REGULATION 7

Standards of Performance for New Affected Facilities

REGULATION 7.01 General Provisions

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates To: KRS Chapter 77 Air Pollution Control
Pursuant To: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the Air Pollution Control Board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation establishes the general provisions for the application of standards of performance for new affected facilities.

SECTION 1 Applicability

Unless specifically exempted in Regulation 2.02, this regulation applies to any affected facility the construction, modification, or reconstruction of which is commenced on or after the effective date of an applicable standard of performance in this regulation.

SECTION 2 Permits Required

Unless specifically exempted, all affected facilities must obtain a permit issued by the District pursuant to Regulation 2.

SECTION 3 Reporting and Recordkeeping

Notwithstanding the provisions of this regulation for specific sources or Regulation 2:

3.1 Any owner or operator subject to this regulation shall furnish the District written notification as follows:

3.1.1 A notification of the anticipated date of initial startup of a new affected facility not more than 60 days or less than 30 days prior to such dates;

3.1.2 A notification of the actual date of initial startup of a new affected facility within 15 days after such date.

3.2 Any owner or operator subject to this regulation shall maintain for a period of two years a record of the occurrence and duration of any startup, shutdown, or malfunction in operation of any affected facility.

3.3 A written report of excess emissions as defined in applicable subsections shall be submitted to the District by each owner or operator for each calendar quarter. The report shall include the magnitude of excess emissions as measured by the required monitoring equipment reduced to the units of the applicable standard, the date, and time of commencement and completion of each period of excess emissions. Periods of excess emissions due to startup, shutdown, and malfunction shall be specifically identified. The nature and cause of any malfunction (if known), and corrective action taken, or preventive measures adopted shall be reported. Each quarterly report is due by the 30th day following the end of the calendar quarter. Reports are not required for any quarter unless there have been periods of excess emissions.

3.4 Any owner or operator subject to this regulation shall maintain a file of all measurements, including monitoring and performance testing measurements, and all other reports and records required by all applicable subsections. Any such measurements, reports, and records shall be retained for at least two years following the date of such measurements, reports, and records.

3.5 An owner or operator of an affected facility subject to this regulation shall furnish the District, as requested, with all reports on emissions, equipment status, process information, in stack emission monitoring, stack testing, fuels data, and other relevant areas relating to permitted affected facilities in accordance with Regulation 2 and this regulation.

SECTION 4 Performance Tests

4.1 Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility and at such other times as may be required by the District, the owner or operator of any affected facility except those affected facilities specified below shall conduct performance tests according to Regulation 1.04 and furnish the District a written report of the results of such performance tests.

4.1.1 Process operation with a process weight rate of less than 100 tons per hour;

4.1.2 Indirect heat exchanger of 100 million BTU heat input per hour or less;

4.1.3 Incinerator with a charging rate of 45 metric tons per day (50 tons/day) or less; or

4.1.4 Affected facilities specified in Regulations 7.09, 7.12, 7.14, 7.15, 7.16, 7.18, 7.19, 7.20, 7.21, 7.22, 7.23, 7.35, 7.36, 7.52, 7.53, 7.54, 7.57, 7.58, 7.59, 7.60, and 7.61.

4.2 The District may require the owner or operator of any affected facility including those specified in sections 4.1.1 through 4.1.4 to conduct performance tests according to Regulation 1.04 and furnish a written report of the results of such performance tests.

SECTION 5 Notification and Recordkeeping

Nothing in this section shall relieve the owner or operator from the responsibility of obtaining the appropriate permits.

5.1 Any owner or operator subject to this regulation shall furnish the District written notification as follows:

5.1.1 The date of construction, reconstruction, or modification of an affected facility is commenced, postmarked no later than 30 days after such date;

5.1.2 The anticipated date of initial startup of an affected facility postmarked not more than 60 days nor less than 30 days prior to such date;

5.1.3 The actual date of initial startup of an affected facility postmarked within 15 days after such date;

5.1.4 Any modification of any affected facility. This notice shall be postmarked 60 days, or as soon as practicable before the change is commenced, and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The District may request additional relevant information subsequent to this notice; and

5.1.5 The date upon which demonstration of the continuous monitoring system performance test commences in accordance with section 6.3. Notification shall be postmarked not less than 30 days prior to such date.

