator, such as a smoke stick or aluminum ribbons.

(b) To be in compliance with the Subparagraph (3)(a), (b), or (d) of this rule, each owner or operator of an offset lithographic printing facility subject to this rule shall monitor the fountain solution as follow:

1. The purpose of monitoring the VOC concentration in the fountain solution is to provide data that can be correlated to the amount of material used when the fountain solution contains alcohol and complies with the limits listed in Subparagraph (3)(a) or (d). The following methods may be used to determine the concentration of alcohol in the fountain solution frequently. Alternatively, calculation of the alcohol concentration using the protocol of Subparagraph (7)(c) or (d) may be used to demonstrate compliance with Subparagraph (3)(a) or (d). The monitoring requirements of Subparagraph (7)(b) shall only be required if noncompliance is suspected.

i. The owner or operator of any subject offset lithographic printing press shall monitor the alcohol concentration of the fountain solution with a refractometer, that is corrected for temperature, at least once per 8-hour shift or once per batch, whichever is longer. The refractometer shall have a visual, analog, or digital readout with an accuracy of 0.5 percent. A standard solution shall be used to calibrated the refractometer for the type of alcohol used in the fountain. Alternatively, the refractometer shall be standardized against measurements or calculations performed to determine compliance, according to the procedures described in Subparagraph 7(c) or (d).

ii. Alternatively, the owner or operator of any subject offset lithographic printing press shall monitor the alcohol concentration of the fountain solution with a hydrometer, that is corrected for temperature, at least once per 8-hour shift or once per batch, whichever is longer. The hydrometer shall have a visual, analog, or digital readout with an accuracy of 0.5 percent. A standard solution shall be used to calibrate the refractometer for the type of alcohol used in the fountain. Alternatively, the refractometer shall be standardized against measurements or calculations performed to determine compliance, according to the procedures described in Subparagraph 7(c) or (d).

iii. The VOC content of the fountain solution may be monitored with a conductivity meter if it is determined that a refractometer or hydrometer cannot be used for monitoring the type of VOC's in the fountain solution. The conductivity meter reading for the fountain solution shall be referenced to the conductivity of the incoming water. A standard solution shall be used to calibrate the conductivity meter for the type of alcohol used in the fountain. Alternatively, the conductivity shall be standardized against measurements or calculations performed to determine compliance, according to the procedures described in Subparagraph (7)(c) or (d).

2. If, through recordkeeping for a period of 6 months or more, the printing process is shown to consistently meet the requirements in (3)(a) or (d), the monitoring requirement may be waived or extended by the Technical Secretary to a longer period of time.

3. The owner or operator of any subject offset lithographic printing press using refrigeration equipment on the fountain to comply with the requirements of Subparagraph (3)(a)(2) or (d)(2), shall maintain and operate a temperature monitor of the fountain solution reservoir.

4. The temperature monitor shall be read and noted at least once per operating day to verify that the refrigeration system is operating properly.

(c) The VOC content of fountain solution shall be determined by using the test methods specified in rule 1200-3-18-.81.

(d) Alternatively, a sample of the fountain solution (as used) may be taken from the fountain tray or reservoir of fountain solution during use and measured with a hydrometer or refractometer that has been standardized with tests or calculations performed in accordance with Subparagraph (7)(b). The unit shall be considered in compliance with Section 6(c) if the refractometer or hydrometer measurement is less than or equal to the value determined according to section 7(c), plus ten percent.

(8) Compliance Certification, recordkeeping and reporting requirements as follow apply:

(a) By November 15, 1996, any owner or operator of an offset lithographic printing press that is exempt from the requirements of this rule because of the criteria in Subparagraph (1)(b) of this rule shall comply with the following:

1. The owner or operator of a facility in Davidson, Rutherford, Sumner, Wilson and Williamson County shall certify to the Technical Secretary that the facility is exempt under the provisions of Subparagraph (1)(b) of this rule. Such certification shall include:

(i) The name and location of the facility;

(ii) The address and telephone number of the person responsible for the facility;

(iii) A declaration that the facility is exempt from the emission limitations of this chapter because total VOC emissions from the facility are below 25 tons per year; and

(iv) Calculations demonstrating the combined VOC emissions from the facility are below 25 tons per year before the application of capture systems and control devices. The following equations shall be used to calculate the VOC emissions:

A. Ink VOC Content and Emissions:
Ink VOC Content:

$$C_I = M_I \times \frac{W_I}{100}$$

or

$$C_I = L_I \times G_I$$

Ink VOC Emissions :

$$E_I = C_I \times \left(1 - \frac{R}{100}\right)$$

Total Ink VOC emissions:

$$T_I = E_{I1} + E_{I2} + \ldots + E_{In}$$

where,

C_I = VOC content in Ink

M_I = Weight of ink used : (amount purchased - amount discarded or recycled).

W_I = % VOC (by weight) in ink from either supplier (MSDS) or method specified in Subparagraph (2)(a) of rule 1200-3-18-.81.

G_I = Volume (gallons) used; (volume purchased - volume discarded or recycled)

R = % VOC (by weight) retained by paper:
Non-heatset - 95% as per Nov. 1993 draft Control Techniques Guideline for Offset Lithography.
Heatset - 20% as per Nov. 1993 draft Control Techniques Guideline for Offset Lithography.
UV - Amount from method specified in subparagraph (2)(a) of rule 1200-3-18-.81 after curing (assume 100%).

T_I = Total VOC emissions from all inks, 1 + 2 +.....+ n.

B. Fountain Solution VOC Content and emissions:
Fountain solution VOC content:

$$C_F = \left(M_C \times \frac{W_C}{100}\right) + \left(M_A \times \frac{W_A}{100}\right) + \left(M_S \times \frac{W_S}{100}\right)$$

Fountain solution VOC emissions:

$$E_F = C_F - D_F$$

Total Fountain solution VOC emissions:

$$T_F = E_{F1} + E_{F2} + \ldots + E_{Fn}$$

where,

C_F = VOC content of fountain solution
D_F = VOC content of press-ready fountain solution discarded or recycled
M_C = Fountain solution concentrate weight.
W_C = % VOC (by weight) in fountain solution from supplier (MSDS) or method specified in Subparagraph (2)(a) in rule 1200-3-18-.81.
M_A = Isopropanol weight.
W_A = % Isopropanol (by weight) from supplier (MSDS).
M_S = Weight of alcohol substitute.
W_S = % VOC (by weight) in alcohol substitute from supplier (MSDS) or method specified in Subparagraph (2)(a) in rule 1200-3-18-.81.
T_F = Total emissions from all fountain solutions, 1 + 2 +.....+ n.

Weight of material:

M	=	V x D
M	=	Weight of material
V	=	Volume (gallons) of material used : (volume purchased - volume discarded or recycled).
D	=	Density in lbs/gal from MSDS or (specific gravity x 8.33 lbs/gal).

C. Cleaning solution VOC content and emissions:

Cleaning solution VOC content:

$$C_L = M_L \times \frac{W_L}{100}$$

or

$$C_L = L_L \times G_L$$

Cleaning solution VOC emissions from Automatic Blanket Wash System::

$$E_L = C_L$$

Cleaning solution VOC emissions from hand washing:

$$E_L = C_L \times \left(1 - \frac{R}{100}\right)$$

Total Cleaning solution VOC emissions:

$$T_L = E_{L1} + E_{L2} + \ldots\ldots\ldots + E_{tn}$$

Key:

C_L	=	VOC content in cleaning solution
M_L	=	Weight of cleaning solution (see above for calculation).
W_L	=	% VOC (by weight) in cleaners from supplier (MSDS) or method specified in Subparagraph (2)(a) in rule 1200-3-18-.81.
L_L	=	Pounds VOC per gallon from supplier (MSDS) or method specified in Subparagraph (2)(a) in rule 1200-3-18-.81.
G_L	=	Volume (gallons) used : (volume purchased - volume discarded or recycled).
E_L	=	Cleaning solution VOC emissions.
R	=	% VOC (by weight) retained by wipes: 50% per June 1994 ACT for Offset Lithography and cleaning solutions with VOC partial vapor pressure of 10 mm Hg or less at 20 degree C.

T_L = Total VOC emissions from all cleaners, 1+2+..... + n.

2. On or after November 15, 1996, the owner or operator shall collect and record all of the following information and maintain the information at the facility for a period of 3 years:

   (i) The name and identification of each ink, fountain solution and cleaning solvent;

   (ii) The weight of VOC per unit weight of ink and the weight of ink used;

   (iii) The weight of VOC per unit weight of cleaning solvent and fountain solution and the weight of cleaning solvent and fountain solution used;

   (iv) The average VOC emissions as calculated using the equations of Subparagraph (8)(a)1(iv) of this paragraph.

3. Any record showing that total emissions of VOC from all offset lithographic printing operations exceeded 25 tons in any calendar year, before the application of capture system and control devices, shall be reported by sending a copy to the Technical Secretary within 30 calendar days after the exceedances occurs.

(b) Any owner or operator of a printing press subject to this rule and complying by means of use of complying inks, fountain solution, and cleaning solution, shall comply with the following:

1. By November 15, 1996, or upon initial startup of a new printing press or change method of compliance, the owner or operator of a subject printing press shall certify to the Technical Secretary that the printing press is in compliance with Paragraph (3)(a) through (f) of this rule. Such certification shall include:

   (i) The name and location of the facility;

   (ii) The address and telephone number of the person responsible for the facility;

   (iii) Identification of subject sources;

   (iv) The name and identification of each ink, fountain solution, and cleaning solution as applied; and

   (v) The VOC content of all inks, fountain solutions and cleaning solutions, as applied, expressed in units of the applicable standard.

2. By November 15, 1996, or on and after the initial startup date, or after changing method of compliance, the owner or operator of a printing press subject to this rule and complying with Subparagraph (3)(a) through (f) shall collect and record all of the following information for each printing press and maintain the information for a period of 3 years:

   (i) The name and identification number of each ink, fountain solution, and cleaning solution as applied; and

(ii) The VOC content of all inks, fountain solutions and cleaning solutions, as applied, expressed in units of the applicable standard.

(c) Any owner or operator of a printing press subject to this rule and complying by means of weighted averaging shall comply with the following:

1. By November 15, 1996, or upon initial startup of a new printing press, or change method of compliance, the owner or operator of a subject printing press shall certify to the Technical Secretary that the printing press is in compliance with Paragraph (4) of this rule. Such certification shall include:

(i) The name and location of the facility;

(ii) The address and telephone number of the person responsible for the facility;

(iii) The name and identification of each printing press which will comply by means of Paragraph (4) of this rule;

(iv) The name and identification of each ink, fountain solution, or cleaning solution as applied;

(v) The VOC content of all inks, fountain solutions or cleaning solutions, as applied, expressed in units of the applicable standard;

(vi) The instrument or method by which the owner or operator will accurately measure or calculate the volume of each solution, as applied, each day on each printing press;

(vii) The methods by which the owner or operator will create and maintain records each day as required in Part 2 of this subparagraph; and

(viii) An example of the format in which the records required in Part 2 of this Subparagraph will be kept.

2. On or after November 15, 1996, or on and after the initial startup date, or change method of compliance, the owner or operator of a printing press subject to the limitations of this rule and complying by means of weighted averaging shall collect and record all of the following information each day for each printing press and maintain the information for a period of 3 years:

(i) The name and identification number of each fountain solution, or cleaning solution, as applied;

(ii) The VOC content and the volume of each solution, as applied, expressed in units necessary to determine compliance; and

(iii) The weighted average VOC content of all solutions, as applied.

3. On or after November 15, 1996, the owner or operator of a printing press subject to the limitations of this rule shall notify the Technical Secretary of any instance of noncompliance with Paragraph (4) by sending a copy of the calculation showing such noncompliance to the Technical Secretary within 30 calendar days following the occurrence.

(d) Any owner or operator of a printing press subject to this rule and complying by means of control devices shall comply with rule 1200-3-18-.03(5) of this chapter, except that the applicable date for certification, recordkeeing and reporting shall be November 15, 1996 rather than April 22, 1994.

(9) With respect to petitioning for a source-specific compliance schedule according to and as provided for in rule 1200-3-18-.07 of this chapter, the owner or operator shall insure the petition is received by the Technical Secretary no later than October 1, 1995 rather than October 22, 1993.

Authority: *TCA 68-201-105 and 4-5-201 et. seq..*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF September 16, 1996.

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1st Revision			
2nd Revision			

1200-3-18-.44 SURFACE COATING OF PLASTIC PARTS

(1) **APPLICABILITY.** Applicability of this rule is as follows:

(a) This rule applies to any plastic parts coating line within a facility located in Davidson, Rutherford, Sumner, Williamson or Wilson County whose potential VOC emissions from all plastic parts coating lines within the facility are greater than 25 tons of volatile organic compounds (VOC's) per year and coats plastic components for the following uses:

1. Automotive or other transportation equipment including interior and/or exterior parts for automobiles, trucks, tractors, lawn mowers, and other mobile equipments.

2. Business machines and office machines, including computers, copy machines, and typewriters;

3. Medical equipment housing;

4. Entertainment equipment housing;

5. Miscellaneous plastic parts, including toys, musical equipment housing, sporting goods, outdoor signs, and architectural structures such as doors, floors, and window frames, and;

(b) This rule does not apply to topcoating of automotive exterior panels, which must comply with rule .11 of this chapter.

(2) **DEFINITIONS.** For the purpose of this rule, the following definitions apply:

(a) **"Basecoat/clear coat"**: a two step topcoat system in which a highly pigmented, often metallic, basecoat is followed by a clearcoat. It results in a finish with high-gloss characteristics often used on automotive parts.

(b) **"Clearcoat"**: a transparent coating usually applied over a colored, opaque coat to improve gloss and protection to the basecoat below.

(c) **"Colorcoat"**: a coating that contains pigment and provides color to a part; may constitute the topcoat or serve as the base coat portion of the basecoat/clearcoat system.

(d) **"Electromagnetic interference/radio frequency interference (EMI/RFI) coatings"**: coating used in plastic business machine housing to attenuate electromagnetic and radio frequency interference signals that would otherwise pass through the plastic housings. The EMI/RFI shielding substance used in coating include copper or nickel. Zinc-arc spraying, electroless plating, conductive plastics, metal inserts, and vacuum-metallizing and sputtering are other means of EMI/RFI shielding.

(e) **"Flexible coating"**: a coating with ability to withstand dimensional changes; flexible substrates utilizing flexible coatings include TPO, vinyl, ABS alloy, RIM and TPU.

(f) **"Non-flexible coating"**: a coating which lacks the ability to withstand dimensional changes; non-flexible substrates utilizing non-flexible coatings include SMC, nylon, polyester, ABS, Xenoy polycarbonate, and acrylic.

(g) **"Plastic part"**: a piece made from a substance that has been formed from a resin through the application of pressure or heat or both.

(h) **"Waterborne coating"**: a coating which contains more than fifty percent by weight water in its volatile fraction.

(3) **EMISSION STANDARDS.** Each owner or operator of a source subject to this rule shall limit VOC emissions from finishing operations by one of the following methods:

(a) Each owner or operator of a source subject to this rule shall not cause or allow the application of any coating with VOC content in excess of these amounts:

1. Business machines, Medical equipment housing, Entertainment equipment housing and Miscellaneous plastic parts:

COATING	VOC (lb/gal)
Primer	1.20
Color	2.30
Color/texture	2.30
EMI/RFI	2.50

2. Automotive Coating:

COATING		VOC (lb/gal)
(i)	Auto Interiors:	
	High Bake Colorcoat	4.1
	High Bake Primer	3.8
	Low Bake Colorcoat	3.2
	Low Bake Primer	3.5
(ii)	Auto Exterior: Flexible/Nonflexible (unless otherwise noted)	
	High Bake Colorcoat	4.7
	High Bake Clearcoat	4.3
	High Bake Primer (Flexible)	5.0
	High Bake Primer (Nonflexible)	4.5
	Low Bake Colorcoat (Red & Black)	5.6
	Low Bake Colorcoat	5.1
	Low Bake Primer	5.5
	Low Bake Clear	4.5

3. Automotive Specialty:

COATINGS		VOC (lb/gal)
(i)	Group A-1 Coatings: Vacuum Metallizing Basecoats Texture Basecoats	5.5
(ii)	Group A-2 Coatings: Black and Reflective Argent Air Bag Cover Coatings Soft Coatings	5.9
(iii)	Group B Coatings Gloss Reducers Vacuum Metallizing Topcoats Texture Topcoats	6.4
(iv)	Group C Coatings Stencil Adhesion Primer/Promoter Ink Pad Electrostatic Prep Resist	6.8
(v)	Headlight Lens Coating	7.4

(b) Each owner or operator of a plastic parts coating line subject to this rule shall not:

1. Apply coatings on that line, during any one day, whose weighted average VOC content for any category exceeds the emission limits in Subparagraph (3)(a) of this rule.

2. Apply coatings on that line, during any one day, whose weighted average VOC content exceeds the emission limits in Subparagraph (3)(a) of this rule by performing the calculation in paragraph .82(1) of this chapter. The calculation shall be for the daily total of all coatings of the appropriate coating category in Subparagraph (3)(a) above used in all lines subject to this rule, if such calculation is consistent with all approved lowest achievable emission rate determination for the lines involved.

(c) Each owner or operator shall apply control device requirements as follows:

1. An owner or operator of a plastic coating line subject to this rule may comply with this rule by:

(i) Installing and operating a capture system and a control device on that line;

(ii) Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed is the lesser of the value calculated according to the procedure in this chapter or 95 percent; and

(iii) Demonstrating each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.

2. An owner or operator of a plastic coating line subject to this rule electing to comply with the requirements of part 1. of this subparagraph shall ensure that:

(i) A capture system and control device are operated at all times that the line is in operation, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test method in this chapter; and

(ii) The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

(4) **COMPLIANCE CERTIFICATION, RECORDKEEPING, AND REPORTING REQUIREMENTS.** The owner or operator of an affected source subject to this rule shall:

(a) Demonstrate compliance with this rule by using the applicable test methods specified in this chapter;

(b) Except that for waterborne coatings the methods for determining VOC content may be batch formulation data certified as accurate by the coating supplier.

With respect to compliance certification, initiation of recordkeeping and reporting, and completion of control system compliance testing of a source, the owner or operator of that source shall comply with the requirements of rule .03 of this chapter, except that the applicable date for initial compliance and certification and performance testing shall be November 15, 1996, rather than April 22, 1994.

With respect to petitioning for a source-specific compliance schedule according to and as provided for in rule .07 of this chapter, the owner or operator shall insure the petition is reviewed by the Technical Secretary no later than October 1, 1995, rather than October 22, 1993.

Authority: *TCA 68-201-105 and 4-5-201 et. seq.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF October 11, 1996.

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1st Revision			
2nd Revision			

1200-3-18-.45 STANDARDS OF PERFORMANCE FOR COMMERCIAL MOTOR VEHICLE AND MOBILE EQUIPMENT REFINISHING OPERATIONS

(1) APPLICABILITY:

This regulations is applicable to those commercial facilities making spot repairs, panel repairs, refinishing of parts and/or the refinishing of an entire motor vehicle or mobile equipment. This rule applies to any facility located in Davidson, Rutherford, Sumner, Williamson or Wilson County whose potential emissions from the facility is greater than 15 pounds of volatile organic compounds (VOC's) per day.

(2) DEFINITIONS:

Terms used in this regulations not defined herein shall have the meaning given them in Rule .01 of this chapter

(a) **"Adhesion promoter"** means a coating used to promote adhesion of a topcoat on surfaces such as trim moldings, door locks, door spills, or any coating which provides adhesion to plastic substrates, where sanding is not practical.

(b) **"Aerosol coating products"** means a mixture of resins, pigments, liquid solvents and gaseous propellants, packaged in a disposable can for small, hand-held spraying applications.

(c) **"Basecoat"** means a pigmented topcoat which is the first topcoat applied as part of a multiple stage topcoat system.

(d) **"Basecoat/clearcoat system"** means a topcoat system composed of a pigmented basecoat portion and a transparent and clear overcoat portion.

(e) **"Capture system"** means the equipment including, but not limited to, booths, ducts, dryers or ovens, fans, and hoods that contains, collects, and transports an air pollutant to a control device.

(f) **"Catalyst"** means a substance whose presence enhances the reaction between chemical compounds.

(g) **"Chemical Abstract Service (CAS) registration number"** means that unique identification number, usually three parts, given to each chemical product or component by the Chemical Abstract Service.

(h) **"Clearcoat"** means a topcoat which contains no pigments or only transparent pigments and which is the final topcoat applied as a part of a multiple stage topcoat system.

(i) **"Coating"** means coating or surface cleaning.

(j) **"Color match"** means the ability of a repair coating to blend into an existing coating so that color difference is not visible.

(k) **"Exempt VOC"** means any of the compounds expressly excluded from the definition of volatile organic compound in Rule .01 of this chapter.

(l) **"Elastomeric materials"** means topcoats and primers that are specifically formulated for application over flexible parts such as filler panels and elastomeric bumpers.

(m) **"Electrostatic application"** means the application of charged atomized paint droplets which are deposited by electrostatic attraction.