5.2 Any owner or operator subject to the provisions of this regulation shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

5.3 Each owner or operator required to install a continuous monitoring system shall submit for every calendar quarter a written report of excess emissions (as defined in applicable sections) to the District. Both a printed report and computer tape or cards shall be furnished in the format specified by the District. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter and shall include the following information:

5.3.1 The magnitude of excess emissions computed in accordance with section 6, any conversion factors used, and the date and time of commencement and completion of each time period of excess emissions;

5.3.2 All hourly averages shall be reported for sulfur dioxide and nitrogen oxides monitors. The hourly averages shall be made available on computer tape or cards;

5.3.3 Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted;

5.3.4 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 the system repairs or adjustments; and

5.3.5 When no excess emissions have occurred or the CEMS has not been inoperative, repaired, or adjusted, such information shall be stated in the report.

5.4 Any owner or operator subject to this regulation shall maintain a file of all measurements, including CEMS, monitoring device, and performance testing measurements; all CEMS performance evaluations; all CEMS or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this regulation recorded in a permanent form suitable for inspection. The file shall be retained for at least 2 years following the date of such measurements, maintenance, reports and records.

SECTION 6 Monitoring Requirements

6.1 Unless otherwise approved by the District or specified in applicable sections, this section shall apply to all CEMS required under this regulation.

6.2 All CEMS and monitoring devices shall be installed and operational prior to conducting performance tests under section 4. Verification of operational status shall, as a minimum, consist of the following:

6.2.1 For CEMS in section 6.3.1, completion of the conditioning period specified by applicable requirements in 40 CFR Part 60 Appendix B;

6.2.2 For CEMS referenced in section 6.3.1 of this section, completion of seven days of operation;

6.2.3 For monitoring devices referenced in applicable regulations, completion of the manufacturer's written requirements or recommendations for checking the operation of the device.

6.3 During any performance tests required under section 4 or within 30 days thereafter and at such other times as may be required by the District, the owner or operator of any affected facility shall conduct CEMS performance evaluations and furnish the District within 60 days thereof a copy of a written report of the results of such tests. These CEMS performance evaluations shall be conducted in accordance with the following specifications and procedures:

6.3.1 Continuous monitoring systems listed within this section except as provided in section 6.3.2 shall be evaluated in accordance with the requirements and procedures contained in the applicable performance specification of 40 CFR Part 60 Appendix B as follows:

6.3.1.1 Continuous monitoring systems for measuring opacity of emissions shall comply with Performance Specification 1;

6.3.1.2 Continuous monitoring systems for measuring nitrogen oxides emissions shall comply with Performance Specification 2;

6.3.1.3 Monitoring systems for measuring sulfur dioxide emissions shall comply with Performance Specification 2;

6.3.1.4 Continuous monitoring systems for measuring the oxygen content of carbon dioxide content of effluent gases shall comply with Performance Specification 3.

Adopted v1/7-14-76; effective 9-1-76; amended v2/11-16-83, v3/4-20-88.

	Date Submitted	Date Approved	Federal Register
Original Reg:	06/29/79	01/25/80	45 FR 6092
1st Revision:	09/22/00	10/23/01	66 FR 53658

REGULATION 7.06 Standards of Performance for New Indirect Heat Exchangers

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates to: KRS Chapter 77 Air Pollution Control
Pursuant to: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the air pollution control board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of emissions from new indirect heat exchangers.

SECTION 1 Applicability

This regulation applies to each affected facility commenced after the applicable classification date defined below.

SECTION 2 Definitions

Terms used in this regulation not defined herein shall have the meaning given them in Regulation 1.02.

2.1 "Affected facility" means an indirect heat exchanger having input capacity of more than one million BTU per hour.