(n) **"Extreme performance coating"** means any coating used on the surface of a motor vehicle, mobile equipment or their parts or components which, during intended use, is exposed to either of the following conditions:

(1) Industrial grade detergents, cleaners or abrasive scouring agents, or

(2) Extreme environmental conditions during the vehicle's principle use, which is use in extremely hot or cold, extremely high or low humidity and etc.

(o) **"Graphic design application"** means the application of logos, letters lines, stripes numbers and/or other graphics to a painted surface, with or without the use of a template.

(p) **"Ground support vehicles"** means vehicles used in support of aircraft activities at airports.

(q) **"Group I vehicles and equipment"** means passenger cars, large-sized trucks cabs and chassis, light and medium duty trucks and vans, motor homes, recreational vehicles and motorcycles.

(r) **"Group II vehicles"** means buses and mobile equipment.

(s) **"High-volume, low pressure (HVLP) spray"** means equipment used to apply coatings by means of a spray gun which typically operates at less than 10 psig applied air pressure.

(t) **"Material Safety Data Sheet"** (MSDS) means the documentation required by the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard for a solvent, cleaning material, finishing material, or other material that identifies select reportable hazardous ingredients of the material, safety and health considerations, and handling procedures.

(u) **"Metallic/iridescent topcoat"** means any coating which contains more than 5 g/l (0.042 lb/gal) of metal or iridescent particles, as applied, where such particles are visible in the dried coating.

(v) **"Midcoat"** means a semi-transparent topcoat which is a middle topcoat applied as part of a multiple topcoat system.

(w) **"Mobile equipment"** means any equipment which may be drawn or is capable of being driven on a roadway, including but not limited to: trucks bodies, truck trailers, cargo vaults, utility bodies, camper shells, construction equipment (mobile cranes, bulldozers, concrete mixers), farming equipment (tractor, plows, pesticide sprayers), and miscellaneous equipment (street cleaners, golf carts, ground support vehicles, tow motors, fork lifts).

(x) **"Multiple stage topcoat system"** means any basecoat/clearcoat topcoat system or any three-stage or more topcoat system manufactured as a system, and used as specified by the manufacturer.

(y) **"Panel"** means a complete section (e.g., hood, door), which typically is approximately 9 square feet.

(z) **"Precoat"** mans any coating which is applied to bare metal primarily to deactivate the metal surface for corrosion resistance to a subsequent water-base primer.

(aa) **"Pretreatment wash primer"** means any coating which contains a minimum of 0.5% acid by weight, as necessary to provide surface etching and is applied directly to bare metal surfaces to provide etching and is applied directly to bare, metal surfaces to provide corrosion resistance and adhesion.

(bb) **"Primer"** means any coating applied prior to the application of a topcoat for the purpose of corrosion resistance and adhesion of the topcoat.

(cc) **"Primer sealer"** means any coating applied prior to the application of a topcoat for the purpose of corrosion resistance, adhesion of the topcoat, color uniformity and to promote the ability of an undercoat to resist penetration by the topcoat.

(dd) **"Primer surface"** means any coating applied prior to the application of a topcoat for the purpose of corrosion resistance, adhesion of the topcoat, and which promotes a uniform surface by filling in surface imperfections.

(ee) **"Reducer"** means the solvent used to thin enamel.

(ff) **"Refinishing"** means any coating of vehicles, their parts and components, or mobile equipment, including partial body collision repairs, for the purpose of protection or beautification and which is subsequent to the original coating applied at a manufacturing plant coating line.

(gg) **"Specialty coating"** means any coating which is necessary due to unusual job performance requirements. The coating includes, but is not limited to: weld-through primer, adhesion promoter, uniform finish blender, elastomeric material, gloss flattener, bright metal trim repair, antiglare coating, and safety related coating.

(hh) **"Spot/panel repair"** means the non assembly line process of repairing and restoring a portion of a motor vehicle or mobile equipment to predamaged condition.

(ii) **"Three-stages coating system"** means a topcoat system composed of a pigmented basecoat portion, a semi-transparent midcoat portion, and a transparent clearcoat portion.

(jj) **"Topcoat"** means any coating applied over a primer or an original finish for the purpose of protection or appearance. For the purpose of this regulation, basecoat/clearcoat and multiple-stage coating systems shall be considered topcoats.

(kk) **"Touch-up coating"** means any coating applied by brush and, in some limited cases, by aerosol spray to repair minor surface damage or imperfections.

(ll) **"Transfer efficiency"** means the ratio of the amount of coating solids adhering to the object being coated to the total amount of coating solids used in the application process, expressed as a percentage.

(mm) **"Trucks"** means a motor vehicle designed, used, or maintained primarily for the transportation of property.

(nn) **"Large-sized truck"** means a truck having a manufacturer's gross vehicle weight rating of more than 8500 pounds.

(oo) **"Small-sized truck"** means any motor vehicle having a manufacturer's gross vehicle weight rating at 8500 pounds or less and which is designed primarily for the purposes of transportation of property or is a derivative of such vehicle, or is available with special features enabling on-street or off-highway operation and use.

(pp) **"Van"** means a closed truck for carrying property or persons.

(qq) **"Waterborne primer"** means any primer using water as the primary solids suspension agent, usually containing 5% or more water in its volatile fraction.

(3) **EXEMPTIONS:**

The following activities are exempted from this regulation:

(a) Application of aerosol coating products;

(b) Graphic designs such as the application of letter, lines, logos, numbers, striping, etc. covering less than 10% of the total painted surface of the vehicle;

(c) Original Equipment Manufacturer (OEM) coatings applied at manufacturing or assembly plants.

(d) Touch-up operations involving the application of very small quantities of coatings, usually by brush;

(e) Application of waterborne coatings of less than 2 lbs VOC/gal of coating as applied; and

(f) Small facilities that perform minimal coating operations and meet all of the following limitations. These limitations must be met on a weekly basis, where a time period is shown:

1. Not more than one complete motor vehicle or mobile equipment per week shall be refinished;

2. Not more than five panel or spot repair jobs per week shall be performed; and

3. No visible emissions shall leave the applicator's property.

(g) An exemption under this Paragraph does not constitute an exemption from any other regulations.

(4) **STANDARDS AS FOLLOW APPLY:**

Effective on the dates specified, a person applying coatings to Group I or Group II vehicles and equipment, including parts and components, repairing of partial collision damage or refinishing entire motor vehicles or mobile equipment, shall not apply materials that have a VOC content which exceeds the limits in Subparagraphs (4)(a) and(4)(b). Compliance with the VOC limits shall be based on VOC content, including any VOC material added to the original coating supplied by the manufacturer, less water and exempt compounds, as applied to the coated surface.

(a) **Group I Vehicles:** Group I vehicles, their parts and components, whether existing or replacement parts, shall not be refinished with a coating which has a VOC content in excess of the limits in Part (4)(a)1.;

1. After November 15, 1996, no coating shall be used with a VOC content in excess of the following limits, expressed as pounds of VOC per gallon of coating, as applied, less water and exempt compounds unless the conditions of Subparagraph (4)(c) are met:

Coating	VOC lb/gal
Surface cleaner	1.7
Pretreatment wash primer	6.5
Precoat	5.5
Prime sealer	4.6
Primer/primer surface	4.8
Topcoat	5.2
Metallic/iridescent topcoat	5.2
Extreme performance	6.2

(b) **Group II Vehicles:** Group II vehicles, or their existing parts and components, or replacement parts or components, shall not be refinished with a coating which has a VOC content in excess of the limits in part (4)(b)1.;

1. After November 15, 1996, no coatings shall be used with a VOC content in excess of the following limits, expressed as pounds of VOC per gallon of coating, as applied, less water and exempt compounds unless the conditions of paragraph (4)(c) are met:

Coating	VOC lb/gal
Surface cleaner	1.7
Pretreatment wash primer	6.5
Precoat	5.5
Primer/primer surface	2.8
Primer sealer	3.5
Topcoat	3.5
Metallic/iridescent topcoat	3.5
Extreme performance	6.2

(c) The limitations of VOC content in Subparagraphs (4)(a) and (4)(b) shall not be exceeded unless:

1. Emissions are controlled to an equivalent level by air pollutant control equipment.

2. The efficiency of the control equipment is a minimum of 85%, and

3. The control equipment has been approved by the Technical secretary.
4. A determination is made of the overall emission reduction efficiency needed to demonstrate compliance.

5. A determination is made each day that the overall emission reduction efficiency achieved is greater than or equal to the overall emission reduction efficiency required.

6. A capture system and control device are operated at all times that the line is in operation, and the owner or operator demonstrates compliance with this rule through the applicable coating analysis and capture system and control device efficiency test methods specified in this chapter, and;

7. The control device is equipped with the applicable monitoring equipment specified in this chapter, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

(d) In lieu of satisfying the standards above for specialty coating, specialty coatings shall not be applied unless;

1. The VOC content is equal to or less than 7 pounds of VOC per gallon of coating, as applied, less water and exempt compounds and;

2. The application of all such coatings, except safety related coatings, shall not exceed 10% of all coatings applied, on a weekly basis.

(e) VOC content shall be given and/or calculated in lbs/gal as follows.

Calculation 1:

The VOC content of a basecoat/topcoat system shall be calculated according to the following equation:

$$VOCms = \frac{VOCbc + 2VOCcc}{3}$$

where:

VOC_{ms} = the composite VOC content, less water and less exempt compounds, to be used for compliance determination under the multistage topcoat system coating category.

VOC_{bc} = the VOC content, less water and less exempt compounds as applied, of any given basecoat.

VOC_{cc} = the VOC content, less water and less exempt compounds as applied, of any given clearcoat.

Calculation 2:

The VOC content per gallon of any coating, less water and less exempt compounds, shall be calculated by the following equation:

$$Content = \frac{Ws - Ww - Wes}{Vm - Vw - Ves}$$

where:

Pounds of VOC per gallon of coating, less water and less exempt compounds is the weight of VOC per combined volume of VOC and coating solids.

W_s = weight of volatile compounds in pounds.

W_w = weight of water in pounds.

W_{es} = weight of exempt compounds in pounds.

V_m = volume of material in gallons.

V_w = volume of water in gallons.

V_{es} = volume of exempt compounds in gallons.

Calculation 3:

The VOC content of any coating shall be calculated by the following equation:

$$Content = \frac{Ws - Ww - Wes}{Vm}$$

where:

W_s = weight of volatile compounds in pounds.

W_w = weight of water in pounds.

W_{es} = weight of exempt compounds in pounds.

V_m = volume of material in gallons.

Calculation 4:

The VOC content of a three-stage topcoat system shall be calculated according to the equation:

$$VOCms = \frac{VOCbc + VOCmc + 2VOCcc}{4}$$

where:

A three-stage topcoat system is a topcoat system composed of a basecoat portion, a midcoat portion, and a transparent clearcoat portion.

VOC_{ms} = the composite VOC content, less water and less exempt compounds, to be used for compliance determination under the multistage topcoat system coating category.

VOC_{bc} = the VOC content, less water and less exempt compounds as applied, of any give basecoat.

VOC_{mc} = the VOC content, less water and less exempt compounds as applied, of any give midcoat.

VOC_{cc} = the VOC content, less water and less exempt compounds as applied, of any given clearcoat.

(5) **EQUIPMENT STANDARDS:**

All spray coating operators that coat more than one complete motor vehicle or mobile equipment per week or perform more than five panel or spot repairs per week shall perform those operations using the following equipment:

(a) Spraying operations shall be performed in a totally enclosed spray booth or a totally enclosed spray area for which is provides, as a minimum proper maintenance of the equipment in accordance with the manufacturer's recommendations.

(b) Effective November 15, 1996, spraying equipment shall have a minimum transfer efficiency of 65% at 8 inches from the work surface. Compliance may be achieved by any of the following:

1. Electrostatic application equipment operated and maintained in accordance with the manufacturer's recommendations;

2. High Volume Low Pressure (HVLP) spray equipment operated and maintained in accordance with the manufacturer's recommendations; or

3. Any other coating application equipment which has been satisfactorily demonstrated to be capable of achieving a minimum of 65% transfer efficiency and approved by the Technical Secretary.

(c) VOC pollution control equipment, if required for compliance with Section (4), shall be appropriately installed, maintained and operated in accordance with the manufacturer's recommendations. The minimum efficiency of the control system shall be 85%.

(d) Spray and other equipment cleanup shall be accomplished in a totally enclosed apparatus specifically designed to minimize evaporation of VOC materials to the atmosphere. Non-enclosed gun cleaners, etc. may be used provided that the vapor pressure of the cleaning solvent is less than 100 mmHg at 68 degrees F and the used solvent is contained for subsequent disposal by means which minimize emission of the used solvent.

(6) **PROHIBITIONS:**

(a) No person shall specify or require for use the application of any coating if such use results in a violation of this regulations. This prohibition is applicable to all contracts wherein a coating is to be applied at any location within Davidson, Rutherford, Sumner, Wilson and Williamson Counties. This prohibition shall not apply if the coating is to be utilized at surface coating facilities where control equipment has been installed to meet the requirements of paragraph (5)(c).

(b) Cleaning of equipment by spraying solvent through a spray gun without measures being employed to collect the sprayed solvent and minimize emissions of the solvent is prohibited.

(7) **OPERATING REQUIREMENTS:**

The owner/operator shall implement good housekeeping practices which include, but are not limited to, the following:

(a) All equipment shall be maintained in accordance with the manufacturer's recommendations;

(b) All fresh or used solvents shall be stored in closed containers;

(c) All waste coatings, and surface cleaners, waste solvents, and uncured spray booth filters, etc. shall be stored in closed containers prior to disposal by means which minimize emissions of volatile organic compounds; and

(d) Storage of cloth or paper products used for solvents surface preparation and cleanup shall be stored in closed containers prior to disposal by means which minimize emission of volatile organic compounds.

(e) A person using pressure pots shall use either;

1. Bag-type liners to aid cleanup and minimize cleaning solvent use;

2. Insert containers to aid cleanup and minimize cleaning solvent use; or

3. Other reasonable practices to reduce the amount of cleaning solvent used.

(f) Equipment cleanup shall be performed with appropriate methods to minimize the use of solvents. Reasonable effort must be made to reclaim the bulk of the used solvents. Absolutely no cleaning shall be effected by the direct spraying of solvent such that it is emitted to the atmosphere.

(g) Personnel performing spraying operations must be trained to properly position a spray gun to minimize overspray.

(h) Reasonable effort shall be employed to schedule operations of a similar nature to significantly reduce overall VOC material consumption.

(8) **REPORTING AND RECORDKEEPING REQUIREMENTS:**

Any person subject to this regulation shall comply with the following requirements as a minimum:

(a) A current list of all coatings, solvents, reducers, additives, and any other VOC containing material in use at the facility shall be maintained and readily available upon request. This list shall include, but is not limited to, the following information:

1. Name and appropriate identification of coating, catalyst, hardener, reducer, etc. used;

2. Mix ratio of components used; and

3. VOC content of coatings, as applied, less water and exempt solvents, in pounds per gallon.

(b) Daily records shall be maintained which shall include:

1. Identification of applied coatings pursuant to Part (8)(a)1. and

2. Quantity of each coating applied.

(c) Monthly records shall be maintained which shall include:

1. Type of solvent used for cleanup and/or surface preparation, and

2. Quantity of each solvent, cleaner, etc. used.

(d) MSDS or other data sheets provided by the material manufacturer and/or its agent shall be maintained and readily retrievable for each item listed pursuant to Part (8)(a)1. and shall include as a minimum the designation of VOC content as supplied, expressed in lbs/gal, less water and exempt compounds;

(e) Records specified in this section shall be retained and readily available for inspection by EPA; Tennessee Department of Environment and Conservation, Division of Air Pollution Control; Nashville and Davidson County Metropolitan Health Department, Air Pollution Division; and each record shall be maintained for 5 years.

Authority: ***TCA 68-201-105 and 4-5-201 et. seq.***

THIS IS THE FEDERALLY APPROVED REGULATION AS OF October 11, 1996.

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1200-3-18-.48 VOLATILE ORGANIC LIQUID STORAGE TANKS

(1) Applicability of this rule is as follows:

(a) This rule applies to Volatile Organic Liquid Storage Tanks at:

1. Any facility in Davidson, Rutherford, Sumner, Williamson, or Wilson County having potential Volatile Organic Compounds (VOC) emission of 100 tons per year or greater from Volatile Organic Liquid Storage Tanks. In calculation to determine whether this applicability threshold is exceeded, potential VOC emissions are not included from any storage vessel subject to standards in rules 1200-3-18-.22 through 1200-18-.24, 1200-3-18-.28 and 1200-3-18-.29, or;

2. This rule applies to any facility subject to rules 1200-3-18-.78 or .79.

(b) Any storage vessel with a capacity of 37.9 m^3 (10,000 gal.) or less shall comply with the standard as prescribed in Subparagraph (3)(d) of this rule.

(c) Any storage vessel subject to rules 1200-3-18-.22 through 1200-18-.24, 1200-3-18-.28 and 1200-3-18-.29 shall not be subject to the standards of this rule.

(2) For the purpose of this rule, the following definitions, with precedence as listed below, apply:

(a) Any applicable definition in Subparagraph 1200-3-18-.01 of this chapter.

(b) Any applicable definition in rules 1200-3-18-.28 and 1200-3-18-.29, 1200-3-18-.22 through 1200-18-.24 of this chapter.

(c) Any definition in Rules .10, .11 and .61 of rule 1200-3-16.

(3) Standards for Volatile Organic Compounds:

(a) Each fixed roof tank with a design capacity greater than 37.9 m^3 (10,000 gal.) shall be equipped with an internal floating roof meeting the following specifications or a vapor control system meeting the specification of Part 9 of this Subparagraph:

1. The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof, except during initial fill and during those intervals when the storage vessel is emptied or subsequently emptied and refilled.

2. Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:

(i) A foam-or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam-or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.

(ii) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.

(iii) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

3. Each opening in a noncontact interval floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

4. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.

5. Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

6. Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

7. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.

8. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

9. A closed vent system and control device meeting the following specifications:

(i) The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emission as indicated by an instrument reading of less than 500 ppm above background, and;

(ii) The control device shall be designed and operated to reduce inlet VOC emissions by 95 percent or greater.

(b) Each external floating roof tank shall meet the following specifications:

1. Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

2. The primary seal shall completely cover the annular space between the edge of the floating roof and tank wall and shall be either a liquid mounted seal or a shoe seal.

3. The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion.

4. The tank shall be equipped with the closure device after the effective date of this rule.

5. Except for automatic bleeder vents and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal, or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except with the device is in actual use. Automatic bleeder vents are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. Rim vents are to be set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

6. The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except when the tank is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.

(c) The owner or operator of each storage vessel subject to the Parts (1)(a)1., and 2. of this rule shall equip each storage vessel with a closed vent system and control device as specified in part 9. of Subparagraph (3)(a) of this rule.

(d) The owner or operator of each storage vessel subject to the Parts (1)(a)1., and 2. and Subparagraph (b) of this rule shall equip each storage vessel port with a cap which is consistent with the vessels manufacturer's requirements, unless the port is used for pressure relief valve.

(4) The owner or operator of an affected source is subject to the following reporting and recordkeeping requirements:

(a) The owner or operator of an affected source subject to the emission standards in Paragraph (3) of this rule shall demonstrate compliance with those provisions and with the initial compliance certification requirements of rule 1200-3-18-.04, except that the date for submittal of the initial

compliance certification for each existing source as of August 2, 1996, is November 15, 1996, and for each new sources (after August 2, 1996) is within 180 days after the start-up of that source.

(b) If a storage vessel has a potential VOC emissions of less than 100 tons per year , the owner or operator of such vessel shall maintain records which document that the potential VOC emissions from those vessels are less than the applicability threshold as specified in Subparagraph (1)(a) of this rule. An owner or operator of such vessel shall submit, upon request by the Technical Secretary, records that document that the vessel is exempt from these requirements. These records shall be submitted to the Technical Secretary within 30 calendar days from the date of request.

(c) The owner or operator of the subject VOC vessel shall perform all testing and maintain the results of all tests and calculations required under Paragraphs (1) and (3) of this rule to demonstrate that the subject source is in compliance and shall maintain these records for a minimum of 5 years, and shall make these records available to the Technical Secretary upon request.

(5) With respect to petitioning for a source-specific compliance schedule according to and as provided for in Rule .07 of this chapter, insure the petition is received by the Technical Secretary no later than (six months after rule-effective date), or October 1, 1996, whichever is earlier, rather than October 22, 1993. Under this paragraph, the applicable date on which a source must be an existing source or before which a state or local agency's construction permit must have been issued for the source to be eligible to petition for a source-specific compliance schedule is August 2, 1996, rather than April 22, 1993, as specified in the first sentence of Paragraph .07(1) of this chapter.

Authority: ***TCA 68-201-105 and 4-5-201 et seq.***

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1200-3-18-.78 OTHER FACILITIES THAT EMIT VOLATILE ORGANIC COMPOUNDS (VOC'S) OF FIFTY TONS PER YEAR

(1) Applicability of this rule is as follows:

(a) This rule applies to the sources at any facility in Davidson, Rutherford, Sumner, Williamson, or Wilson County for which the aggregate potential VOC emissions from the sources at the facility total 45.4 megagrams (Mg) (50 tons) or more per calendar year on or after November 15, 1996. In calculation to determine whether this applicability threshold is exceeded, potential VOC emissions are not included from the sources as follow:

1. Any sources subject to standards in Rules .11 through .77 of this chapter;

2. Any sources subject to source-specific standards approved in lieu of standards in Rules .11 through .77 of this chapter; and

3. Any sources which are within the source categories listed in Subparagraph (c) of this paragraph.

(b) After publication of the notice specified in Paragraph (7) of this rule, the owner or operator of a facility which has potential VOC emissions which are below the applicability threshold of Subparagraph (a) of this paragraph, but which otherwise would be subject to this rule, shall comply with the certification, recordkeeping, and reporting requirements of Paragraph (4) of this rule.

(c) This rule will not apply to:

Barge loading facilities;
Coke ovens (including by-product recovery plants);
Fuel combustion sources;
Iron and steel production;
Jet engine test cells;
Vegetable oil processing facilities; and
Wastewater treatment facilities;

(d) (Reserved)

(e) The standards and requirements of this rule shall not apply to sources as follow:

1. Sources subject to standards in Rules .11 through .77 and in Rule .79 of this chapter;

2. Sources subject to source-specific standards approved in lieu of standards in Rules .11 through .77 and in Rule .79 of this chapter; and

3. Sources which are within the source categories listed in Subparagraph (c) of this paragraph."

(2) After publication of the notice specified in Paragraph (7) of this rule, the owner or operator of any source subject to this rule shall:

(a) Install and operate

1. An emission capture system which:

(i) Achieves 90 percent capture, or

(ii) Is constructed and operated in accordance with the guidelines of the Industrial Ventilation Manual, 20th Edition, of the American Conference of Governmental Industrial Hygienists, and

2. An emission control device which achieves 90 percent destruction or removal.

(b) For any coating or printing line, limit the weighted average VOC content to 0.40 kilograms VOC per liter (kg VOC/L) 3.5 pounds VOC per gallon (lbvoc/gal) or less of coating or ink, as applied, (excluding water and/or exempt compounds) as calculated in this chapter; or

(c) Comply with a control plan that employs reasonably available control technology and has been approved as a state implementation plan revision. The control plan shall;

1. Be submitted by May 15, 1997; and

2. Be accompanied by a demonstration of the technical or economic infeasibility of complying with the requirements in Subparagraph (a) or (b) of this paragraph.

(3) After publication of the notice specified in Paragraph (7) of this rule, the owner or operator of any source subject to this rule shall demonstrate compliance with this paragraph by using the applicable test methods specified in this chapter.

(4) After publication of the notice specified in Paragraph (7) of this rule, reporting and recordkeeping requirements for sources referenced in Subparagraph (1)(b) of this rule apply as follow:

(a) An owner or operator shall maintain records which document potential VOC emissions are less than the applicability threshold specified in Subparagraph (1)(a) of this rule.

(b) An owner or operator shall submit, upon request by the Technical Secretary, records that document that the source is exempt from these requirements. These records shall be submitted to the Technical Secretary within 30 calendar days from the date of request.

(5) After publication of the notice specified in Paragraph (7) of this rule, compliance certification, reporting and recordkeeping, and testing requirements for sources other than those referenced in Subparagraph (1)(b) of this rule apply as follows:

(a) The owner or operator of the subject VOC source shall perform all testing and maintain the results of all test and calculations required under Paragraphs (2) and (3) of this rule to demonstrate that the subject source is in compliance.

(b) This owner or operator of the subject VOC source shall maintain these records for a minimum of 3 years, and shall make these records available to the Technical Secretary upon request.

(c) The owner or operator of any subject source shall comply with the requirements in Rule .03 or .04 of this chapter, as appropriate for such source, except that the date for compliance certification, initiation of recordkeeping and reporting, and completion of control system compliance testing shall be by November 15, 1997, rather than by April 22, 1994, as specified in Rules .03 and .04.

(6) After publication of the notice specified in Paragraph (7) of this rule, the owner or operator of a source which is an existing source as of November 15, 1996, or of a source which has a state or local agency's construction permit before November 15, 1996, and is subject to this rule may petition for a source-specific compliance schedule according to and as provided for in Rule .07 of this chapter. The April 22, 1993, date of Rule .07 shall not be pertinent for sources subject to Rule .78 of this chapter. Instead, the petition for the source-specific schedule must be received by the Technical Secretary no later than May 15, 1997.

(7) The standards and requirements of this rule shall apply only after the failure to attain by November 15, 1996, the ambient air quality standard for ozone in the counties listed in Subparagraph (1)(a) of this rule and after the Technical Secretary publishes legal notice of this failure in a major Nashville newspaper which has distribution throughout the five counties listed in Subparagraph (1)(a) of this rule.

Authority: *TCA 68-201-105 and 4-5-201 et. seq.*

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1200-3-18-.79 OTHER FACILITIES THAT EMIT VOLATILE ORGANIC COMPOUNDS (VOC'S) OF ONE HUNDRED TONS PER YEAR

(1) Applicability of this rule is as follows:

(a) This rule applies to any facility in Davidson, Rutherford, Sumner, Williamson, or Wilson County having sources that in the aggregate have potential VOC emissions of 90.7 megagrams (Mg) (100 tons) or more per calendar year. In calculation to determine whether this applicability threshold is exceeded, potential VOC emissions are not included from the sources as follow:

1. Any sources subject to standards in Rules .11 through .77 of this chapter;

2. Any sources subject to source-specific standards approved in lieu of standards in Rules .11 through .77 of this chapter; and

3. Any sources which are within the sources categories listed in Subparagraph (c) of this paragraph.

(b) The owner or operator of a facility which has potential VOC emissions which are below the applicability threshold of Subparagraph (a) of this paragraph, but which otherwise would be subject to this rule, shall comply with the certification, recordkeeping, and reporting requirements of Paragraph (4) of this rule.

(c) This rule will not apply to:

Barge loading facilities;
Coke ovens (including by-product recovery plants);
Fuel combustion sources;
Iron and steel production;
Jet engine test cells;
Vegetable oil processing facilities; and
Wastewater treatment facilities;

(d) (Reserved.)

(e) The standards and requirements of this rule shall not apply to sources as follows:

1. Sources subject to standards in Rules .11 through .77 of this chapter.

2. Sources subject to source-specific standards approved in lieu of standards in Rules .11 through .77 of this chapter; and

3. Sources which are within the source categories listed in Subparagraph (c) of this paragraph.

(2) The owner or operator of any source subject to this rule shall:

(a) Install and operate:

1. An emission capture system which:

   (i) Achieves 90 percent capture, or

   (ii) Is constructed and operated in accordance with the guidelines of the Industrial Ventilation Manual, 20th Edition, of the American Conference of Governmental Industrial Hygienists, and

2. An emission control device which achieves 90 percent destruction or removal.

(b) For any coating or printing line, limit the weighted average VOC content to 0.40 kilograms VOC per liter (kg VOC/L) (3.5 pounds VOC per gallon [lb VOC/gal]) or less of coating or ink, as applied, (excluding water and/or exempt compounds) as calculated in this chapter; or

(c) Comply with a control plan that employs reasonably available control technology and has been approved as a State Implementation Plan revision. The control plan shall:

1. Be submitted by October 22, 1993, and

2. Be accompanied by a demonstration of the technical or economic infeasibility of complying with the requirements in Subparagraph (a) or (b) of this paragraph.

(3) The owner or operator of any source subject to this rule shall demonstrate compliance with this paragraph by using the applicable test methods specified in this chapter.

(4) Reporting and recordkeeping requirements for sources referenced in Subparagraph (1)(b) of this rule apply as follow:

(a) An owner or operator shall maintain records which document potential VOC emissions are less than the applicability threshold specified in Subparagraph (1)(a) of this rule.

(b) An owner or operator shall submit, upon request by the Technical Secretary, records that document that the source is exempt from these requirements. These records shall be submitted to the Technical Secretary within 30 calendar days from the date of request.

(5) Reporting and recordkeeping requirements for subject non-coating and non-printing sources apply as follow:

(a) The owner or operator of the subject VOC sources shall perform all testing and maintain the results of all tests and calculations required under Paragraphs (2) and (3) of this rule to demonstrate that the subject source is in compliance.

(b) This owner or operator of the subject VOC source shall maintain these records for a minimum of 3 years, and shall make these records available to the Technical Secretary upon request.

(c) The owner or operator of any facility containing subject sources shall comply with the requirements in Rule .04 of this chapter.

(6) The owner or operator of any source which on October 25, 1995, became, but before this date was not subject to the standards and requirements of Paragraph (2) of this rule shall:

(a) With respect to compliance certification, initiation of recordkeeping and reporting, and completion of control system compliance testing for that source, comply with the requirements of Rule .03 or .04 of this chapter, as appropriate for such source, except the applicable date for compliance is October 25, 1996, rather than April 22, 1994.

(b) With respect to submitting a control plan for the source, as provided for in Subparagraph (2)(c) of this rule, submit the plan by April 25, 1996, rather than October 22, 1993; and

(c) With respect to petitioning for a source-specific compliance schedule according to and as provided for in Rule .07 of this chapter, insure the petition is received by the Technical Secretary no later than April 25, 1996, rather than October 22, 1993. The applicable date on which a source must be an existing source or before which a state or local agency's construction permit must have been issued for the source to be eligible to petition for a source specific compliance schedule is October 25, 1995, rather than April 22, 1993, as specified in the first sentence of Paragraph .07(1) of this chapter.

Authority: *TCA 68-201-105 and 4-5-202*

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1200-3-18-.80 TEST METHODS AND COMPLIANCE PROCEDURES: GENERAL PROVISIONS

(1) The owner or operator of any volatile organic compound (VOC) source required to comply with Rules .11 through .79 of this chapter shall demonstrate or have demonstrated compliance by using the applicable methods of Rules .80 through .85 of this chapter, applicable methods specified within the rule (Rules .11 through .79) for the source category of the source, or alternative methods approved by the Technical Secretary and the EPA.

(2) At least 30 days before the initiation of a required test under Rule .83 of this chapter, the owner or operator shall submit a test plan to the Technical Secretary. This test plan shall include the following minimum information:

(a) The purpose of the proposed test and the applicable provision of Rule .11 through .79 of this chapter;

(b) A detailed description of the facility to be tested, including a line diagram of the facility, locations of test sites, and facility operation conditions for the test;

(c) A detailed description of the test methods and procedures, equipment, and sampling sites, i.e., a test plan;

(d) A time table for the following:

1. Date for the compliance test;

2. Date of submittal of final test report (not later than 60 days after completion of on-site sampling); and

(e) (Reserved)

(f) An internal QA program that shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of test data precision. An example of internal QA is the sampling and analysis of replicable samples.

(g) External QA program as follows:

1. The external QA program shall include, at a minimum, application of plans for a test method performance audit (PA) during the compliance test.

2. The external QA program may also include systems audits, which include the opportunity for on-site evaluation by the Technical Secretary of instrument calibration, data validation, sample logging, and documentation of quality control data and field maintenance activities.

3. The PA's shall consist of blind audit samples provided by the Technical Secretary and analyzed during the compliance test to provide a measure of test data bias as follows:

(i) The Technical Secretary shall require the owner or operator to analyze PA samples during each compliance test when audit samples are available.

(ii) Information concerning the availability of audit materials for a specific compliance test may be obtained from the Technical Secretary.

(iii) The evaluation criteria applied to the interpretation of the PA results and the subsequent remedial actions required of the owner or operator are the sole responsibility of the Technical Secretary.

(3) The owner or operator shall be responsible for providing:

(a) Sampling ports, pipes, lines, or appurtenances for the collection of samples and data required by the test methods and procedures;

(b) Safe access to the sample and data collection locations; and

(c) Light, electricity, and the utilities required for sample and data collection.

(4) (Reserved)

(5) No later than 60 days after completion of the on-site sampling, the owner or operator shall submit a test report to the Technical Secretary. The test report shall include the following minimum information:

(a) Process description;

(b) Air pollution capture system and control device description;

(c) Process conditions during testing;

(d) Test results and example calculations;

(e) Description of sampling locations and test methods;

(f) Quality assurance measures; and

(g) Field and analytical data.

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1200-3-18-.81 TEST METHODS AND COMPLIANCE PROCEDURES: DETERMINING THE VOLATILE ORGANIC COMPOUND (VOC) CONTENT OF COATINGS AND INKS

(1) Sampling procedures shall follow the guidelines presented in:

(a) ASTM D3925: Standard practice for sampling liquid paints and related pigment coatings; or

(b) ASTM E300: Standard practice for sampling industrial chemicals.

(2) The analytical methods and procedures specified as follow shall be used to determine VOC content:

(a) For coatings:

1. Reference Method 24 shall be used in the determination of total volatile organic content, water content, and density of coatings.

2. To determine the total volatile organic content, water content, and density of multicomponent coatings, the following procedures shall be used in addition to Reference Method 24:

(i) The components shall be mixed in a storage container in proportions the same as those in the coating, as applied. The mixing shall be accomplished by weighing the components in the proper proportion into a container which is closed between additions and during mixing. About 100 ml of coating shall be prepared in a container just large enough to hold the mixture prior to withdrawing a sample.

(ii) For determination of volatile content, a sample shall be withdrawn from the mixed coating, and then transferred to a dish where the sample shall stand for at least 1 hour, but no more than 24 hours prior to being oven dried.

(iii) For determination of the water content and density of multicomponent coatings, samples shall be taken from the same 100 ml mixture of coating and shall be analyzed by the appropriate ASTM methods referenced in Reference Method 24.

(b) Reference Method 24A shall be used in the determination of total volatile content, water content, and density of any printing ink and related coatings.

(c) The following ASTM method may be used as an additional procedure related to determining VOC:

ASTM D4457-85: Standard test method for determination of dichloromethane and 1,1,1 trichloroethane in paints and coatings by direct injection into a gas chromatograph (the procedure delineated above may be used to develop protocols for any compounds specifically exempted from the definition of VOC).

(3) Use of an adaptation or alternative to any of the analytical methods and procedures specified in Paragraph (2) of this rule shall be approved by the Technical Secretary and the EPA on a case-by-case

basis. An owner or operator shall submit sufficient documentation to verify that the analytical methods specified in Subparagraphs (2)(a), (2)(b), and (2)(c) will yield inaccurate results and that the proposed adaptation is appropriate, or that the proposed adaptation will yield results as accurate as will the specified analytical methods.

(4) Each sample collected for analysis shall meet the following criteria:

(a) Each sample shall be at least 1 pint taken into a 1 pint container at a location and time such that the sample will be representative of the coating or ink, as applied (i.e., the sample shall include any dilution solvent or VOC added during the manufacturing process);

(b) If a sample larger than 1 pint is obtained, the sample container shall be of a size such that the sample completely fills the container;

(c) The container shall be tightly sealed immediately after the sample is taken;

(d) Any solvent or other VOC added after the sample is taken shall be measured and accounted for in the calculations in Paragraph (3) of this rule; and

(e) For multiple-component coatings, separate samples of each component shall be obtained.

(5) Calculations for determining the VOC content of coatings and inks from data as determined by Reference Method 24 or 24A shall follow the guidance provided in the following documents:

(a) "A Guideline for Surface Coating Calculations" EPA-340/1-86-016; and

(b) "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink and Other Coatings." (Revised June 1986) EPA-450/3-84-019.

(6) In lieu of determining VOC content by the methods and procedures specified in the other paragraphs of this rule, formulation data shall be used if approved by the EPA and the Technical Secretary.

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1200-3-18-.82 TEST METHODS AND COMPLIANCE PROCEDURES: ALTERNATIVE COMPLIANCE METHODS FOR SURFACE COATING

(1) The weighted average VOC content, in units of mass of VOC per volume of coating and/or ink, excluding water and/or exempt compounds, as applied, of the coatings and/or inks used on a day on a coating line or operation shall be calculated using the following equation:

$$VOC_w = \frac{\sum_{i=1}^{n} V_i C_i}{V_T}$$

where:

VOC_w = The weighted average VOC content of the coatings and/or inks, as applied, used on a line or operation in units of kilograms of VOC per liter of coating and/or ink (kg VOC/L) (pounds of VOC per gallon of coating and/or ink [lb VOC/gal]), excluding water and/or exempt compounds;

n = The number of different coatings and/or inks, as applied, each day on a line or operation;

V_i = The volume of each coating or ink, as applied, each day on a line or operation in units of L (gal), excluding water and/or exempt compounds; and

C_i = The VOC content of each coating or ink, as applied, each day on a line or operation in units of kg VOC/L of coating or ink (lb VOC/gal), excluding water and/or exempt compounds; and

V_T = The total volume of all coating and/or ink, as applied, each day on a line or operation in units of L (gal), excluding water and/or exempt compounds.

(2) [Reserved]

(3) The overall emission reduction efficiency needed to demonstrate compliance is determined each day as follows:

(a) Obtain the emission limitation from the applicable rule of this chapter.

(b) Calculate the emission limitation on a solids basis according to the following equation:

$$S = \frac{C}{1 - C/d}$$

where:

S = The VOC emission limitation in terms of kg VOC/L of coating or ink solids (lb VOC/gal);

C = The VOC emissions limitation in terms of kg VOC/L of coating or ink (lb/gal), excluding water and/or exempt compounds; and

d = The density of VOC for converting emission limitation to a solids basis. The density equals 0.882 kg/L (7.36 lb/gal).

(c) Calculate the required overall emission reduction efficiency of the control system for the day according to the following equation:

$$E = \frac{(VOC_a - S)}{VOC_a} \times 100$$

where:

E = The required overall emission reduction efficiency of the control system;

VOC_a =

1. The maximum VOC content of the coatings and/or inks, as applied, used each day on the subject line or operation, in units of kg VOC/L of solids (lb/gal), as determined by the applicable test methods and procedures specified in this chapter; or

2. The weighted average VOC content, as applied, of the coatings and/or inks used each day on the subject line or operation, in units of kg VOC/L of solids (lb/gal), as determined by the applicable test methods and procedures specified in this chapter and the procedure in Subparagraph (d) of this paragraph; and

S = VOC emission limitation in terms of kg VOC/L of solids (lb VOC/gal).

(d) The weighted average VOC content, as applied, of the coatings and/or inks used on a coating line or operation in units of mass of VOC per unit volume of coating and/or ink solids shall be calculated by the following equation:

$$VOC_{ws} = \frac{\sum_{i=1}^{n} W_{voci} D_i V_i}{\sum_{i=1}^{n} V_i VS_i}$$

where:

VOC_{ws}	=	The weighted average VOC content, as applied, of the coatings and/or inks used on the line or operation in units of mass of VOC per unit volume of coating and/or ink solids;
n	=	The number of different coatings and/or inks, as applied, used in a day on the line or operation;
V_i	=	The volume of each coating or ink (i), as applied, used in a day on the line or operation in units of liters (L) (gallons [gal]);
W_{voci}	=	The weight fraction of VOC in each coating or ink (i), as applied, used in a day on the line or operation in units of kg VOC/kg coating or ink (lb/lb);
D_i	=	The density of each coating or ink (i) as applied, used in a day on the line or operation in units of kg/L of coating or ink (lb/gal);
VS_i	=	The volume fraction solids content of each coating or ink (i), as applied, used in a day on the line or operation in units of L solids/L coating or ink (gal/gal).

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1200-3-18-.83 TEST METHODS AND COMPLIANCE PROCEDURES: EMISSION CAPTURE AND DESTRUCTION OR REMOVAL EFFICIENCY AND MONITORING REQUIREMENTS

(1) The methods and procedures for determining the efficiency of volatile organic compound (VOC) capture systems shall be as specified by the Technical Secretary.

(2) The methods and procedures for determining the destruction or removal efficiency and monitoring parameters of incinerators and carbon adsorbers shall be according to the following, unless an alternate method or procedure has been approved by the EPA and the Technical Secretary:

(a) Testing shall be as follows:

1. The control device destruction or removal efficiency shall be determined from data obtained by simultaneously measuring the inlet and outlet gas-phase VOC concentrations and gas volumetric flow rates in accordance with the gas-phase test methods specified in this chapter. The control device destruction or removal efficiency shall be calculated using the following equation:

$$E = \frac{\sum_{i=1}^{n} Q_i C_i - \sum_{j=1}^{m} Q_j C_j}{\sum_{i=1}^{n} Q_i C_i}$$

where:

E	=	VOC destruction efficiency of the control device;
Q_i	=	Volumetric flow rate of the effluent gas flowing through stack i entering the control device, dry standard cubic meters per hour (dscmh);
C_i	=	Concentration of VOC (as carbon) in the effluent gas flowing through stack i entering the control device, ppmv;
Q_j	=	Volumetric flow rate of the effluent gas flowing through stack j leaving the control device, dscmh;
C_j	=	Concentration of VOC (as carbon) in the effluent gas flowing through stack j leaving the control device, ppmv;
n	=	The number of vents to the control device; and
m	=	The number of vents after the control device.