2.2 "Classification date" means:

2.2.1 August 17, 1971 for affected facilities with a capacity of more than 250 million BTU per hour heat input with respect to particulate emissions, sulfur dioxide emissions and, if fuels other than lignite are burned, nitrogen oxide emissions;

2.2.2 April 9, 1972 for affected facilities with a capacity of 250 million BTU per hour heat input or less with respect to particulate emissions and sulfur dioxide emissions; or

2.2.3 December 22, 1976 for affected facilities with a capacity of more than 250 million BTU per input with respect to nitrogen oxides if lignite is the fuel burned.

2.3 "Coal" means all solid fuels classified as anthracite, bituminous, sub-bituminous or lignite by ASTM designation D388-66.

2.4 "Coal refuse" means waste products of coal mining, cleaning, and coal preparation operations, which contain coal, matrix material, clay, and other materials.

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

2.6 "Indirect heat exchanger" means any piece of equipment, apparatus or contrivance used for the combustion of fuel in which the energy produced is transferred to its point of usage through a medium that does not come in contact with or add to the products of combustion.

2.7 "Wood residue" means bark, sawdust, slabs, chips, shaving, mill trim, and other wood products derived from wood processing and forest management operations.

SECTION 3 Method for Determining Allowable Emission Rates

3.1 The total rated heat input capacity of all affected facilities within a source, including those for which an application to construct, modify or reconstruct has been submitted to the

District, shall be used as specified in sections 4 and 5 to determine the allowable emission in terms of pounds per million BTU input.

3.2 At such times as any affected facility is assigned an allowable emission rate by the District, at no time thereafter shall that rate be changed due to inclusion or shutdown of any affected facility at the source.

SECTION 4 Standard for Particulate Matter

No owner or operator of an affected facility shall cause to be discharged into the atmosphere from that affected facility, particulate matter in excess of that specified below:

4.1 For sources having a total heat input capacity as determined by section 3.1 that are:

4.1.1 10 million BTU per hour or less, the standard is 0.56 pounds per million BTU actual heat input;

4.1.2 250 million BTU per hour or more, the standard is 0.10 pounds per million BTU actual heat input;

4.1.3 If the affected facility commenced before the effective date of this regulation, for heat input values between 4.1.1 and 4.1.2 above, the standard in pounds per million BTU actual heat input is equal to 0.9634 times that quantity obtained by raising the total heat input capacity (in millions of BTU per hour) to the -0.2356 power;

4.1.4 If the affected facility commenced on or after the effective date of this regulation, for heat input values between 4.1.1 and 4.1.2 on previous page, the standard in pounds per million BTU actual heat input is equal to 1.919 times that quantity obtained by raising the total heat input capacity (in millions of BTU per hour) to the -0.535 power; or

4.2 Emissions which exhibit greater than 20% opacity except:

4.2.1 For indirect heat exchangers with a heat input capacity of less than 250 million BTU/hr, a maximum of 40% opacity shall be permissible for not more than two consecutive minutes in any 60 consecutive minutes;

4.2.2 For indirect heat exchangers with heat input capacity of less than 250 million BTU/hr, a maximum of 40% opacity shall be permissible for not more than six consecutive minutes in any 60 consecutive minutes during cleaning the fire box or blowing soot; or

4.2.3 For emissions from an indirect heat exchanger during building a new fire for the period required to bring the boiler up to operating conditions provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations.

SECTION 5 Standard for Sulfur Dioxide

No owner or operator of an affected facility shall cause to be discharged into the atmosphere from that affected facility any gases which contain sulfur dioxide in excess of that specified below:

5.1 For sources which have a total heat input capacity as determined by section 3.1:

5.1. 1 The standard is 1.0 pound per million BTU actual heat input for combustion of liquid and gaseous fuels if the source has a total heat input capacity of 145 million BTU per hour or less. The standard is four pounds per million BTU actual heat input for combustion of solid fuels if the source has a total heat input capacity of ten million BTU per hour or less;

5.1.2 If the source has a total heat input capacity of 250 million BTU per hour or more, the standard is 0.8 pound per million BTU actual heat input for combustion of liquid and gaseous fuels and 1.2 pounds per million BTU actual heat input for combustion of solid fuels;

5.1.3 For heat input values between 5.1.1 and 5.1.2 above, the standard in pounds per million BTU actual heat input is equal to:

5.1.3.1 For combustion of liquid and gaseous fuels, 7.7223 times that quantity obtained by raising the total heat input capacity (in millions of BTU per hour) to the -0.4106 power;

5.1.3.2 For combustion of solid fuels, 9.46 times that quantity obtained by raising the total heat input capacity (in millions of BTU per hour) to the -0.3740 power.