2. and 3. (Reserved)

(b) Monitoring shall be as follows:

1. Any owner or operator who uses an incinerator or carbon adsorber for which stack emission testing is required to demonstrate compliance with any standard of this chapter shall install, calibrate, certify to the Technical Secretary, operate, and maintain continuous monitoring equipment. The continuous monitoring equipment shall monitor the following parameters:

   (i) Combustion chamber temperature of each thermal incinerator or afterburner;

   (ii) Temperature immediately before the catalytic incinerator and temperature rise across each catalytic incinerator bed; and

   (iii) The VOC concentration of the outlet from each carbon adsorption bed.

2. The continuous temperature monitoring equipment must be equipped with a continuous recorder and have an accuracy of ± 1 percent of the combustion temperature being measured expressed in degrees Celsius (^{0}C) or $\pm 0.5^0$C, whichever is greater.

(3) The overall emission reduction efficiency of the emission control system shall be determined as the product of the capture efficiency and the control device destruction or removal efficiency; or for each emission control system in which solvent is recovered, by a method approved by the EPA and Technical Secretary. The results of a capture efficiency test and control device destruction or removal efficiency test remain valid until a subsequent test is performed. The results of any valid test may be used until superseded by the results of a valid test subsequently performed.

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1200-3-18-.84 TEST METHODS AND COMPLIANCE PROCEDURES: DETERMINING THE DESTRUCTION OR REMOVAL EFFICIENCY OF A CONTROL DEVICE

(1) One of the following test methods must be used to determine volatile organic compound (VOC) concentrations of a gas stream:

(a) Reference Method 18;

(b) Reference Method 25; or

(c) Reference Method 25A.

(2) Reference Method 25 or 25A shall be used for determining destruction efficiency of incinerators and catalytic incinerators, unless an alternate method is approved by the Technical Secretary and the EPA.

(3) Except as indicated in Subparagraphs (a) and (b) of this paragraph, a test shall consist of three separate runs, each lasting a minimum of 60 minutes (min):

(a) When the method is to be used to determine the efficiency of a fixed-bed carbon adsorption system with a common exhaust stack for all of the individual adsorber vessels, the test shall consist of three separate runs, each coinciding with one or more complete sequences through the adsorption cycles of all the individual adsorber vessels.

(b) When the method is to be used to determine the efficiency of a fixed-bed carbon adsorption system with individual exhaust stacks for each adsorber vessel, each adsorber vessel shall be tested individually. The test for each adsorber vessel shall consist of three separate runs. Each run shall coincide with one or more complete adsorption cycles.

(4) Reference Method 1 or 1A shall be used for velocity traverses.

(5) Reference Method 2, 2A, 2C, or 2D shall be used for velocity and volumetric flow rates.

(6) Reference Method 3 or 3A shall be used for O_2 or CO_2 analysis.

(7) Reference Method 4 shall be used for stack gas moisture.

(8) Reference Methods 2, 2A, 2C, 2D, 3, 3A, and 4 shall be performed, as applicable, at least twice during each test run.

(9) Use of an adaptation or alternative to any of the methods specified in this rule shall be approved by the Technical Secretary and EPA on a case-by-case basis. An owner or operator shall submit sufficient documentation for the Technical Secretary and EPA to find that the analytical methods specified will yield inaccurate results and that the proposed adaptation or alternative is appropriate, or that the proposed adaptation or alternative will yield results as accurate as will the specified analytical methods.

Authority: TCA 68-201-105 and 4-5-202

1200-3-18-.85 TEST METHODS AND COMPLIANCE PROCEDURES: LEAK DETECTION METHODS FOR VOLATILE ORGANIC COMPOUNDS (VOC'S)

(1) Owners or operators required to carry out a leak detection monitoring program shall comply with the following requirements:

(a) Monitoring shall be performed in accordance with Reference Method 21.

(b) The detection instrument shall meet the performance criteria of Reference Method 21.

(c) The detection instrument shall be calibrated before and after use on each day of its use by the methods specified in Reference Method 21. Failure to achieve a post-use calibration precision of less than 10 percent shall constitute grounds for rejecting all tests performed since the last pre-use calibration. In such cases, required leak tests must be reperformed.

(d) Calibration gases shall be:

1. Zero air (less than 10 parts per million [ppm] of hydrocarbon in air); and

2. A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(e) The detection instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(2) When equipment is tested for compliance with the requirement that there be no detectable emissions, the test shall comply with the following:

(a) The requirements of Paragraph (1) of this rule shall apply and shall be met, and

(b) The background level shall be determined as set forth in Reference Method 21.

(3) Leak detection tests shall be performed consistent with:

(a) "APTI Course SI 417-Controlling Volatile Organic Compound Emissions from Leaking Process Equipment," EPA-450/2-82-015;

(b) "Portable Instrument User's Manual for Monitoring VOC Sources," EPA-340/1-86-015;

(c) "Protocols for Generating Unit--Specific Emission Estimates for Equipment Leaks of VOC and VHAP," EPA-450/3-88-010; and

(d) "Petroleum Refinery Enforcement Manual," EPA-340/1-90-008.

(4) Use of an adaptation to any of the analytical methods specified in this rule shall be approved by the Technical Secretary and EPA on a case-by-case basis. An owner or operator shall submit sufficient documentation for the Technical Secretary and EPA to find that the analytical methods specified will yield inaccurate results and that the proposed adaptation is appropriate, or that the proposed adaptation will yield results as accurate as will the specified analytical methods.

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1200-3-18-.86 PERFORMANCE SPECIFICATIONS FOR CONTINUOUS EMISSIONS MONITORING OF TOTAL HYDROCARBONS

(1) Applicability of this rule is as follows:

(a) This method applies to the measurement of total hydrocarbons as a surrogate measure for the total gaseous organic concentration of the combustion gas stream. The concentration is expressed in terms of propane.

(b) The use of gas conditioning, including cooling to between 4.4 and 18°C (40 and 64°F), and condensate traps to reduce the moisture content of the sample gas may be approved if the owner/operator:

1. Successfully demonstrates to the Technical Secretary and the EPA that the use of such system is necessary for the specific application; and

2. Includes in the demonstration a quantification of the total hydrocarbon concentration (THC) lost to the gas conditioning system.

(2) Monitoring is by the principle that a gas sample is extracted from the source through a heated sample line and heated glass fiber filter to a flame ionization detector (FID). Results are reported as volume concentration equivalents of the propane.

(3) For the purpose of this rule, the following definitions apply:

(a) **"Calibration drift"** means the difference in the measurement system response to a mid-level calibration gas before and after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

(b) **"Calibration error"** means the difference between the gas concentration indicated by the measurement system and the known concentration of the calibration system.

(c) **"Calibration gas"** means a known concentration of a gas in an appropriate diluent gas.

(d) **"Measurement system"** means the total equipment required for the determination of the inlet and outlet gas concentrations, percent capture efficiency, and gas outlet emission rate. The system consists of the following major subsystems:

1. Sample interface--the portion of the system that is used for one or more of the following:

(i) Sample acquisition;

(ii) Sample transportation;

(iii) Sample conditioning; or

(iv) Protection of the analyzer from the effects of the stack effluent;

2. Organic analyzer--the portion of the system that senses organic concentration and generates an output proportional to the gas concentration;

3. Data recorder--the portion of the system that records a permanent record of the measurement values; and

4. Flow rate system--a gas volume meter meeting the requirements of Reference Method 2A, Section 2.1.

(e) **"Response time"** means the time interval from a step change in pollutant concentration at the inlet to the emission measurement system to the time at which 95 percent of the corresponding final value is reached as displayed on the recorder.

(f) **"Span value"** means, for most incinerators, a 50 parts per million (ppm) propane span. Higher span values may be necessary if propane emissions are significant. For convenience, the span value should correspond to 100 percent of the recorder scale.

(g) **"Zero drift"** means the difference in the measurement system response to a zero level calibration gas before and after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

(4) An acceptable measurement system includes a sample interface system, a calibration valve, gas filter and a pump preceding the analyzer. THC measurement systems are designated HOT or COLD systems based on the operating temperatures of the system. In HOT systems, all components in contact with the sample gas (probe, calibration valve, filter, and sample lines) as well as all parts of the flame ionization analyzer between the sample inlet and the FID must be maintained between 150^0 to 175^{0}C. This includes the sample pump if it is located on the inlet side of the FID. A condensate trap may be installed, if necessary, to prevent any condensate entering the FID. The essential components of the measurement system are as follows:

(a) An FID capable of meeting or exceeding the specifications in this method.

(b) A sample probe as follows:

1. Stainless steel, or equivalent, three-hole rake type. Sample holes shall be 4 millimeters (mm) (0.2 inches [in.] in diameter or smaller and located at 16.7, 50, and 83.3 percent of the equivalent stack diameter; or

2. A single opening probe so that a gas sample is collected from the centrally located 10 percent area of the stack cross section.

(c) Stainless steel or Teflon tubing to transport the sample gas to the analyzer. The sample line from the heated probe shall be heated to between 150 and 175^{0}C (302 and 347^{0}F).

(d) A calibration valve assembly as follows:

1. A heated three-way valve assembly to direct the zero and calibration gases to the analyzers; or

2. Other methods, such as quick-connect lines, to route calibration gas to the analyzers.

(e) An in-stack or an out-of-stack glass fiber filter if exhaust gas particulate loading is significant. An out-of-stack filter must be heated.

(f) A strip-chart recorder, analog computer, or digital recorder for recording measurement data. The minimum data recording shall be one measurement value per minute.

(5) Calibration gases and other gases shall be as follows:

(a) Gases used for calibration, fuel, and combustion air shall be contained in compressed gas cylinders.

(b) Preparation of calibration gases shall be done according to the procedure in Protocol No. 1, listed in the reference in Subparagraph (12)(b) of this rule.

(c) The recommended shelf life for each calibration gas cylinder over which the concentration does not change more than ±2 percent from the certified value shall be obtained from the cylinder manufacturer.

(d) The following calibration and other gases shall be used:

1. As fuel, a 40 percent hydrogen and 60 percent helium or 40 percent hydrogen and 60 percent nitrogen gas mixture to avoid an oxygen synergism effect that reportedly occurs when oxygen concentration varies significantly from a mean value.

2. As zero gas, high purity air with less than 0.1 parts per million by volume (ppmv) of organic material methane or carbon equivalent or less than 0.1 percent of the span value, whichever is greater.

3. As low-level calibration gas, propane calibration gas (in air or nitrogen) with a concentration equivalent to 20 to 30 percent of the applicable span value.

4. As mid-level calibration gas, propane calibration gas with a concentration equivalent to 45 to 55 percent of the applicable span value.

5. As high-level calibration gas, propane calibration gas with a concentration equivalent to 80 to 90 percent of the applicable span value.

(6) Measurement system performance specifications as follow apply:

(a) Zero drift shall be less than ±3 percent of the span value.

(b) Calibration drift shall be less than ±3 percent of the span value.

(c) Calibration error shall be less than ±5 percent of the calibration gas value.

(7) Pretest preparations include the following:

(a) Sampling site selection as follows:

1. The location of the sampling site shall be determined from the applicable regulation or purpose of the test (i.e., exhaust stack, inlet line, etc).

2. The sample port shall be located at least 1.5 meters (4.9 feet) or 2 equivalent diameters upstream of the gas discharge to the atmosphere.

(b) The sample probe must be installed so that the probe is centrally located in the stack, pipe or duct and is sealed tightly at the stack port connection.

(c) Prior to the emission test, the measurement system must be assembled following the manufacturer's written instructions in preparing the sample interface and the organic analyzer. The system must be operable.

(d) Calibration error test as follows:

1. Immediately prior to the test series (within 2 hours of the start of the test), zero gas and high-level calibration gas shall be introduced at the calibration valve assembly.

2. The analyzer output shall be adjusted to the appropriate levels, if necessary.

3. The predicted response for the low-level and mid-level gases shall be calculated based on a linear response line between the zero and high-level responses.

4. Low-level and mid-level calibration gases shall be introduced successively to the measurement system.

5. The analyzer responses for low-level and mid-level calibration gases shall be recorded, and the differences between the measurement system responses and the predicted responses shall be determined. These differences must be less than ± 5 percent of the respective calibration gas value. If not, the measurement system shall be deemed not acceptable and must be replaced or repaired prior to testing. No adjustments to the measurement system shall be conducted after the calibration and before the drift determination found in Paragraph (8)(b) of this section.

6. If adjustments are necessary before the completion of the test series, the drift checks shall be performed prior to the required adjustments, and the calibration following the adjustments shall be repeated.

7. If multiple electronic ranges are to be used, each additional range must be checked with a mid-level calibration gas to verify the multiplication factor.

(e) Response time test as follows:

1. Zero gas shall be introduced into the measurement system at the calibration valve assembly.

2. When the system output has stabilized, the owner or operator shall switch quickly to the high-level calibration gas.

3. The time shall be recorded from the concentration change to the measurement system response equivalent to 95 percent of the step change.

4. The test shall be repeated three times and the results averaged.

(8) Emission measurement test procedure includes the following:

(a) Organic measurement as follows:

1. Sampling shall begin at the start of the test period.

2. Time and any required process information shall be recorded, as appropriate.

3. Periods of process interruption or cyclic operation shall be noted on the recording chart.

(b) Drift determination as follows:

1. Immediately following the completion of the test period and hourly during the test period, the zero and mid-level calibration gases shall be introduced, one at a time, to the measurement system at the calibration valve assembly. No adjustments to the measurement system shall be made until after both the zero and calibration drift checks are made.

2. The analyzer response shall be recorded.

3. If the drift values exceed the specified limits, the test results shall be invalidated preceding the check, and the test shall be repeated following corrections to the measurement system.

4. Alternatively, the test measurement system may be recalibrated as in Subparagraph (7)(d) of this rule and the results reported using both sets of calibration data (i.e., data determined prior to the test period and data determined following the test period).

(9) The average organic concentration shall be determined in terms of ppmv propane by the integration of the output recording over the period specified in the applicable regulation.

(10) Quality assurance includes the following:

(a) The owner or operator shall assure proper calibration, maintenance, and operation of the continuous emissions monitoring system on a continual basis.

(b) The owner or operator shall establish a quality assurance program to evaluate and monitor performance on a continual basis. The following checks shall routinely be done:

1. A daily calibration check for each monitor. The calibration shall be adjusted if the check indicates the instrument's calibration drift exceeds the specification established in Paragraph (6) of this rule;

2. A daily system audit which includes the following:

   (i) A review of the calibration check data;

   (ii) An inspection of the recording system;

   (iii) An inspection of the control panel warning lights; and

   (iv) An inspection of the sample transport/interface system (e.g., flowmeters, filters), as appropriate.

3. A quarterly calibration error test at the span midpoint; and

4. The entire performance specification test repeated every second year.

(11) Reporting of total hydrocarbon levels shall be as follows:

(a) The total hydrocarbon concentration (THC) levels from the initial compliance certification test shall be reported as ppm propane for inlet and outlet concentrations and as a percent reduction across the control device.

(b) THC levels shall be expressed in milligrams per second (mg/sec) (pounds per second [lb/sec]).

(c) This conversion shall be accomplished using the following equation:

THC, mg/sec = (THC ppm propane) x (stack gas flow) x 5.183×10^{-2}

where:

THC ppm propane	=	The total hydrocarbon concentration as actually measured by this method in ppm propane at the inlet or outlet.
Stack gas flow	=	Measured in dry standard cubic feet per second as determined by the flowmeter system or Reference Methods 2 and 4.
5.183×10^{-2}	=	Constant to account for the conversion of units.

(12) References as follow are applicable for this rule:

(a) Measurement of Volatile Organic Compounds--Guideline Series. U.S. Environmental Protection Agency, Research Triangle Park, North Carolina. Publication No. EPA-450/2-78-041. June 1978. p. 46-54.

(b) Traceability Protocol for Establishing True Concentrations of Gases Used for Calibration and Audits of Continuous Source Emission Monitors (Protocol No. 1). U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory. Research Triangle Park, North Carolina. June 1973.

(c) Gasoline Vapor Emission Laboratory Evaluation--Part 2. U.S. Environmental Protection Agency. Office of Air Quality Planning and Standards. Research Triangle Park, North Carolina. EMB Report No. 75-GAS-6. August 1975.

(d) Appendix D: Performance Specifications for Continuous Emissions Monitoring of Total Hydrocarbons in Hazardous Waste Incinerators, Boilers and Industrial Furnaces. Federal Register. 54:206 pp. 43743-43745. October 26, 1989.

(13) Use of an adaptation to any of the requirements specified in this rule shall be approved by the Technical Secretary and EPA case-by-case. An owner or operator shall submit sufficient documentation for the Technical Secretary and EPA to find that the specified requirements will yield inaccurate results and that the proposed adaptation is appropriate, or that the proposed adaptation will yield results as accurate as will the specified requirements.

Authority: *TCA 68-201-105 and 4-5-202*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF June 13, 1997.

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2nd Revision			

1200-3-18-.87 QUALITY CONTROL PROCEDURES FOR CONTINUOUS EMISSION MONITORING SYSTEMS (CEMS)

(1) Each owner or operator of a CEMS shall develop and implement a CEMS QC program. At a minimum, each QC program shall include written procedures that describe in detail step-by-step procedures and operations for each of the following:

(a) Initial and routine periodic calibration of the CEMS.

(b) Calibration drift (CD) determination and adjustment of the CEMS.

(c) Preventative maintenance of the CEMS (including spare parts inventory).

(d) Data recording, calculations, and reporting.

(e) Accuracy audit procedures including sampling and analysis methods.

(f) Program of corrective action for malfunctioning CEMS.

(2) Out-of-control conditions are as follows:

(a) If either the zero (or low-level) or high-level CD exceeds twice the applicable drift specification in 40 CFR Part 60, Appendix B, as of July 1, 1991, for five consecutive daily periods, the CEMS is out-of-control.

(b) If either the zero (or low-level) or high-level CD exceeds four times the applicable drift specification in 40 CFR Part 60, Appendix B, as of July 1, 1991, during any CD check, the CEMS is out-of-control.

(c) If the CEMS fails a performance audit (PA), the CEMS is out-of-control, and the owner or operator shall take necessary corrective action to eliminate the problem. Following the corrective action, the source owner or operator shall reconduct the appropriate failed portion of the audit and other applicable portions to determine whether the monitoring system is operating properly and within specifications. Monitoring data obtained during any out-of-control period may not be used for compliance determination or to meet any data capture requirements; however, the data can be used for identifying periods when there has been a failure to meet quality assurance/quality control criteria.

(3) Out-of-control time periods determination shall be as follows:

(a) The beginning of the out-of-control period is:

1. The time corresponding to the completion of the fifth consecutive daily CD check with CD in excess of two times the allowable limit, or

2. The time corresponding to completion of the daily CD check preceding the daily CD check that results in a CD in excess of four times the allowable limit.

(b) The end of the out-of-control period is the time corresponding to the completion of the CD check following corrective action that results in the CD's at both the zero (or low-level) and high-level measurement points being within the corresponding allowable CD limit (i.e., either two times or four times the allowable limit in 40 CFR Part 60, Appendix B, as of July 1, 1991).

(c) If the CEMS failed a PA, the beginning of the out-of-control period is the time corresponding to the completion of the failed audit test. The end of the out-of-control period is the time corresponding to a successful retest of the PA sample.

(4) The owner or operator shall keep the QC procedure described in Paragraph (1) of this rule in a readily accessible location for at least 3 years and shall make the procedure available to the Technical Secretary upon request.

(5) Upon request, the owner or operator shall submit to the Technical Secretary a copy of all information and records documenting out-of-control periods including beginning and end dates and descriptions of corrective actions taken.

(6) Use of an adaptation to any of the requirements specified in this rule shall be approved by the Technical Secretary and EPA case-by-case. An owner or operator shall submit sufficient documentation for the Technical Secretary and EPA to find that the specified requirements are inappropriate and that the proposed adaptation is appropriate.

Authority: *TCA 68-201-105 and 4-5-202*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF April 28, 1995.

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3rd Revision			

1200-3-18-.88 through .99 (RESERVED)

Authority: *TCA 68-201-105 and 4-5-202*

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CHAPTER 1200-3-19
EMISSION STANDARDS AND MONITORING REQUIREMENTS FOR PARTICULATE AND SULFUR DIOXIDE NONATTAINMENT

1200-3-19-.01 PURPOSE

It is the purpose of this Chapter to establish specific emission standards for existing air contaminant sources located in or significantly impacting upon a nonattainment area within the State of Tennessee. The emission standards established in this Chapter will apply to those air contaminant sources specifically identified in addition to the standards contained i other chapters of Division 1200-3 of the Tennessee Air Pollution Control Regulations and any local regulations.

Authority: *T.C.A. 68-25-105. Administrative History. Original rule certified April 23, 1979.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF

LAST UPDATE: March 10, 1987.

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1200-3-19-.02 GENERAL REQUIREMENTS

No person shall cause, suffer, allow or permit emissions in excess of the standards set for each company, emission point, and/or source specified in the remaining rules of this Chapter 1200-3-19.

Authority: *T.C.A. 53-3412. 68-25-105. History. Original rule certified April 23, 1979.*

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1200-3-19-.03 PARTICULATE AND SULFUR DIOXIDE NONATTAINMENT AREAS WITHIN TENNESSEE

(1) **Particulate Nonattainment Area**

(a) **Bristol Nonattainment Area** - (Sullivan County) bounded by Virginia Avenue on the west, Lakeview on the north, Georgia Avenue on the east and Beachwood on the south.