5.2 When different fuels are burned simultaneously in any combustion, the applicable standard shall be determined by proration using the equation in Appendix A.

5.3 Compliance shall be based on the total heat input from all fuels burned, including gaseous fuels.

SECTION 6 Standard for Nitrogen Oxides

6.1 No owner or operator of an affected facility with a heat input capacity of 250 million BTU per hour or more shall cause to be discharged into the atmosphere any gases which contain nitrogen oxides expressed as nitrogen dioxide in excess of:

6.1.1 0.20 lb per million BTU heat input (0.36 g per million cal) derived from gaseous fuel;

6.1.2 0.30 lb per million BTU heat input (0.54 g per million cal) derived from liquid fuel;

6.1.3 0.70 lb per million BTU heat input (1.26 g per million cal) derived from solid fuel (except lignite);

6.1.4 0.60 lb per million BTU heat input (1.08 g per million cal) derived from lignite fuel.

6.2 When different fuels are burned simultaneously in any combination, the applicable standard shall be determined by proration using the equation in Appendix B.

SECTION 7 Emission and Fuel Monitoring

This section applies to any affected facility of more than 250 million BTU per hour rated heat input capacity.

7.1 Each owner or operator shall install, calibrate, maintain, and operate CEMSs for measuring the opacity of emissions, sulfur dioxide emissions, nitrogen oxides emissions and either oxygen or carbon dioxide except as provided in section 7.2.

7.2 Certain of the CEMS requirements under section 7.1 do not apply to owners or operators under the following conditions:

7.2.1 For an indirect heat exchanger that burns only gaseous fuel, CEMSs for measuring the opacity of emissions are not required;

7.2.2 For an indirect heat exchanger that burns only natural gas, CEMSs for measuring sulfur dioxide emissions are not required;

7.2.3 Notwithstanding Regulation 7.01 section 6.2, installation of a CEMS for nitrogen oxides may be delayed until after the initial performance tests under Regulation 7.01 section 4 have been conducted. If the owner or operator demonstrates during the performance test that emissions of nitrogen oxides are less than 70% of the applicable standards in section 6, a CEMS for measuring nitrogen oxides emissions is not required. If the initial performance test results show that nitrogen oxide emissions are greater than 70% of the applicable standard, the owner or operator shall install a CEMS for nitrogen oxides within one year after the date of the initial performance tests under Regulation 7.01 section 4 and comply with all other applicable monitoring requirements under these regulations.

7.2.4 If an owner or operator does not install any CEMSs for sulfur oxides and nitrogen oxides, as provided under sections 7.2.1 and 7.2.3 or sections 7.2.2 and 7.2.3, a CEMS for measuring either oxygen or carbon dioxide is not required.

7.2.5 For an indirect heat exchanger that does not use a flue gas desulfurization device, a CEMS for measuring sulfur dioxide emissions is not required if the owner or operator monitors sulfur dioxide emissions by fuel sampling & analysis.

7.3 For performance evaluations under Regulation 6.01 section 6.3 and calibration checks under Regulation 7.01 section 6.4, the following procedures shall be used:

7.3.1 Reference Method 6 or 7, as applicable, shall be used for conducting performance evaluations of sulfur dioxide and nitrogen oxides CEMSs;

7.3.2 Sulfur dioxide or nitric oxide, as applicable, shall be used for preparing calibration gas mixtures under Performance Specification 2 of 40 CFR Part 60 Appendix B;

7.3.3 For affected facilities burning fossil fuel, the span value for a CEMS measuring the opacity of emissions shall be 80%, 90%, or 100% and for a CEMS measuring sulfur oxides or nitrogen oxides the span value shall be determined as shown in Appendix C;

7.3.4 All span values computed under section 7.3.3 for burning combinations of fuels shall be rounded to the nearest 500 ppm;

7.3.5 For an indirect heat exchanger that simultaneously burns fossil fuel and nonfossil fuel, the span value of all CEMSs shall be subject to the District's approval.