(b) **LaFollette Nonattainment Area** - (Campbell County) - Area bounded on the north by Prospect Street, on the south by Elm Street, the west by West Street and South Avenue and on the east by Cumberland Avenue.

(c) **(RESERVED)**

(d) **(RESERVED)**

(e) **Jacksboro Nonattainment Area** - (Campbell County) - Area bounded by the fence along the property line of the Carborundum Company.

(f) **Kingsport Nonattainment Area** - (Sullivan County) - Area bounded by the South Fork of the Holston River on the south side, Wilcox Drive on the eastern side, East Sullivan Street on the northeast and West Sullivan Street on the Northwest.

(g) **(RESERVED)**
[Repeal of former section submitted April 22, 1983]

(h) **Nashville Nonattainment Areas** - (Davidson County) ***[Submitted April 22, 1983.]***

1. Area bounded by I-65 on the east, I-265 on the north, I- 40 on the west and I-40/I-65 on the south.

2. Area bounded by 44th Avenue North extended to the Cumberland River on the east, I-40 o the south, Marrow Road to 63rd Avenue and 63rd Avenue extended to the Cumberland River on the west, and the Cumberland River on the north.

(i) **(RESERVED)**

(j) **Chattanooga Nonattainment Area** - (Hamilton County) ***[Submitted January 22, 1982]***
Area beginning at a point, said point being the original beginning point of the composite description of the corporate limits of the City of Chattanooga, Hamilton County, Tennessee, as of September 28, 1967, described thus; proceed from a point on he line between Townships 2 & 3, Range 4, west of the Basis Line, Ocoee District, where said line crosses the low water mark on the east side of the Tennessee River at this point, thence proceed down the said river on said low water mark to a point one hundred feet (100') westwardly from the low water mark of Chattanooga Creek. This last designated point in the low water mark of the existing south side of the Tennessee River, being designated as the point of beginning of the above-name corporate limit description and the beginning point of the nonattainment area. Thence, proceed south following the corporate city limits of Chattanooga as defined in the composite description of September 28, 1967, to the State Line between Tennessee and

Georgia; thence eastwardly with said State Line to a point of intersection with the center line of Waheela Street, from said point in a generally north direction to South Crest Road, thence in a generally north, northeast direction to North Crest Road and Campbell Street, thence in a generally northwest direction to Glass Street, thence in a generally west, and then southwest direction to the intersection of Glass Street with Roanoke Avenue, thence in a generally north direction along Roanoke Avenue to the intersection of Sherman Street, thence in a generally west direction to the intersection of Sherman Street with Hawthorne, thence in a generally north direction along Hawthorne to its intersection with Sholar Avenue, thence follow the Sholar Avenue loop north and then west thru the Boone Hysinger Homes subdivision, proceed along the center line of Sholar Avenue to its nearest point to the southernmost corner of the apartment at 2001 Sholar Avenue, Boone Hysinger Homes subdivision (near the railroad tracks); from said point at 2001 Sholar Avenue, Boone Hysinger Homes subdivision, proceed generally in a northwest direction as if a line were extended from said point across the Southern Railroad tracks to a point, said point being the intersection of the center lines of Riverside Drive and Elena Drive, thence proceed in a generally northwest and then north direction along the center line of Elena Drive to Queen's Drive, thence in a generally west and then north direction along Queen's Drive to its intersection with Crutchfield Street, thence in a generally west direction continue along Crutchfield Street to its intersection with Amnicola Highway, thence in a generally west direction as if a line were extended from said point across the Tennessee River to the intersection of the center lines of Hillcrest Road and Lexington Street, thence in a generally northwest direction along Lexington Street to Falmouth Street, thence in a generally south, southwest direction along Falmouth Street to Hixson Pike, thence in a generally south direction along Hixson Pike to Tremont Street, thence in a generally northwest direction and then a southwest direction along Tremont Street to Mississippi Avenue, thence in a generally northwest and then southwest direction along Mississippi Avenue to Forrest Street, thence in a generally south direction along Forrest Street to Sylvan Street, thence in a generally northwest direction along Sylvan Street to Dallas Road, thence in a generally southwest direction along Dallas Road to North Market Street, thence in a southward direction along North Market Street to Chambliss Street, thence in a generally west direction along Chambliss Street to Pine Ridge Trail, thence in a generally west direction along Pine Ridge Trail to Gurley Street, thence in a generally southward direction along Gurley Street to Cherokee Boulevard, thence in a generally northwest direction to East Elmwood Drive, thence in a generally south direction along East Elmwood Drive to the intersection of East Elmwood Drive and Beason Drive crossing the railroad tracks to West Elmwood Drive, thence in a generally south direction along West Elmwood Drive to Pineville Road, thence in a generally south direction along Pineville Road to Moccasin Bend Road (a portion of which is titled Moccasin County Road), thence in a generally south direction along Moccasin Bend Road to its end at the Hospital Loop, thence in a generally south direction as if a line were extended across the Hospital property and the Tennessee River to the original point of beginning, which is at the low water mark of the existing south side of the Tennessee River as described above.

(k) Memphis Nonattainment Areas - (Shelby County) *[Submitted January 22, 1982.]*

1. Area bounded by I-55 on the north, eastern boundary proceeding south along I-55 to where the axis of I-55 (if extended) would intersect Nonconnah Creek. The southern boundary being Nonconnah Creek to where Nonconnah Creek enters McKellar Lake then west to where the axis of Wharf Street would intersect Harbor Channel, west on

Wharf Street to Harbor Avenue. The western boundary being Harbor Avenue north to Jack Carley Causeway then due north to the Mississippi River, then along the Mississippi River to I-55.

2. *(Reserved)*

(2) **Sulfur Dioxide - Nonattainment Area**

(a) **Copper Basin Nonattainment Area** - (Polk County) -Area is bounded on the south by the Georgia state line and on the east by the North Carolina state line. The northern boundary consists of Brush Creek and a line extending between the origin of Brush Creek and the North Carolina state line. The western boundary consists of the portion of Brush Creek which runs southward into the Ocoee River, a portion of the Ocoee River between the mouths of Brush and Grassy Creeks, and Grassy Creek southward to the Georgia state line.

(b) **New Johnsonville Nonattainment Area** - (Humphreys and Benton Counties) - Area bounded by I-40 on the south, from I-40 north to Highway 69 bounding the west to the intersection with Highway 69A to the town of Big Sandy where 69A becomes Main Street, north on Main Street until it intersects the L & N Railroad, the railroad on the north to the Tennessee River, south on the river to Richland Creek, east on Richland Creek to Highway 13 which bounds the east and then south back to I-40.

Authority: *T.C.A. 68-25-105. Administrative History. Original rule certified April 23, 1979. Revised effective August 27, 1979. Revised effective October 10, 1979. Amended September 4, 1980. Amended July 31, 1981. Amended January 22, 1982. Amended July 9, 1982. Amended February 18, 1983. Amended March 2, 1983.*

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3rd Revision	JAN 22, 1982	JUN 24, 1982	47 FR 27271
4th Revision	APR 22, 1983	JUL 27, 1984	49 FR 30177
5th Revision			

1200-3-19-.04 (Reserved)

1200-3-19-.05 OPERATING PERMITS AND EMISSION LIMITING CONDITIONS

(1) All operating permits for sources in or significantly impacting on particulate matter nonattainment areas except Bristol, Bull Run, Odom's Bend, Jacksboro, LaFollette, and Columbia shall expire three months after the effective date of this rule. For sources within local government jurisdictions presently regulating the sources under a certificate of exemption any operating permit of the local government shall be deemed to have expired three months after the suspension of the certificate of exemption.

(2) The Technical Secretary shall specify on the operating permits for all sources whose permits are effected by paragraph (1) above as permit conditions the emission level that is reasonably available control technology (RACT) and reasonable limitations on operating hours as necessary to achieve and maintain ambient air quality standards as specified in Chapter 1200-3-3. It is for purposes of this rule to be considered necessary that there be some room for growth. The RACT specifications will include specific emission limits for growth. The RACT specifications will include specific emission limits (one hour average basis or shorter time interval basis if so specified).

(3) Any source may operate more than the hours that would be specified under paragraph (2) above or any other rule of this chapter by agreeing to reduce emissions proportionally from the RACT allowable emission rate such that no increase in emissions occur on either a twenty-four hour basis or an annual basis. This may only be done after the owner or operator has applied for and obtained a new operating permit with revised operating hour specifications and emissions rates for each emission point.

Authority: *T.C.A. 68-25-105. Administrative History. Original Rule certified February 14, 1980.*

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1200-3-19-.06 LOGS FOR OPERATING HOURS

The owner or operator of any air contaminant sources with operative hours limited by a rule of this chapter must keep a running log, showing the hours of operation of each such source with time of each startup and shutdown indicated. This log must be available for inspection by the Technical Secretary or his representative at all times and a copy must be maintained for at least two full calendar years. The total operating hours for each such source for each calendar year must be reported to the Technical Secretary on or before January 31 of the following year. This report shall also include most hours operated in any one day during the calendar year if there is an hours per day restriction.

Authority: *T.C.A. 68-25-105. Administrative History. Original Rule certified February 4, 1980.*

Rules 1200-3-19-.07 through 1200-3-19-.10 (Reserved)

THIS IS THE FEDERALLY APPROVED REGULATION AS OF

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1200-3-19-.11 PARTICULATE MATTER EMISSION REGULATIONS FOR THE BRISTOL NONATTAINMENT AREA

(1) Visible Emission Standards for Air Contaminant Sources in Operation Prior to January 1, 1978

(a) No person shall cause, suffer, allow or permit discharge of a visible emission from any stack with an opacity in excess of ten (10) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four (24) hour period.

(b) No person shall cause, suffer, allow or permit discharge of a visible emission from any fugitive dust source with an opacity in excess of ten (10) percent on a 15 minute average except as provided in 1200-3-19-.11-(3).

(c) Specific Visible Emission Standards for Air Contaminant Sources in Operation Prior to January 1, 1978.

1. Wood Fired Boilers

(i) This part applies to units with a heat input greater than one million Btu per hour.

(ii) The units shall not discharge visible emissions with an opacity in excess of twenty (20) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four hour period.

2. Wood Working Cyclones

Cyclones exhausts shall not discharge any gases with an opacity in excess of fifteen (15) percent for an aggregate of more than five (5) minutes in any one (!) hour or more than twenty (20) minutes in any twenty-four period.

3. Traffic and Wind Emissions from Roadways and General Grounds of Plants

No person shall cause, suffer, allow or permit discharge of a visible emission with an opacity in excess of five (5) percent on a fifteen (15) minute average except as provided in 1200-3-19-.12(3).

(2) Particulate Emission Standards for Air Contaminant Sources in Operation Prior to January 1, 1978.

(a) Wood Fired Boilers

1. This subparagraph applies to units with a heat input greater than one (1) million Btu per hour.

2. No owner or operator subject to the provisions of this subparagraph shall discharge or cause the discharge into the atmosphere from any affected facility particulate matter in excess of 0.55 pounds per million Btu of heat input not to exceed 7.7 pounds per hour.

(b) Cyclones on Wood Working Operations

No owner or operator shall discharge or cause the discharge into the atmosphere from cyclone exhausts any gases which contain particulate matter in excess if 0.02 gr/dcsf not to exceed 5.0 pounds per hour.

(c) Fabric Filter Collectors (Baghouses) on Wood Working Operations

No owner or operator shall discharge or cause the discharge into the atmosphere from baghouse exhausts particulate emissions in excess of 0.1 pounds per hour.

(3) Compliance Schedules for Particulate Matter Air Contaminant Sources in or Significantly Impacting the Bristol Nonattainment Area

(a) The owner or operator of an air contaminant source of particulate fugitive dust emissions subject to the standards in this rule proposing utilization of new and/or additional control techniques shall achieve final compliance by December 31, 1979. Final Compliance shall be determined in accordance with the method(s) specified by the Technical Secretary.

Authority: *T.C.A. 68-25-105. Administrative History. Original Rule effective February 23, 1979. Amended May 30, 1987.*

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1200-3-19-.12 PARTICULATE MATTER EMISSION REGULATIONS FOR AIR CONTAMINANT SOURCES IN OR SIGNIFICANTLY IMPACTING THE PARTICULATE NONATTAINMENT AREAS IN CAMPBELL COUNTY

(1) Visible Emission Standards for Air Contaminant Sources in Operation Prior to January 1, 1978.

(a) No person shall cause, suffer, allow or permit discharge of a visible emission from any stack with an opacity in excess of ten (10) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four (24) hour period except as provided in 1200-3-19-.12(4).

(b) No person shall cause, suffer, allow or permit discharge of a visible emission from any fugitive dust source with an opacity in excess of ten (10) percent on a 15 minute average except as provided in 1200-3-19-.12-(4).

(c) Specific Visible Emission Standards for Air Contaminant Sources in Operation Prior to January 1, 1978.

1. Limestone Aggregate Plants

Primary and secondary crushing, screening, and conveying of limestone shall not exceed 15% on a 15 minute average.

2. Coal Fired Boiler Units.

(i) This part applies to units with a heat input greater than one (1) million Btu per hour.

(ii) The units shall not discharge visible emissions with an opacity in excess of twenty (20) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four hour period.

3. Asphalt Concrete Plants

These plants shall not discharge visible emissions with an opacity in excess of twenty (20) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four (24) hour period.

4. Traffic and Wind Emissions from Roadways and General Grounds of Plants.

No person shall cause, suffer, allow or permit discharge of visible emission with an opacity in excess of five (5) percent on a fifteen (15) minute average except as provided in 1200-3-19-.12(4).

(2) Particulate Emission Standards for Air Contaminant Sources in Operation Prior to January 1, 1978

(a) Asphalt Concrete Plants

No owner or operator shall discharge or cause the discharge into the atmosphere from any affected facility any gases which contain particulate matter in excess of 0.06 gr/dscf except as provided in 1200-3-19-.12(4).

(b) Limestone Aggregate Plants

No owner or operator shall discharge or cause the discharge into the atmosphere from limestone rock tertiary crushing and screening, and agriculture lime crushing and screening any gases which contain particulate matter in excess of 0.16 gr/dscf.

(c) Feed and Grain Mills

No owner or operator shall discharge or cause the discharge from any stack any gases which contain particulate matter in excess of 0.02 gr/dscf.

(d) Concrete Block Plants

No owner or operator shall discharge into the atmosphere from any stack any gases which contain particulate matter in excess of 0.03 gr/dscf except as provided in 1200-3-19-.12- (4).

(e) Coal Fired Boiler Units

1. No owner or operator subject to the provisions of this subparagraph shall discharge or cause the discharge into the atmosphere from any affected facility particulate matter in excess of 0.4 pounds per million Btu of heat input.

2. This subparagraph applies to units with a heat input greater than one (1) million Btu per hour.

(f) Oil Fired Boiler Units

1. No owner or operator subject to the provisions of this subparagraph shall discharge or cause the discharge into the atmosphere from any affected facility particulate matter in excess of 0.015 pounds per million Btu of heat input.

2. This subparagraph applies to units with a heat input greater than one (1) million Btu per hour.

(3) Limitation of Operating Hours

(a) No owner or operator shall operate any particulate matter air contaminant source subject to the regulations set forth in paragraph 1200-3-19-.12-(1) and (2) in excess of the specified limit on operating hours contained in
Table 1.

Table 1
Limitation of Operating Hours

Air Contaminant Source	Operating Schedule
Grain Crushing and Feed Mixing	3000 HRS./YR.
Boilers at Dry Cleaners and Laundrys	3000 HRS./YR.
Boilers at Schools	2000 HRS./YR.
Boilers at Churches	7000 HRS./YR.
Asphalt Concrete Plants	2500 HRS./YR.
Concrete Block Plants	3000 HRS./YR.
Limestone crushing, screening, conveying and handling facilities with a design capacity greater than 750 tons per hour	2500 HRS./YR. 16 HRS./DAY
Limestone crushing, screening, conveying and handling facilities with a design capacity less than 250 tons per hour.	2100 HRS./YR
Limestone crushing, screening, conveying and handling facilities with a design capacity less than or equal to 750 tons per hour and greater than or equal to 250 tons per hour.	10 HRS./DAY 3210 HRS./YR

(b) The owner or operator of an air contaminant source with restricted operating hours must maintain a daily log or operating hours and keep it available for inspection by Division personnel on request for at least one year after the end of any calendar year included in the log. The owner or operator shall submit by letter on or before January 31 of each year the total hours of operation for the previous calendar year and/or the maximum daily operation for said calendar year.

(4) Compliance Schedules for Particulate Matter Air Contaminant Sources in or Significantly Impacting the Particulate Nonattainment Area in Campbell County.

(a) The owner or operator of an air contaminant source of particulate fugitive dust emissions subject to the standards in this rule proposing utilization of new and/or additional control techniques shall achieve final compliance by December 31, 1979. Final compliance shall be determined in accordance with the method specified by the Technical Secretary.

(b) No owner or operator shall cause, suffer, allow, or permit discharge of particulate matter emissions from any stack in excess of the standards in this rule after December 31, 1979. Final compliance shall be determined in accordance with the method(s) specified by the Technical Secretary.

(c) Specific Compliance Schedules

1. Owners or operators of asphalt concrete plants are required to have air contaminant sources achieve final compliance with the standards in this rule by July 1, 1979.

2. Owners or operators of concrete block manufacturing plants are required to have air contaminant sources achieve final compliance with the standards in this rule by July 1, 1979.

Authority: *T.C.A. 68-25-105. Administrative History. Original Rule effective April 23, 1979. Amended May 30, 1987.*

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1200-3-19-.13 PARTICULATE MATTER EMISSION REGULATIONS FOR THE BULL RUN NONATTAINMENT AREA AND ODOMS BEND NONATTAINMENT AREA

(1) All particulate matter emission sources in operation prior to January 1, 1978 which are in and significantly impact on these nonattainment areas are subject to the general requirements as found in the Air Pollution Control Rules and Regulations of the State of Tennessee for sources in unclassified and attainment areas.

Authority: *T.C.A. 68-25-105. Administrative History. Original Rule effective April 23, 1979.*

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1200-3-19-.14 SULFUR DIOXIDE EMISSION REGULATIONS FOR THE NEW JOHNSONVILLE NONATTAINMENT AREA

(1) Sulfur Dioxide Emission Standards for Air Contaminant Sources in operation prior to January 1, 1981.

(a) Definitions

1. Titanium dioxide manufacturing plant is a pigment manufacturing plant.

2. Neutral sulfite semi-chemical corrugating medium mill is a paper plant making a corrugating medium using a pulping process.

3. Electrolytic manganese production plant is a plant producing manganese by electrolysis.

4. Asphalt concrete plant is a plant producing a paving material consisting of a combination of aggregate that has been dried, heated, and then evenly coated with hot asphalt.

5. Sand or clay dryer is a kiln used to dry sand or clay.

6. Wood refuse boiler means a furnace or a boiler used in the process of burning wood refuse for the purpose of producing steam by heat transfer.

(b) Fuel burning installations

Fuel burning sources located in or significantly impacting on the New Johnsonville nonattainment area shall be regulated in the following manner.

1. Coal fired fuel burning installations with a heat input less than 1000 million btu per hour, shall not discharge sulfur dioxide in excess of 5.0 pounds per million btu of heat input.

2. Coal fired fuel burning installations with a heat input more than or equal to 1000 million btu per hour, shall not discharge sulfur dioxide in excess of 3.4 pounds per million btu of heat input, 24 hour average as covered in Chapter 1200-3-14-.02(1)-(e).

3. Electric generating turbines shall not discharge sulfur dioxide in excess of 0.8 pounds per million btu of heat input.

4. The sulfur dioxide emissions from wood refuse boilers shall be 90% controlled and less than 0.8 pounds per million btu of heat input.

5. The fuel burning installations using natural gas or propane or fuel oil as furl shall not discharge in excess of 0.51 pounds per million btu of heat input.

(c) Process emission sources

Process emission sources located in or significantly impacting on the New Johnsonville nonattainment area shall emit no emissions in excess of the following:

1.	Asphalt concrete plants		-	800 ppm
2.	Sand or clay dryers		-	300 ppm
3.	Titanium dioxide manufacturing plants			
	(i)	Reaction stacks	-	800 ppm
	(ii)	Spray dryers	-	300 ppm
	(iii)	Ore roasters	-	300 ppm
	(iv)	Screen dryers	-	300 ppm
	(v)	Scrubs kiln	-	300 ppm
	(vi)	Gas fired heaters	-	300 ppm
	(vii)	Slurry filter vents	-	100 ppm
	(viii)	$TiCl_4$ purification process	-	100 ppm
	(ix)	Wet treatment operation	-	100 ppm
4.	Pathological incinerators		-	1lb/hr
5.	Gray iron foundries			
	(i)	Induction furnaces	-	100 ppm
	(ii)	Preheaters	-	100 ppm
	(iii)	Heat treat ovens	-	100 ppm
6.	Electrolytic manganese production plants			
	(i)	Reduction furnaces for manganese ores	-	350 ppm
	(ii)	All other process emission sources	-	100 ppm

7. Neutral sulfite semi-chemical corrugating medium mills

(i)	Cooking liquor system	-	300 ppm
(ii)	Blowtank exhaust	-	300 ppm
(iii)	Digester vent	-	300 ppm

(iv) The process emissions sources not given a specific standard above shall emit no emissions in excess of 100 ppm.

8. Primary aluminum reduction plants

(i) All operating permits for primary aluminum reduction potlines shall expire on the rule certified date of 1200-3-19-.14(1)-(c)-8.

(ii) The Technical Secretary shall specify on the operating permit for the sources affected by subpart 8 (i) above as a permit condition the maximum sulfur content of the carbon electrodes which may be used. This percent by weight of electrodes which may be used. This percent by weight of sulfur shall not exceed 6.0 and shall be less than that value necessary to assure compliance with the primary SO_2 ambient standards after December 31, 1982 and the secondary SO_2 ambient standard after December 31, 1987.

(iii) The Technical Secretary shall specify as a condition of the operating permit for the sources affected by subpart 8 (i) above a compliance schedule assuring attainment of the secondary standard by December 31, 1987 and the primary standard by December 31, 1982.

(iv) The sulfur dioxide emissions from melting and holding furnaces shall not exceed 0.51 pounds per million btu of heat input.

Authority: *T.C.A. 68-25-105. Administrative History. Original Rule effective April 23, 1979. Revised December 17, 1982.*

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1200-3-19-.15 PARTICULATE MATTER MONITORING REQUIREMENTS FOR STEAM ELECTRIC GENERATING UNITS IN THE BULL RUN AND ODOMS BEND NONATTAINMENT AREAS

(1) This rule applies to fuel burning installations containing units of fuel burning equipment larger than 600 million Btu per hour heat input and which commenced operation before January 1, 1978.

(2) The owner or operator of a steam electric generating plant must operate at least five (5) particulate matter ambient air monitors meeting the requirements of Chapter 1200-3-12-.02 of the Tennessee Air Pollution Control Rules and Regulations until the area is designated as attainment. Even after being given an attainment classification, the owner or operator must continue to operate two (2) particulate matter ambient air monitors.

Authority: *T.C.A. 68-25-105. Administrative History. Original Rule effective April 23, 1979.*

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Rules 1200-3-19-.16 through 1200-3-19-.18 (Reserved)

1200-3-19-.19 SULFUR DIOXIDE REGULATIONS FOR THE COPPER BASIN NONATTAINMENT AREA

(1) Process emission sources located in or significantly impacting on the Copper Basin Nonattainment Area shall emit no emissions in excess of the following where each value is a three hour average on a dry basis of parts per million sulfur dioxide by volume:

(a)	Iron Roaster Impingement Scrubbers		50 PPM
(b)	Liquid Sulfur Dioxide Plants		375 PPM
(c)	Organic Chemical Plants		
(d)	1.	Copper Smelter - matte launder operation	500 PPM
	2.	Copper Smelter - other operations	50 PPM
(e)	Sulfuric Acid Plants		500 PPM

Where the general test methods specified in other chapters of these regulations cannot physically be applied to determine emissions from a particular source, then it shall be tested in accordance with the method specified by the Technical Secretary, considering testing cost and achieving a reliable measure of the true emissions. The approved procedure for measuring Sulfur Dioxide in stack gases for existing copper smelters is the method contained in Chapter 6 of the Tennessee Department of Public Health's January, 1975 edition of the Source Sampling Manual as amended on August 17, 1977 and August 5, 1980.

(2) (a) During startup and shutdown of process emission source as indicated in this paragraph, the sources indicated may operate in excess of the standards in paragraph (1). Maximum allowable emissions for these processes at these times are a indicated in Table 1. Where malfunctions occur which are beyond the control of the source operator and the emission levels exceed the allowable standards as stipulated in Table 1 of this paragraph, then these cases will be considered under Chapter 1200-3-20 of these regulations.

Table 1
Startup/Shutdown Allowable SO_2 Levels

Process Emission Source	Allowable for Startup/Shutdown **24 hr average**	Allowable for Concurrent Startup/Shutdown **3 hr average**	Allowable for Non-concurrent Startup/Shutdown **3 hr average**
Sulfuric Acid Plants	800 PPM	1200 PPM	1400 PPM
Liquid Sulfur Dioxide Plants	600 PPM	900 PPM	1000 PPM
Pellet Plants	800 PPM	1000 PPM	1500 PPM

(b) For purposes of this paragraph a concurrent period consists of a 3-hour period in which more than one acid plant and at least one liquid sulfur dioxide plant are in a startup or shutdown operating mode. Otherwise the three-hour period is a noncurrent period if any startups or shutdowns are occurring at acid plants and/or liquid sulfur dioxide plants.

(c) All concentrations are parts per million by volume, dry basis.

(d) All other sources must meet the general emission standards in other paragraphs of this rule or Chapter 1200-3-14 even during startups and shutdowns.

(3) All liquid sulfur dioxide plants in existence prior to January 1, 1978, must exhaust any emissions through a stack at least 126 feet in vertical distance above grade directly below the tip of the stack.

(4) Compliance schedule

(a) The owner or operator of a liquid sulfur dioxide plant not presently meeting the requirements of paragraph (3) shall let the necessary contracts for construction of stacks that will meet the requirements no later than January 1, 1980, shall initiate said construction no later than July 1, 1980, and shall complete construction of and utilize said complying stacks whenever the process is operated after July 1, 1981.

(b) The owner or operator of any liquid sulfur dioxide plant not meeting any of the emission standards of this rule must complete construction of modifications to meet said emission standards and start utilizing said equipment no later than May 1, 1979, must perform performance tests no later than July 1, 1979, and maintain compliance with the standards thereafter.

(5) (a) No owner or operator shall burn in any non-process fuel burning equipment located in or significantly impacting on the Copper Basin nonattainment area a #1 or #2 fuel oil with a sulfur weight content exceeding 0.500 percent nor shall such owner or operator burn in any non-process fuel burning equipment a #4, #5, or a #6 fuel oil with a sulfur weight content exceeding 1.25 percent.

(b) For any process emission source or incinerator located in or significantly impacting on the Copper Basin nonattainment area for which there is no sulfur dioxide stack standard (PPM) contained within Rule 1200-3-19-.19 of these regulations, the owner or operator shall not burn a #1 or #2 fuel oil with a sulfur weight content exceeding 0.500 percent nor shall such owner or operator burn in the process emission source or incinerator a #4, #5, or #6 fuel oil with a sulfur weight content exceeding 1.25 percent.

(c) A higher sulfur content fuel may be utilized, but only where air pollution controls limit sulfur dioxide emissions to the amount that the specified fuels alone would result in and only after this has been specifically allowed and detailed as conditions on the operating permits. A stack test must be submitted to verify the effectiveness of the controls.

(d) For any process emission source in which fuel is burned and a standard is presently stipulated in paragraph 1200-3-19- .19-(1) of these regulations then such source shall not be limited in the sulfur content of fuel provided such source meets process standards contained in Rule 1200-3-19.

(e) No mine shaft heater built between December 1, 1978 and January 15, 1979, may be operated for longer than 1080 hours in any one year.

(f) The owner or operator of an air contaminant source with restricted operating hours must maintain a daily log of operating hours and keep it available for inspection by Division personnel on request for at least one year after the end of any calendar year included in the log. The owner or operator shall submit by letter on or before January 31 of each year the total hours of operation for the previous calendar year and/or the maximum daily operation for said calendar year.

Authority: *T.C.A. 68-25-105. Administrative History. Original Rule certified June 21, 1979. Amended effective July 31, 1981*

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CHAPTER 1200-3-20
LIMITS ON EMISSIONS DUE TO MALFUNCTIONS, START-UPS, AND SHUTDOWNS

1200-3-20-.01 PURPOSE

(1) The purpose of this chapter is to place reasonable limits on the amount of emissions an air contaminant source (incinerator, fuel burning installation, wood fire boiler or process emission source) can emit due to a malfunction or during startup or shutdown of said source. Without such limits in many parts of the state and specifically in nonattainment areas, air quality standards will not be met and public health and welfare will be endangered.

Authority: *T.C.A. Section 53-3412. Administrative History. Original Rule filed February 5, 1979, effective March 21, 1979.*

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1200-3-20-.02 REASONABLE MEASURES REQUIRED

(1) Air contaminant sources must take all reasonable measures to keep emissions to a minimum during startups, shutdowns. These measures may include installation and use of alternate control systems, changes in operating methods or procedures, cessation of operation until the process equipment and/or air pollution control equipment is repaired, maintaining sufficient spare parts, use of overtime labor, use of outside consultants and contractors, and other appropriate means. For sources identified in Chapter 1200-3-19, or by a permit condition or an order issued by the Board or by the Technical Secretary as being in or significantly affecting a nonattainment area, failures that are caused by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions, and shall be considered in violation of the emission standard exceeded and this rule.

Authority: *T.C.A. Section 53-3412. Administrative History. Original Rule filed February 5, 1979, effective March 21, 1979.*

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1200-3-20-.03 NOTICE REQUIRED WHEN MALFUNCTION OCCURS.

(1) When any emission source, air pollution control equipment, or related facility breaks down in such a manner as to cause the emission of air contaminants in excess of the applicable emission standards contained in these regulations, or of sufficient duration to cause damage to property or public health, the person responsible for such equipment shall promptly notify the Technical Secretary of such failure or breakdown and provide a statement giving all pertinent facts, including the estimated duration of the breakdown. Violations of the visible emission standard which occur for less than 20 minutes in one day (midnight to midnight) need not be reported. Prompt notification will be within 24 hours of the malfunction and shall be provided by telephone to the Division's Nashville office. The Technical Secretary shall be notified when the condition causing the failure or breakdown has been corrected and the equipment is again in operation. In attainment and unclassified areas if emissions other than from sources designated as significantly impacting on a nonattainment area in excess of the standards will not and do not occur over more than a 24- hour period (or will not reoccur over more than a 24-hour period) and no damage to property and or public health is anticipated, notification is not required. Any malfunction that creates an imminent hazard to health must be reported by telephone immediately to the Division's Nashville office and to the State Civil Defense.

Authority: *T.C.A. Section 53-3412. Administrative History. Original Rule filed February 5, 1979, effective March 21, 1979. Amended: filed September 4, 1981; effective October 19, 1981.*

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1200-3-20-.04 LOGS AND REPORTS

(1) (a) A log of all malfunctions, startups, and shutdowns resulting in emissions in excess of the standards in Division 1200-3 must be kept at the plant. This log must record at least the following:

1. Stack or emission point involved.

2. Time malfunction, startup, or shutdown and/or when first noticed.

3. Type of malfunction and/or reason for shutdown.

4. Time startup or shutdown was complete or time the air contaminant source returned to normal operation.

5. The company employee making entry on the log must sign date and indicate the time of each log entry.

(b) The information under item (a) 1. and 2. of this paragraph must be entered into the log by the end of the shift during which the malfunction or startup began.

(c) All information shall be entered in the log no later than twenty-four (24) hours after the startup or shutdown is complete, or the malfunction has ceased or has been corrected.

(d) Any later discovered corrections can be added in the log as footnotes with the reason given for the change.

(2) The owner or operator of all sources located in non-attainment areas or having a significant impact on air quality in a nonattainment area (for the pollutant designated under Chapter 1200-3-19 or by the Technical Secretary) must submit a report to the Technical Secretary within 30 days after the end of each calendar quarter listing the times at which malfunctions, startups and/or shutdowns, which resulted in emissions discharged during such times. This report should also include total emissions during the quarter and be reported in a format specified by the Technical Secretary. If these emissions are required to be reported under rule 1200-3-110-.02 or under rules of Chapter 1200-3-16 then the report required by this paragraph is waived.

Authority: *T.C.A. Section 53-3412. Administrative History. Original Rule filed February 5, 1979, effective March 21, 1979.*

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1200-3-20-.05 COPIES OF LOG REQUIRED

(1) The Technical Secretary may require the owner or operator of any air contaminant source to submit a copy of the upset log required under rule .04 of this chapter to him ten (10) days after the log request is received. The Technical Secretary can require submission of copies of the entire log.

Authority: *T.C.A. Section 53-3412. Administrative History. Original Rule filed February 5, 1979, effective March 21, 1979.*

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1200-3-20-.06 SCHEDULED MAINTENANCE

(1) General.

(a) In the case of shutdown of air pollution control equipment for necessary scheduled maintenance, the intent to shut down such equipment shall be reported to the Technical Secretary at least twenty-four hours prior to the planned shutdown where such equipment will result in the discharge of emissions in excess of the standards in this Division 1200-3. such prior notice shall include, but is not limited to the following:

1. Identification of the specific source (permit unit) to be taken out of service, as well as its location and permit number.

2. The length of time that the air pollution control equipment will be out of service.

3. The nature and quantity of emissions of air contaminants likely to occur during the shutdown period.

4. Measures such as the use of off-shift labor and equipment that will be taken to minimize the emissions during the shutdown period.

(2) Exceptions to Shutdown Reporting Requirements

(b) When shutdowns referred to in paragraph .06, (a) of this rule are on a routine schedule, the report to the Technical Secretary may be furnished on an annual basis and shall list the dates and times of the routine scheduled shutdowns during the upcoming year, with the other information required in paragraph (a).

Authority: *T.C.A. Section 53-3412. Administrative History. Original Rule filed February 5, 1979, effective March 21, 1979.*

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1200-3-20-.07 REPORT REQUIRED UPON THE ISSUANCE OF NOTICE OF VIOLATION

(1) In the case of excess emissions from any source (permit unit) subject to the rules and regulations a notice of violation shall automatically be issued except for visible emissions levels included as a permit condition under Chapter 1200-3-5-.02 (1). The owner or operator of the violating source shall submit within twenty (20) days after receipt of the notice of violation the following data to assist the Technical Secretary in deciding whether to excuse or proceed upon the violation. The Technical Secretary may extend this time period for another 20 days upon receipt in the Nashville office of a written request received during the initial 20 day period.

(2) Each report shall include, as a minimum:

(a) The identity of the stack and/or other emission point where the excess emission(s) occurred:

(b) The magnitude of the excess emissions expressed in pounds per hour and the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;

(c) The time and duration of the emissions;

(d) The nature and cause of such emissions;

(e) Steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunction;

(f) The steps taken to limit the excess emissions of the occurrence reported, and

(g) Documentation that the air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions if this is the case.

(3) Failure to submit this report within the twenty (20) day period specified in paragraph (1) shall preclude the admissibility of the report data as an excuse for malfunctions, startups, and shutdowns in causing the excessive emissions.

Authority: *T.C.A. Section 53-3412. Administrative History. Original Rule filed February 5, 1979, effective March 21, 1979. Amendment filed October 28, 1981; effective December 14, 1981.*

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1200-3-20-.08 SPECIAL REPORTS REQUIRED

The Technical Secretary may require any air contaminant source to submit a report within thirty (30) days after the end of each calendar quarter in a format he specifies containing as a minimum the following information:

(a) The dates on which malfunctions, startups, and shutdowns resulted in emissions greater than those allowed by the emission standards in this Division 1200-3.

(b) The estimated amount of air contaminants emitted in excess of the emission standards in units of pounds of air contaminant per hour and pounds of air contaminant per day.

(c) Other emission characteristics such as stack exit temperature, stack height and diameter, stack exit velocities, and other similar information.

(d) Information needed to evaluate the possibility of instituting measures to eliminate or reduce the number of malfunctions and/or the amount of emissions from malfunctions, startups, and shut downs.

(e) Information to determine if the excess emissions truly result from a malfunction.

(f) Information to evaluate the impact of the emissions on the surrounding area.

Authority: *T.C.A. Section 53-3412. Administrative History. Original Rule filed February 5, 1979, effective March 21, 1979.*

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1200-3-20-.09 RIGHTS RESERVED

Nothing is this chapter shall be construed to limit the obligation of the source to attain and maintain the ambient air quality standard nor the authority of the Technical Secretary and/or Board to institute actions under other Chapters of these rules and the Tennessee Air Quality Act.

Authority: *T.C.A. Section 53-3412. Administrative History. Original Rule filed February 5, 1979, effective March 21, 1979.*

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1200-3-20-.10 ADDITIONAL SOURCES COVERED

The Technical Secretary may order the owner or operator of other air contaminant sources to report in accordance with the requirements in this chapter for those sources in nonattainment areas significantly impacting on nonattainment areas when he has reason to believe that an ambient air quality standards may be violated in the general vicinity where the source is located. There is sufficient reason for purposes of this rule to believe a standard may be violated if a value not to be exceeded more than once in a year is equaled or exceeded once and/or if individual readings have a mean excess of ninety per cent of a standard set for any given averaging interval regardless of the acceptability of the monitoring site, calibration of the monitor, and other similar mattes. Even if there are no monitors in an area, if mathematical modeling and/or physical damage in the area indicate the standards may be violated, he may order such reporting.

Authority: *T.C.A. Section 53-3412. Administrative History. Original Rule filed October 2, 1979; effective November 16, 1979.*

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CHAPTER 1200-3-21
GENERAL ALTERNATE EMISSION STANDARDS

1200-3-21-.01 GENERAL ALTERNATE EMISSION STANDARD

(1) In lieu of satisfying the standards and requirements of other Chapters of this Division, air contaminant sources with a certificate of alternate control shall not emit particulate matter, sulfur dioxide, carbon monoxide, nitrogen dioxide or volatile organic compounds in excess of the respective limits on said certificate. Air contaminant sources applying for a certificate of alternate control shall not be considered a modification under Chapter 1200-3-2-.01 (aa) provided the rated capacity in terms of heat input, charging rate, or process weight does not change for any fuel burning installation, incinerator, or process emission source respectively.

(2) The owner or operator of any air contaminant source that discharges particulate matter, sulfur dioxide, carbon monoxide nitrogen dioxide or volatile organic compounds regulated by other rules in these regulations can apply to the Technical Secretary for a Certificate of Alternate Control for an air contaminant source(s) or a portion of an air contaminant source(s) and he may grant the request if the following conditions are met:

(a) The air contaminant source or portion thereof is reducing or will be after a specific date taking actions to reduce emissions of particulate matter, sulfur dioxide, carbon monoxide nitrogen dioxide or volatile organic compounds at least as much as required under other rules of these regulations even though affected specific source(s) (i.e. permit unit) at the air contaminant source may not be meeting the mass emission standard(s) specified in the other rules of these regulations. Calculations to determine equivalence to standards limiting the pounds of volatile organic compounds per gallon of material shall be on the basis of equivalent solids applied. Under the conditions of the certificate, the total final emission limits of each given pollutant must be equivalent or less for each pollutant than under otherwise applicable rules. These limits shall include limits applied in pounds per hour, or if hourly emissions can not be determined, per as short a period over which emissions can be determined, and in tons per year for the entire air contaminant source.

(b) If a schedule of compliance is required, it must be included as a condition on the certificate. In no case shall the final compliance date be beyond a date that would cause interference with the attainment of the Reasonable Further Progress line specified for a specific nonattainment area.

(c) The air contaminant source shall verify through modeling consistent with Guideline on Air Quality Models (Revised), EPA-450/2-78-027R, with 1988 revisions, that this alternate emission standard will yield equivalent or improved air quality for the pollutant involved. For volatile organic compound emissions, modelling for ozone impacts may be required. Air quality need not improve or stay the same at every location affected by the alternate emission standard, but on balance, the air quality of the affected area must not be adversely affected. This will be demonstrated by modeling all included emission points at the proposed alternative levels and at the allowable emission level for sources subject to emissions standards in Chapter 1200-3-19 for the pollutant involved. The lower of either the allowable emission under other

Chapters in Division 1200-3 or actual emissions shall be used in all other modeling. In addition, the source shall demonstrate that the use of the alternate emission standard will not interfere with the attainment or maintenance of any ambient air quality standard nor violate any applicable ambient air quality standard nor violate any applicable ambient air increment.

(d) The pollutants involved in the alternate emission standard must be comparable emissions and no interpollutant trades are allowed. Air contaminant sources subject to the standards in Chapter 1200-3-11 cannot apply the alternate emission standard to hazardous air contaminants. Air contaminant sources subject to emission standards in Chapter 1200-3-16, or Rule 1200-3-9-.01(4) or Rule 1200-3-9- .01(5)(b) cannot use an alternate emission standard, except for reductions in actual emissions below the level required in these rules. Such reductions may be used as credit for existing sources. However, all applicable standards and requirements established under Paragraph 1200-3-9-.01(4), under Chapters 1200-3-11 and 16, and according to a lowest-achievable-emission-rate (LAER) determination under Paragraph 1200-3-9-.01(5) must be complied with and are not superseded or replaced by the alternate emission standard.

(e) A fee of one thousand dollars ($1,000.00) for each pollutant for each source to be covered by a certificate has been paid to the Department at the time the application is made to cover the cost of review of the request for the certificate of alternate control.