7.4 A CEMS for measuring either oxygen or carbon dioxide in the flue gases shall be installed, calibrated, maintained and operated by the owner or operator.

7.5 For any CEMS installed under section 7.4, the following conversion procedure shall be used to convert the continuous monitoring data into units of the applicable standards (ng/J, lb/million BTU);

7.5.1 When a CEMS for measuring oxygen is selected, the measurement of the pollutant concentration and oxygen concentration shall each be on a consistent basis (wet or dry). Alternative procedures approved by the District shall be when measurements are on a wet basis. When measurements are on a dry basis, the following conversion procedure shall be used:

$$E = \frac{20.9CF}{20.9 - \%\ oxygen}$$

where:

E, C, F and % oxygen are determined under section 7.6.

7.5.2 When a CEM for measuring carbon dioxide is selected, the measurement of a pollutant concentration and carbon dioxide concentration shall each be on a consistent basis (wet or dry) and the following conversion procedure shall be used:

$$E = \frac{100\ CFc}{\%\ carbon\ dioxide}$$

where:

E, C, Fc and % carbon dioxide are determined under section 7.6.

7.6 The values used in the equations in sections 7.5.1 and 7.5.2 are derived as follows:

7.6.1 E = Pollutant emission, g/million cal (lb/million BTU).

7.6.2 C = Pollutant concentration, g/dscm (lb/dscf), determined by multiplying the average concentration (ppm) for each one-hour period by .0000415 M g/dscm per ppm (2.59 times ten raised to the minus nine power times M lb/dscf per ppm) where M= pollutant molecular weight, g/g-mole (lb/lb-mole).

M = 64.07 for sulfur dioxide and 46.01 for nitrogen oxides.

7.6.3 F, Fc = a factor representing a ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted (F), and a factor representing a ratio of the volume of carbon dioxide generated to the calorific value of the fuel combusted (Fc), respectively, as follows:

7.6.3.1 For anthracite coal as classified according to ASTM D388-66(72), F = 1.139 dscm/million cal (10140 dscf/million BTU) and Fc = 0.222 scm CO_2/million cal (1980 scf CO_2/million BTU).

7.6.3.2 For sub-bituminous and bituminous coal as classified according to ASTM-D388-66 (72), F = 1.103 dscm/million cal (9820 dscf.million BTU) and Fc = 0.203 scm CO_2/million cal (1810 scf CO2/million BTU).

7.6.3.3 For liquid fossil fuels including crude, residual, and distillate oils, F = 9220 dscf/million BTU and Fc = 1430 scf CO_2/million BTU.

7.6.3.4 For gaseous fossil fuels, F = 0.982 dscm/million cal (8740dscg/million BTU). For natural gas, propane and butane fuels, Fc = 0.117 scm CO_2/million cal (1040 scf CO_2/million BTU) for natural gas; 0.135 scm CO_2/million cal (1200 scf CO_2/million BTU) for propane; and 0.142 scm CO_2/million cal (1260 scf CO_2/million BTU) for butane.

7.6.3.5 For bark, F = 0.450 dscm/million cal (9575 dscf/million BTU) and Fc = 0.091 scm CO_2/million BTU. For wood residue other than bark, F = 0.434 dscm/million cal (9233 dscf/million BTU) and Fc = 0.086 scm CO_2/million cal (1842 scf CO_2/million BTU).

7.6.4 The owner or operator may use the equation given in Appendix D to determine an F factor (dscm/million cal, or dscf/million BTU) on a dry basis (if it is desired to calculate

F on a wet basis, consult with the District or Fc factor scf of the F or Fc factors specified in section 7.6.3.