(f) Air contaminant sources utilizing the alternate emission standards: (1) must be in compliance with all applicable emissions limits; (2) if not in compliance, must be meeting the requirements in an approved compliance schedule; or (3) if not in compliance, must be subject to a court order which includes a compliance schedule and allows for timely modification of the decree without delaying the final compliance date. Under no circumstances can the alternate emission standard delay or defer a specified compliance date nor shall the certificate insulate the source from any penalties or sanctions for noncompliance or affect the source's liability to comply with any regulations, order or compliance plan.

(g) The provisions of the Emissions Trading Policy Statement, Federal Register, Vol. 51, No. 233, December 4, 1986, are being satisfied.

(3) The alternate emission standards and certificate conditions must be subjected to a public hearing and submitted to the EPA for approval as a revision to the State Implementation Plan. The owner or operator requesting this alternate emission control emission standard shall be responsible for all costs associated with publishing the required legal notices.

(4) Good engineering practice stack heights shall be utilized on all stack changes associated with the alternate control standards for particulate matter, sulfur dioxide, carbon monoxide, and nitrogen dioxide.

(5) The owner or operator of the facility must:

(a) Post or file on the operating premises a copy of the certificate of alternative control.

(b) Keep all pollution control equipment in good operating condition and utilize said equipment at all times.

(6) The certificate of alternate control will be revoked after administrative hearing by the Technical Secretary or the Board if it is found that any of the requirements of paragraph (2) have been violated and/or if any of the requirements of paragraph (5) have been frequently and flagrantly violated after the certificate was issued and/or if violation of the requirements of paragraph (4) and/or conditions placed on their certificate under paragraph (9) are not corrected promptly on written notice.

(7) The certificate of alternate control does not relieve the owner or operator of the duty of meeting all emission requirements in other rules for sources commenced after the effective date of the rule.

(8) Upon revocation of the certificate of alternative control the sources at the facility must comply with other rules in these regulations that would have been applicable had the certificate not been issued.

(9) The Technical Secretary shall specify the new emission limits as conditions on the certificate and if other than reference test methods are to be used to determine compliance, these should be specified on the certificate or the operating permit. Other conditions needed to insure and verify compliance may be placed on the certificate as conditions.

(10) The owner and operator is hereby placed on notice that the certificate shall become void should the Board find it proper to amend the regulations covering any source listed on the certificate if the effect is to reduce the allowable emission of the source. The certificate in this instance shall be deemed void ninety (90) days after receipt of notice from the Technical Secretary of the effective date of the revised regulations.

Authority: *T.C.A. 68-25-105. Administrative History. Original rule certified September 8, 1980.*

1200-3-21-.02 APPLICABILITY

This chapter applies only to those air contaminant sources which apply for a certificate of alternate control or a revision to a certificate of alternate control after March 18, 1993.

Authority: *T.C.A. 68-201-105 and 4-5-202.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF APRIL 18, 1994.

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CHAPTER 1200-3-22
LEAD EMISSIONS STANDARDS

1200-3-22-.01 DEFINITIONS

Unless specifically defined in this Chapter, the definitions from Chapter 1200-3-2 will apply:

(1) **"Significant Source of lead"** means:

(a) Any one permit unit, or combination of permit units as determined by the Technical Secretary, at any of the following stationary sources that emit lead or lead compounds (measured as elemental lead) of at least 1.25 tons per calendar quarter or at least five (5) tons per year whichever is the more restrictive: primary lead smelters, secondary lead smelters, primary copper smelters, lead gasoline additive plants,, lead-acid storage battery manufacturing plants that produce 2000 or more batteries per day.

(b) Not withstanding the source sizes specified in subparagraph (a) of this paragraph, any other stationary source that emits 25 or more tons per year of lead or lead compounds measured as elemental lead.

(2) **"Source"** means any structure, building, facility, equipment, installation, or operation (or combination thereof) which is located on one or more contiguous or adjacent properties and which is owned or operated by the same person (or by persons under common control). If a portion(s) of a source is rented to or leased to another person(s) for the purpose of a totally separate business venture, the Technical Secretary may designate that (those) portion(s) as a separate source(s).

(3) **"Permit unit"** means any part of a source required to obtain an operating permit as determined by the Technical Secretary.

Authority: T.C.A. Section 68-25-105 and 4-5-202. Administrative History Original rule filed November 5, 1984; effective December 5, 1984.

THIS IS THE FEDERALLY APPROVED REGULATION AS OF AUGUST 12, 1985

LAST UPDATE: December 07, 1988

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1st Revision			

1200-3-22-.02 GENERAL LEAD EMISSION STANDARDS

(1) No person shall cause, suffer, allow, or permit lead emissions in excess of the standards in this Chapter.

(2) Upon mutual agreement of the owner or operator of a significant source of lead and the Technical Secretary, an emission limit more restrictive than that otherwise specified in this Chapter may be established. Also, upon mutual agreement of the owner or operator of any source and the Technical Secretary, operating hours, process flow rates, or any other operating parameters may be established as a binding limit(s). The mutually acceptable limits shall be stated as a special condition(s) for any permit or order concerning the source. Violation of any accepted special limitations is grounds for revocation of the issued permit and/or other enforcement measures provided for in the Tennessee Air Quality Act.

Authority: *T.C.A. Section 68-25-105 and 4-5-202. Administrative History: Original rule filed November 5, 1984; effective December 5, 1984*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF AUGUST 12, 1985

LAST UPDATE: December 07, 1988

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1st Revision			

1200-3-22-.03 SPECIFIC EMISSION STANDARDS FOR EXISTING SOURCES OF LEAD

(1) For an existing source that is a significant source of lead, the Technical Secretary shall specify on the operating permit(s) as permit conditions the emission level that is reasonably available control technology (RACT).

(2) The possession of a valid permit shall not protect the source from enforcement actions if permit conditions are not met.

Authority: *T.C.A. 68-25-105 and 4-5-202. Administrative History: Original rule filed November 5, 1984; effective December 5, 1984.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF AUGUST 13, 1985

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1200-3-22-.04 STANDARDS FOR NEW AND MODIFIED SOURCES OF LEAD

(1) A new source the actual emissions of which are in excess of 5.0 tons per year of lead or lead compounds measured as elemental lead shall utilize best available control technology (BACT).

(2) Any modification of a source which results in an increase in excess of 0.6 tons per year of lead or lead compounds measured as elemental lead shall utilize BACT.

(3) The owner or operator of a proposed new or modified source of lead shall perform a source impact analysis to demonstrate that the allowable emission increases from the proposed source or modification would not cause or contribute to a violation of the lead ambient air quality standard in the source impact area including background concentrations. Source impact analysis shall be based on the applicable air quality models and data bases acceptable to the Technical Secretary.

(4) Additional requirements for certain new or modified sources of lead are given in Paragraph 1200-3-9-.01(4), Prevention of Significant Deterioration and in Chapter 1200-3-16, New Source Performance Standards, of these regulations.

Authority: *T.C.A. Section 68-25-105 and 4-5-202. Administrative History: Original rule filed November 5, 1984; effective December 5, 1984*

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1200-3-22-.05 SOURCE SAMPLING AND ANALYSIS

Source sampling and analysis for lead shall be conducted in the manner prescribed in Subparagraph 1200-3-12-.03-(1)-(j) of these regulations.

Authority: *T.C.A. Section 68-25-105 and 4-5-202. Administrative History: Original rule filed November 5, 1984; effective December 5, 1984.*

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1200-3-22-.06 LEAD AMBIENT MONITORING REQUIREMENTS

The Technical Secretary may require ambient lead monitoring in the vicinity of a source regulated by this Chapter 1200-3-22. This monitoring shall be done in accordance with the requirements of Rule 1200-3-12 of these regulations.

Authority: *T.C.A. Section 68-25-105 and 4-5-202. Administrative History: Original rule filed November 5, 1984; effective December 5, 1984.*

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CHAPTER 1200-3-24
GOOD ENGINEERING PRACTICE STACK HEIGHT REGULATIONS

1200-3-24-.01 GENERAL PROVISIONS

(1) This chapter provides that the degree of emission limitation required of any source of any air pollutant must not be affected by that portion of any source's stack height that exceeds good engineering practice (GEP) or by any other dispersion technique, except as provided in (a) and (b) of paragraph (2) of this rule. A source may want to establish an emission limitation based on the good engineering practice stack height demonstrated by a fluid model or field study. If the source demonstrates the good engineering practice stack height demonstrated by a fluid model or field study, the Technical Secretary must notify the public of the availability of the demonstration study and must provide opportunity for public hearing on it. This chapter does not restrict in any manner the actual stack height of any source.

(2) The provisions of this chapter shall not apply to:

(a) Stack heights in existence, or dispersion techniques implemented on or before December 31, 1970, except where pollutants are being emitted from such stacks or using such dispersion techniques by stationary sources which were constructed, or reconstructed, or for which major modifications, as defined in 1200-3-9-.01(4)(b)2. and 1200-3-9-.01(4)(b)2.(i)(I) and which were carried our after December 31, 1970; or

(b) Coal-fired steam electric generating units which commenced operation before July 1, 1957, and whose stacks were constructed under a construction contract awarded before February 8, 1974.

Authority: *T.C.A. 68-25-105 and T.C.A. 4-5-202. Administrative History: Original Rule Filed October 8, 1987; effective November 22, 1987.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF OCTOBER 19, 1988

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1200-3-24-.02 DEFINITIONS

(1) Within the context of this chapter the following definitions apply:

(a) **"Dispersion technique"** means any technique which attempts to affect the concentration of a pollutant in the ambient air by:

1. Using that portion of a stack which exceeds good engineering practice stack height;

2. Varying the rate of emission of a pollutant according to atmospheric conditions or ambient concentrations or that pollutant; or

3. Increasing final exhaust gas plume rise by manipulating source process parameters, exhaust gas parameters, or combining exhaust gases from several existing stack into one stack; or other selective handling of exhaust gas streams so as to increase the exhaust gas plume rise.

(i) The preceding sentence does not include:

(I) The reheating of a gas stream, following use of a pollution control system, for the purpose of returning the gas to the temperature at which it was originally discharged from the facility generating the gas stream;

(II) The merging of exhaust gas streams where:

I. The source owner or operator demonstrates that the facility was originally designed and constructed with such merged gas streams;

II. After July 8, 1985, such merging is part of a change in operation at the facility that includes the installation of pollution controls and is accompanied by a net reduction in the allowable emissions of a pollutant. This exclusion from the definition of "dispersion techniques" shall apply only to the emission limitation for the pollutant affected by such change in operation; or

III. Before July 8, 1985, such merging was part of a change in operation at the facility that included the installation of emissions control equipment or was carried out for sound economic or engineering reasons. Where there was an increase in the emissions limitation or, in the event that no emission limitation was in existence prior to the merging, an increase in the quantity of pollutants actually emitted prior to the merging, the Technical Secretary shall presume that merging was significantly motivated by an intent to gain emissions credit for greater dispersion. Absent a demonstration by the source owner or operator that merging

was not significantly motivated by such intent,the Technical Secretary shall deny credit for the effects of such merging in calculating the allowable emissions for the source;

(III) Smoke management in agricultural or silvicultural prescribed burning programs;

(IV) Episodic restrictions on residential woodburning and open burning; or

(V) Techniques under 1200-3-24-.02(1)(a)3. which increase final exhaust gas plume rise where the resulting plant wide allowable emissions of sulfur dioxide do not exceed 5,000 tons per year.

(b) **"Emission limitation" and "emission standard"** mean a requirement established by the Technical Secretary, which limits the quantity rate or concentration of emissions of air pollutants on a continuous basis, including any requirements which limit the level of opacity, prescribe equipment, set fuel specifications, or prescribe operation or maintenance procedures for a source to assure continuous emission reduction.

(c) **"Good engineering practice" (GEP) stack height** means the greater of:

1. 65 meters (213 feet), measured from the ground-level elevation at the base of the stack:

2. Considering other stack criteria the following formulae apply:

(i) For stacks in existence on January 12, 1979 and for which the owner or operator had obtained all applicable permits or approvals required,

$$H_g = 2.5\,H,$$

provided the owner or operator produces evidence that this equation was actually relied on in establishing an emission limitation;

(ii) For all other stacks;

$$H_g = H = 1.5L$$

where:

H_g = good engineering practice stack height, measured from the ground-level elevation at the base of the stack,

H = height of nearby structure(s) measured from ground-level elevation at the base of the stack,

L = lesser dimension, height (H) or projected width, of nearby structure(s) provided that the Technical Secretary may require the use of a field study or fluid model to verify GEP stack height for the source; or

3. The height demonstrated by a fluid model or a field study approved by the Technical Secretary, which ensures that the emissions from a stack do not result in excessive concentrations of any air pollutant as a result of atmospheric downwash, wakes, or eddy effects created by the source itself, nearby structure or nearby terrain features.

(d) "**Nearby**" as used in 1200-3-24-.02(1)(c) is defined for a specific structure or terrain feature and

1. For the purposes of applying the formulae provided in part 1200-3-24-.02(1)(c)2. means that distance up to five times the lesser of the height or the width dimension of a structure, but not greater than 0.8 km (1/2 mile); and

2. For conducting demonstrations under part 1200-3-24-.02(1)(c)3. means not greater that 0.8 km (1/2 mile), except that the portion of a terrain feature may be considered to be nearby which fall within a distance of up to 10 times the maximum height (H_t) of the feature, not to exceed 2 miles if such feature achieves a height (h_t) 0.8 km from the stack height that is at least 40 percent of the GEP stack height determined by the formulae provided in 1200-3-24-.02(1)(c)2.(ii) or 26 meters (85 feet), whichever is greater, as measured from the ground level elevation at the base of the stack. The height of the structure or terrain feature is measured from the groundlevel elevation at the base of the stack.

(e) "**Excessive concentration**" is defined for the purposes of determining good engineering practice stack height under 1200-3-24-.02(1)(c)3 and means:

1. For sources seeking credit for stack height exceeding that established under 1200-3-24-.02(1)(c)2., a maximum groundlevel concentration due to emissions from a stack due in part to a downwash, wakes, and eddy effects produced by nearby structures or nearby terrain features which individually is at least 40 percent in excess of the maximum concentration experienced in the absence of such downwash, wakes, and eddy effects and which contributes to a total concentration due to emissions from all sources that is greater than an ambient air quality standard. For sources subject to the prevention of significant deterioration program, an excessive concentration alternately means a maximum ground-level concentration due to emissions from a stack due in whole or part to downwash, wakes, or eddy effects produced by nearby structures or nearby terrain features which individually is at least 40 percent in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects and greater that a prevention of significant deterioration increment. The allowable emission rate to be used in making demonstrations under this Chapter shall be prescribed by the new source performance standard (NSPS) that is applicable to the source category unless the owner or operator demonstrates that this emission rate is infeasible. Where such demonstrations are approved by the Technical Secretary, an alternative emission rate shall be established in consultation with the source owner or operator;

2. For sources seeking credit after October 11, 1983, for increases in existing stack heights established under 1200-3-24-.02(1)(c)2. either:

   (i) a maximum ground-level concentration due in whole or part to downwash, wakes, or eddy effects as provided in 1200-3-24-.02(1)(e)1.; except that the emission rate specified by the State Implementation Plan (or, in absence of such a limit, the actual emission rate) shall be used, or

   (ii) the actual presence of a local nuisance caused by the existing stack, as determined by the Technical Secretary; and

3. For sources seeking credit after January 12, 1979 for a stack height determined under 1200-3-24-.02(1)(c)2. where the Technical Secretary requires the use of a field study or fluid model to verify GEP stack height, for sources seeking stack height credit after November 9, 1984 based on the aerodynamic influence of cooling towers, and for sources seeking stack height credit after December 31, 1970 based on the aerodynamic influence of structures not adequately represented by the equations in Rule 1200-3-24-02(1)(c)2., a maximum ground-level concentration due in whole or part to downwash, wakes, or eddy effects that is at least 40 percent in excess of the maximum concentration experienced in the absence of downwash, wakes, or eddy effects.

(f) **"Stack"** for the purpose of good engineering practice means any point in a source designed to emit solids, liquids, or gases into the air, including a pipe or duct but not including flares.

(g) **"A stack in existence"** means that the owner or operator had;

   (1) begun, or caused to begin, a continuous program of physical on-site construction of the stack; or

   (2) entered into binding agreements or contractual obligations, which could not be canceled or modified without substantial loss to the operator to undertake a program of construction of the stack to be completed in a reasonable time.

(h) **"Coal-fired steam electric generating unit"** means any furnace boiler, or other device used for combusting coal for the purpose of producing steam and is constructed for the purpose of supplying more than on-third of its potential electric outlet capacity and more than 25 megawatts electrical output to any utility power distribution system for sale.

Authority: *T.C.A. 68-25-105 and T.C.A. 4-5-202. Administrative History: Original Rule filed October 8, 1987; effective November 22, 1987.*

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1st Revision			

1200-3-24-.03 GOOD ENGINEERING PRACTICE STACK HEIGHT REGULATIONS STANDARDS

(1) No person shall cause, suffer, allow, or permit emissions in excess of the standards in this chapter.

(2) Upon mutual agreement of the owner or operator of a source and the Technical Secretary, an emission limitation more restrictive than that otherwise specified in this chapter may be established. Violation of any accepted special limitations is grounds for revocation of the issued permit and/or other enforcement measures provided for in the Tennessee Air Quality Act.

(3) The possession of a valid permit shall not protect the source from enforcement actions if permit conditions are not met.

Authority: *T.C.A 68-25-105 and T.C.A. 4-5-202. Administrative History: Original Rule filed October 8, 1987; effective November 22, 1987.*

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1200-3-24-.04 SPECIFIC EMISSION STANDARDS

For any affected air contaminant source(s) at a facility, the Technical Secretary shall specify on the construction and/or operating permit(s) as permit conditions the emission limitation that is determined to be necessary under the provisions of this chapter. The permit(s) must be subjected to a public hearing and incorporated as a revision to the State Implementation Plan.

Authority: *T.C.A. 68-25-105 and T.C.A. 4-5-202. Administrative History: Original Rule filed October 8, 1987; effective November 22, 1987.*

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CHAPTER 1200-3-27

NITROGEN OXIDES

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1200-3-27-.01 DEFINITIONS

(1) For the purpose of this rule, the following definitions apply:

(a) **"Facility"** means any source or group of sources located within a contiguous area, under common control.

(b) **"Nitrogen Oxides"** means all oxides of nitrogen except nitrous oxide.

(2) The definitions in Chapter 1200-3-2 apply for those terms not defined in Chapter 1200-3-27.

Authority: *TCA 68-201-105 and 4-5-202. Effective April 19, 1993.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF September 27, 1996.

	Date Submitted to EPA	Date Approved by EPA	Final Federal Register Notice
Original Reg	JUN 14, 1993	JUL 29, 1996	61 FR 39236
1st Revision			

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1200-3-27-.02 GENERAL PROVISIONS AND APPLICABILITY

(1) It is the purpose of this chapter to establish emission standards and requirements for certain sources of nitrogen oxides.

(2) Upon mutual agreement of any air contaminant source and the Technical Secretary, an emission limit more restrictive than that otherwise specified in this chapter may be established. Also, upon mutual agreement of any air contaminant source and the Technical Secretary, operating hours, process flow rates, or any other operating parameter may be established as a binding limit which the source must adhere to. Any items mutually agreed to shall be stated as a special condition for any permit or order concerning the source. Violation of this mutual agreement shall result in enforcement action.

(3) Nothing in this chapter shall be construed to exempt sources from meeting other applicable rules in this division and standards and requirements derived from or according to rules of this division, including, but not limited to, new source review requirements, permit conditions, and standards and requirements mutually agreed to or included in the State Implementation Plan.

(4) No owner or operator subject to these regulations may build, erect, install, or use any article, machine, equipment, process, or other method the use of which conceals emissions that would otherwise constitute non-compliance with an applicable regulation. This 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.

(5) The owner or operator of a source for which legal notice must be published to effect a source-specific compliance method, compliance demonstration method, recordkeeping method, reporting method, etc. shall be responsible for all costs associated with publishing the required legal notice.

(6) The owner or operator of any facility in Davidson, Rutherford, Shelby, Sumner, Williamson, or Wilson County which has actual emissions from stationary sources of 25 tons or more of nitrogen oxides during a calendar year shall report to the Technical Secretary information and data concerning these emissions and VOC emissions. This information and data shall be in the form prescribed by the Technical Secretary, and shall be submitted before March 31 of the year following the calendar year for which the information and data is reported. The first report shall be for the 1993 calendar year, and shall be submitted before March 31, 1994. Each report shall be certified by an official of the company. Records must be kept by the facility, and maintained for a period of 3 years, documenting the information and data in each report.

Authority: *TCA 68-201-105 and 4-5-201 et. seq.. Administrative History: Original rule filed March 5, 1993; Effective April 19, 1993. Rule Amended: Filed April 18, 1994; Effective July 2, 1994. Rule Amended. Filed May 10, 1994; Effective July 24, 1994. Rule Amended. August 14, 1995; Effective October 28, 1995.*

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4th Revision			

1200-3-27-.03 STANDARDS AND REQUIREMENTS

(1) Emission standards for sources of nitrogen oxides apply as follows:

(a) *Note: This section was not federally approved into the SIP. See Federal Register notice (61 FR 39326, July 29, 1996) for additional information.*

(b) Specifically, the owner or operator of a tangentially-fired coal burning boiler having a heat input capacity in excess of 600 million BTU per hour in Davidson, Rutherford, Sumner, Williamson, or Wilson County shall not allow emissions of nitrogen oxides from that boiler in excess of 0.45 pounds per million BTU (30-day rolling average) (RACT).

(2) *Note: This section was not federally approved into the SIP. See Federal Register notice (61 FR 39326, July 29, 1996) for additional information.*

(3) Compliance schedules apply as follow:

(a) The owner or operator of a boiler subject to the requirements of Subparagraph (1)(b) of this rule shall:

1. Submit a final control plan, acceptable to the Technical Secretary, for the installation of nitrogen oxides emission control systems and/or modifications of fuel burning equipment to the Technical Secretary by April 26, 1994;

2. Complete construction or installation of equipment by May 31, 1995, and

3. Demonstrate full compliance with nitrogen oxides reasonable available control technology by July 31, 1995, using approved test methods and procedures; and

(b) *Note: This section was not federally approved into the SIP. See Federal Register notice (61 FR 39326, July 29, 1996) for additional information.*

(4) *Note: This section was not federally approved into the SIP. See Federal Register notice (61 FR 39326, July 29, 1996) for additional information.*

Authority: *TCA 68-201-105 and 4-5-202. Effective November 27, 1993.*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF September 27, 1996.

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1200-3-29

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CHAPTER 1200-3-29
LIGHT-DUTY MOTOR VEHICLE INSPECTION AND MAINTENANCE

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1200-3-29-.01 PURPOSE

The purpose of this Chapter is to reduce the air pollution produced by the operation of light-duty motor vehicles.

Authority: *T.C.A. §§ 68-201-105 and 4-5-202*

1200-3-29-.02 DEFINITIONS

As used in this Chapter, all terms not defined herein shall have the meaning given them in Chapter 1200-3-2:

Air Pollution is any particulate matter or any gas or vapor other than water or any combination thereof including any physical, chemical, biological, radioactive substance or matter which is emitted into or otherwise enters the ambient air.

Antique motor vehicle is any motor vehicle over twenty-five years old which is owned solely as a collectors' item and is used for participation in club activities, exhibits, tours, parades and similar uses, but in no event for general transportation.

Carbon dioxide is a compound consisting of the chemical formula (CO_2).

Carbon monoxide is a compound consisting of the chemical formula (CO).

Catalytic converter is a pollution control device containing a catalyst for converting automobile exhaust into mostly harmless products.

Centralized Network means that motor vehicle inspections are conducted by the State and/or a single contractor in an area.

Certificate of Compliance is a certification issued by a Department vehicle inspector or a fleet vehicle inspector that the motor vehicle identified on the certificate complies with the emission performance and anti-tampering criteria appropriate to the vehicle as specified in this regulation.

Contractor is a person, business firm, partnership, city or county government, or corporation with whom the Department has a contract that provides for the operation of one or more Official Inspection Stations.

Department means the Tennessee Department of Environment and Conservation, Division of Air Pollution Control.

Department Vehicle Inspector is any person employed by the Tennessee Division of Air Pollution Control and/or contractor who is certified by the Technical Secretary as qualified to perform vehicle emissions performance and anti-tampering inspections.

Diesel powered motor vehicle is a motor vehicle powered by a compression-ignition internal combustion engine.

Electric powered motor vehicle is a motor vehicle which uses a propulsive unit powered exclusively by electricity.

Exhaust emissions are substances emitted into the atmosphere from any opening downstream from the exhaust ports of a motor vehicle engine.

Exhaust gas analyzer is a device for sensing the amount of air pollutants, including carbon monoxide and hydrocarbons, in the exhaust emissions of a motor vehicle. For the purpose of this regulation, this shall mean analyzing devices of the nondispersive infrared type or any other analyzing devices that provide equal or greater accuracy as approved by the Technical Secretary.

Factory-Installed Motor Vehicle Pollutant Control System is a motor vehicle pollution control system installed by the vehicle or engine manufacturer to comply with the United States government motor vehicles emission control laws and regulations.

Fleet means 50 or more light-duty motor vehicles owned by the same person or business entity which are in-use, registered in Rutherford, Sumner, Williamson or Wilson counties and not owned or held primarily for the purpose of resale.

Fleet Inspection Location is any motor vehicle inspection facility operated by a fleet operator holding a valid fleet inspection permit.

Fleet Inspection Permit is a certificate issued by the Technical Secretary authorizing a fleet operator to conduct motor vehicle inspection in accordance with this regulation and other requirements as determined by the Department.

Fleet Operator is the person owning a group of motor vehicles which constitute a fleet as defined in this regulation.

Fleet Vehicle Inspector is any person retained by a fleet operator holding a valid fleet inspection permit and who is certified by the Technical Secretary as qualified to perform vehicle emissions performance and anti-tampering inspections.

Gasoline inlet restrictor is the leaded fuel nozzle restrictor installed on motor vehicles which was designed for the use of unleaded gasoline only.

Gasoline powered motor vehicles is any motor vehicle powered by spark-ignition internal combustion engine.

GVWR is a term defining the gross vehicle weight as determined from the combined manufacturer vehicle and maximum load rating.

Heavy-duty motor vehicle is any motor vehicle having a combined manufacturer vehicle and maximum loading rate (GVWR) to be carried thereon in the excess of 8500 pounds (3855 kilograms).

Hydrocarbon is any organic compound consisting predominantly of carbon and hydrogen.

Idle speed means the unloaded engine speed of a motor vehicle when the accelerator pedal is fully released. In a vehicle equipped with an automatic transmission, this is with the drive selector in neutral or park. In a vehicle equipped with a manual transmission, this is with the gear selector in neutral and the clutch fully engaged. In all vehicles, the engine operated accessories shall be turned off.

Internal combustion engine is any engine in which the combustion of gaseous, liquid or pulverized solid fuel takes place within one or more cylinders, or any engine with one or more combustion chambers.

Light-duty motor vehicle is any motor vehicle having a combined manufacturer vehicle and maximum load rating to be carried thereon (GVWR) of more than 8500 pounds (3855 kilograms).

Manufacturers Idle-speed Specification is the engine idle speed specified for a particular motor vehicle as printed on the engine compartment emissions system data plate or in the owners manual.

Model Year means the annual production period of new motor vehicles or new motor vehicle engines designated by the calendar year in which such production ends. If the manufacturer does not designate a production period, the year with respect to such vehicle or engines shall mean the twelve (12) month period beginning January of the year in which production thereof begins. The model year for a motor vehicle constructed by other than the original manufacturer shall be assigned by the Technical Secretary.

Motor vehicle is any self-propelled vehicle used for transporting persons or commodities on public roads.

Motor Vehicle Regulatory License is the annual motor vehicle license required as a condition for legal operation of certain classes of motor vehicles.

Motorcycle is any motor vehicle having a seat or saddle for the use of the rider and designed to travel on not more than three wheels in contact with the ground, and having a curb weight of 2000 pounds (907 kilograms) or less.

New motor vehicle is any motor vehicle that has never been previously titled or registered in this or any other jurisdiction and whose ownership document remains as a manufacturer's certificate of origin.

Official Inspection Station means a facility operated by the Department and/or contractor to conduct test only vehicle inspections pursuant to this regulation, in a Centralized Network.

Pollution Control Device is the equipment designed by the manufacturer for installation on a motor vehicle for the purpose of reducing pollutants emitted from the vehicle, or a system or engine modification on a motor vehicle which causes a reduction of pollutants emitted from the motor vehicle.

RPM is a term describing the engine crankshaft revolutions per minute.

Tampering means to remove, render inoperative, cause to be removed, or make less operative any emission control device, unless such removal or act to render inoperative or less operative is for the purpose of motor vehicle disposal or salvage operation.

Technical Secretary is the Technical Secretary of the Air Pollution Control Board of the State of Tennessee or his designated representative.

Vehicle Exhaust System mean all devices, equipment and systems which transport exhaust emissions from the exhaust ports of the motor vehicle engine to the atmosphere.

Wheel Tax is the annual commercial vehicle tax required as a condition for the legal operation of certain classes of motor vehicles.

Authority: *T.C.A. §§ 68-201-105 AND 4-5-202*

1200-3-29-.03 MOTOR VEHICLE INSPECTION REQUIREMENTS

(1) All of the light-duty motor vehicles either registered in Rutherford, Sumner, Williamson or Wilson Counties, or directly with the motor vehicle division of the Tennessee Department of Revenue pursuant to T.C.A. § 55-4-207 and used within or assigned to a user within these four (4) counties, except those exempted by Rule 1200-3-29-.04, are required to be inspected annually for compliance with emissions performance and anti-tampering test criteria in Rules 1200-3-29-.05 and 1200-3-29-.06. Owners of vehicles so inspected are required to obtain a Certificate of Compliance. A Certificate of Compliance shall be valid for 90 days following the date of issuance, except for those registered pursuant to T.C.A. § 55-4-207, which shall be valid for one year.

(2) All light-duty vehicles which are operated on Federal installations located in Rutherford, Sumner, Williamson and Wilson counties are required to be inspected annually for compliance with emissions performance and anti-tampering criteria in Rules 1200-3-29-.05 and 1200-3-29-.06.

(a) This requirement applies to all employee-owned or leased vehicles (including vehicles owned, leased or operated by civilian and military personnel on Federal installations) as well as agency-owned or operated vehicles operated on the installation.

(b) This requirement shall not apply to a visiting agency, employee, or military personnel vehicle as long as such visit does not exceed 60 calendar days per year.

(c) The Federal installation shall provide documentation of proof of compliance to the Technical Secretary. The documentation at a minimum shall include the following:

1. A list of all subject vehicles showing proof of compliance.

2. An updated list of the subject vehicles shall be submitted to the Technical Secretary annually.

(3) A Certificate of Compliance shall be issued only by the Department and/or contractor vehicle inspector or a licensed fleet vehicle inspector and only after the vehicle demonstrates compliance with the test criteria established in Rules 1200-3-29-.05 and 1200-3-29-.06.

(4) All light-duty motor vehicles required to obtain a Certificate of Compliance except those vehicles contained in a fleet which has a valid fleet inspection permit and those vehicles registered in Rutherford, Sumner, Williamson and Wilson Counties but not subject to either the Wheel Tax or the Motor Vehicle Regulatory License requirements shall obtain a valid Certificate of Compliance within 90 days prior to the required date for payment of the wheel tax or the motor vehicle regulatory license fee as appropriate to the class of motor vehicle.

(5) All light-duty motor vehicles required to obtain a Certificate of Compliance that are contained in a fleet having a valid fleet inspection permit, operated on a Federal installation in Rutherford, Sumner, Williamson or Wilson Counties, or are vehicles registered in Rutherford, Sumner, Williamson and Wilson Counties but exempt from the Wheel Tax and Motor Vehicle Regulatory License requirements shall obtain a valid Certificate of Compliance within 90 days prior to a compliance date for that particular motor vehicle. A schedule of compliance dates for such vehicles shall be established by the Technical Secretary.

(6) The Certificate of Compliance must be presented to the County Clerks' office prior to the issuance of the Wheel Tax or the Vehicle Regulatory License.

(7) The requirements contained in this Chapter shall become effective July 1, 1994.

Authority: *T.C.A. §§ 68-201-105, 55-4-101 et seq. AND 4-5-202*

1200-3-29-.04 EXEMPTION FROM MOTOR VEHICLE INSPECTION REQUIREMENTS

(1) The following classes of motor vehicles are exempt from the requirements established in Rule 1200-3-29-.03 of this Chapter:

(a) antique motor vehicles

(b) diesel powered light-duty motor vehicles

(c) electric powered light-duty vehicles

(d) gasoline powered light-duty motor vehicles with a designated model year prior to 1975

(e) motorcycles

(f) heavy-duty motor vehicles

(g) new motor vehicles being registered for the first time

(h) tactical military vehicles

Authority: *T.C.A. §§ 68-201-105 and 4-5-202*

1200-3-29-.05 MOTOR VEHICLE EMISSION PERFORMANCE TEST CRITERIA

(1) Vehicles shall not be allowed to complete emission performance testing if one or more of the following conditions exist when the vehicle is presented for testing:

(a) The vehicle exhaust system leaks in such a way as to dilute the exhaust emissions being sampled by the exhaust gas analyzer; the sum of carbon monoxide and carbon dioxide concentrations recorded for idle speed reading from an exhaust outlet must not be less than 6%.

(b) The visible emissions from the motor vehicle are such that it would interfere with operation of the testing equipment.

(2) Vehicles with idle speed emission values which exceed the test standards specified in Table I shall fail the emission performance test.

TABLE I
MAXIMUM IDLE SPEED EMISSIONS ALLOWABLE
DURING IDLE SPEED EMISSIONS TEST

	CO (%)		HC (PPM)	
VEHICLE MODEL YEAR	LIGHT-DUTY VEHICLES LESS THAN OR EQUAL TO 6000 LBS GVWR	LIGHT-DUTY VEHICLES GREATER THAN 6000 LBS GVWR	LIGHT-DUTY VEHICLES LESS THAN OR EQUAL TO 6000 LBS GVWR	LIGHT-DUTY VEHICLES GREATER THAN 6000 LBS GVWR
1975	5.0	6.5	500	750
1976	5.0	6.5	500	750
1977	5.0	6.5	500	750
1978	4.0	6.0	400	600
1979	4.0	6.0	400	600
1980	3.0	4.5	300	400
1981 & NEWER	1.2	4.0	220	400

(3) When a motor vehicle is equipped with other than the original engine or when a motor vehicle has been constructed, modified, customized or altered in such a way so that the model year cannot be clearly determined, the vehicle shall be classified for purposes of the emission performance test by the model year of the chassis.

Authority: *T.C.A. §§ 68-201-105 AND 4-5-202*

1200-3-29-.06 MOTOR VEHICLE ANTI-TAMPERING TEST CRITERIA

(1) Each vehicle subject to an emission performance test is also subject to a visual anti-tampering inspection under this rule and shall comply with the following minimum anti-tampering requirements:

(a) At a minimum, the emissions control devices subject to an inspection are the catalytic converter, gasoline fuel inlet restrictor and fuel filler cap. If any emission control devices are found in a tampered condition, such devices shall be repaired or replaced prior to any retesting or reinspection as provided for in Rule 1200-3-29-.10. For the purpose of this rule, tampering of the gasoline fuel inlet restrictor shall constitute tampering of the catalytic converter, and such catalytic converter shall be replaced prior to any retesting or reinspection.

(b) Nothing in this Rule shall be construed as to relieve a motor vehicle owner from complying with the provisions of Rule 1200-3-29-.05.

Authority: *T.C.A. §§ 68-201-105 AND 4-5-202*

1200-3-29-.07 MOTOR VEHICLE EMISSIONS PERFORMANCE TEST METHODS

(1) The motor vehicle emissions performance test shall consist of the sampling of exhaust emission at idle speed and measurement of CO_2 dilution, CO concentration and HC concentration.

(2) Sampling of exhaust emission shall consist of measurement of CO_2 dilution, CO concentration and HC concentration during idle operation using an approved exhaust gas analyzer. Measurements taken during the initial idle phase may be succeeded by measurements taken during a second idle phase which has followed an engine conditioning phase consisting of engine operation at approximately 2500 RPM for approximately 20 seconds. The lowest emission readings from either of these idle speed test phases shall be used to determine pass or failure of the emissions performance test.

Authority: *T.C.A. §§ 68--201-1-5 AND 4-5-202*

1200-3-29-.08 MOTOR VEHICLE ANTI-TAMPERING TEST METHODS

(1) The motor vehicle anti-tampering test shall be verified by the Department vehicle inspector and consist of the following elements:

(a) The vehicle will be checked by the Department vehicle inspector to see that the appropriate gas cap is securely in place. If the appropriate gas cap is not in place, it will result in the failure of the anti-tampering test.

(b) If the gas cap is present, it will be removed and the gasoline inlet restrictor on the vehicle will be checked to see if it has been damaged or removed. If the inlet restrictor has been damaged or removed, it will result in the failure of the anti-tampering test.

(c) The Department vehicle inspector will check visually (with a mirror or otherwise) to see if the catalytic converter is the correct type for the certified vehicle configuration and is properly connected. If the catalytic converter has been tampered with, removed or is the incorrect configuration it will result in the failure of the anti-tampering test.

(2) Pass/fail determination. A pass or fail determination will be made for each of the test elements in Paragraph 1200-3-29-.08(1). If a vehicle fails any of the anti-tampering elements in Paragraph 1200-3-29-.08(1), it will result in the failure of the motor vehicle inspection test and a Certificate of Compliance will not be issued until the repairs have been made to the vehicle.

Authority: *T.C.A. §§ 68-201-105 AND 4-5-202*

1200-3-29-.09 MOTOR VEHICLE INSPECTION PROGRAM

(1) The motor vehicle inspection program shall be operated by the Tennessee Department of Environment and Conservation, Division of Air Pollution Control, the State approved local government and/or the State approved contractor.

(2) All motor vehicle inspections shall be conducted at official or mobile inspection stations operated by the Department, local government and/or contractor except those fleet inspections provided for in Paragraph 1200-3-29-.09(3) of this regulation.

(3) In lieu of the requirement in Paragraph 1200-3-29-.09(2) of this regulation, vehicles owned or operated by a fleet operator to whom a fleet inspection permit has been issued may be inspected by a licensed fleet vehicle inspector at a site other than an official inspection station.

(4) A light-duty fleet vehicle operator may make application to the Technical Secretary for fleet inspection permit. Minimum requirements for issuance of a permit shall be:

(a) Possession of an approved exhaust gas analyzer, tools and equipment determined by the Technical Secretary to be adequate for conducting the required emissions inspections;

(b) Demonstration of knowledge of methods and procedures for conducting the required emissions performance and anti-tampering inspections according to criteria developed by the Technical Secretary;

(c) Provisions of appropriate facility for vehicle testing and appropriate secure storage facility for storage of Certificates of Compliance and records of inspections;

(d) Agreement to supply inspection and Certificate of Compliance issuance information as requested by the Technical Secretary and to allow access to testing facility, testing equipment, testing personnel, testing data, Certificate of Compliance inventory and fleet vehicles as requested by the Technical Secretary;

(e) Retention of licensed fleet vehicle inspector to conduct fleet vehicle inspections.

(5) A fleet inspection permit shall be valid for one year from the date of issuance and may be renewed through application to the Technical secretary within 30 days prior to the date of expiration. A fleet inspection permit is not transferable and may be denied, suspended or revoked by the Technical Secretary for failure to comply with this regulation and other requirements as determined by the Department.

(6) A person employed or retained by a fleet operator holding a valid fleet inspection permit may make application to the Technical Secretary for a fleet vehicle inspector's license. Minimum requirements for issuance of this license shall be:

(a) Successful completion of a vehicle inspector training course prepared and offered by the Department;

(b) Successful completion of the mechanics training course approved by the Technical Secretary;

(c) Agreement to participate in additional training activities from time to time as specified by the Technical Secretary;

(d) Provision of written evidence that applicant is employed or retained by the fleet operator.

(7) A fleet inspector's license shall be valid for one year from the date of issuance and may be renewed through application to the Technical Secretary within thirty (30) days prior to the date of expiration. A fleet vehicle inspector's license is not transferable and may be denied, suspended or revoked by the Technical Secretary for failure to comply with this regulation and other requirements as determined by the Department.

(8) All vehicles issued a Certificate of Compliance under the provision of Paragraph 1200-3-29-.09(3) of this regulation shall be subject to retesting at either the fleet inspection location or an official inspection station as deemed necessary by the Technical Secretary in order to maintain compliance with the intent of this regulation.

Authority: *T.C.A. §§ 68-201-105 AND 4-5-202.*

1200-3-29-.10 MOTOR VEHICLE INSPECTION FEE

(1) There shall be a fee set by the Tennessee Air Pollution Control Board pursuant to the contact entered into with a Contractor. The fee shall be for each emission test and payable at the time of inspection unless the vehicle qualifies for an inspection without charge as specified in Paragraph(3). The test fee shall not exceed the fee charged by the Metropolitan Nashville Davidson County Health Department's Pollution Control Division, as specified in Regulation No. 8.

(2) There shall be a fee of four dollars ($4.00) for each Certificate of Compliance supplied to licensed fleet inspectors for issuance to motor vehicles which comply with the testing provisions of this regulation.

(3) Each vehicle which fails its initial inspection is entitled to one (1) reinspection at no charge if the vehicle is accompanied by the entire initial inspection report.

(4) Motor vehicle owners or operator shall be given in writing the results of all inspection procedures carried out at any official inspection station.

(5) There shall be a fee of One Hundred Dollars ($100.00) for each annual Fleet Inspection Permit issued to fleet vehicle operators.

(6) There shall be a fee of One Hundred Dollars ($100.00) for each initial annual Fleet Vehicle Inspector's License issued to a fleet vehicle inspector; there shall be a fee of Twenty Five Dollars ($25.00) for each annual renewal of a Fleet Vehicle Inspector's License.

Authority: *T.C.A. §§ 68-201-105, 68-203-103 AND 4-5-202*

THIS IS THE FEDERALLY APPROVED REGULATION AS OF September 26, 1996.

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