7.6.4.1 H, C, S, N, and O are content by weight of hydrogen carbon, sulfur, nitrogen, and oxygen (expressed as percent), respectively, as determined on the same basis as GCV by ultimate analysis of the fuel fired using ASTM method D3178-73 or D3176-74 (solid fuels) or computed from results using ASTM methods D1137-53(75), D1945-64(73), D1946-67(72) (gaseous fuels) as applicable.

7.6.4.2 GCV is the gross calorific value (cal/g, BTU/lb) of the fuel combusted determined by ASTM test methods D2015- 66(72) for solid fuels and D1826-64(70) for gaseous fuels as applicable.

7.6.5 For affected facilities firing combinations of fuels, the For Fc factors determined by sections 7.6.3 and 7.6.4 shall be prorated in accordance with applicable formula as given in Appendix E.

7.7 For the purpose of reports required under Regulation 7.01 section 5.3, periods of excess emissions that shall be reported are defined as follows:

7.7.1 Opacity. Excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 20% opacity, except that one six-minute average per hour of up to 27% opacity need not be reported.

7.7.2 Sulfur dioxide. Excess emissions for affected facilities are defined as any three hour period during which the average emissions (arithmetic average of three contiguous one hour periods) of sulfur dioxide as measured by a continuous monitoring system exceed the applicable standard under section 5.

7.7.3 Nitrogen oxides. Excess emissions for affected facilities using a continuous monitoring system for measuring nitrogen oxides are defined as any three hour period during which the average emissions (arithmetic average of three contiguous one hour periods) exceed the applicable standards under section 6.

7.8 The District may require for any indirect heat exchanger unit of 250 million BTU per hour heat input or less any or all of the emission and fuel monitoring required by this section.

SECTION 8 Test Methods and Procedures

8.1 The reference methods in 40 CFR Part 60 Appendix A, except as provided in Regulation 1.04, shall be used to determine compliance with the standards prescribed in sections 4, 5, and 6 as follows:

8.1.1 Method 1 for selection of sampling site and sample traverses;

8.1.2 Method 3 for gas analysis to be used when applying Reference Methods 5, 6, and 7;

8.1.3 Method 5 for concentration of particulate matter and the associated moisture content;

8.1.4 Method 6 for concentration of sulfur dioxide;

8.1.5 Method 7 for concentration of nitrogen oxides.

8.2 For Method 5, Method 1 shall be used to select the sampling site and the number of traverse sampling points. The sampling time for each run shall be at least 60 minutes and the minimum sampling volume shall be 0.85 dscm (30 dscf) except that smaller process variables or other factors, may be approved by the District. The probe and filter holder heating systems in the sampling train shall be set to provide a gas temperature no greater than 160 ^{0}C (320 ^{0}F).

8.3 For Methods 6 and 7, the sampling site shall be the same as that selected for Method 5. The sampling point in the duct shall be at the centroid of the cross section or at a point no closer to the walls than 1 m (3.28 ft). For Method 6, the sample shall be extracted at a constant rate of 1 liter/min, approximately.

8.4 For Method 6, minimum sampling time shall be 20 minutes and the minimum sampling volume shall be 0.02 dscm (0.71 dscf) for each sample. The arithmetic mean of 2 samples shall constitute one run. Samples shall be taken at approximately 30 minute intervals.

8.5 For Method 7, each run shall consist of at least four grab samples taken at approximately 15 minute intervals. The arithmetic mean of the samples shall constitute the run value.

8.6 For each run using the methods in sections 8.1.1, 8.1.2, and 8.1.3, the emissions expressed in g/million cal (lb/million BTU) shall be determined by the following procedure:
where

$$E = \frac{20.9\ CF}{20.9 - \%\ oxygen}$$

E = pollutant emission g/million cal (lb/million BTU).
C = pollutant concentration, g/dscm (lb/dscf), determined by Method 5, 6, or 7.
F = a factor as determined in sections 8.6.3, 8.6.4, or 8.6.5 of section 7.
% oxygen = oxygen content by volume (expressed as percent), dry basis. Percent oxygen shall be determined by using the integrated or grab sampling and analysis procedures of Method 3 as applicable. The sample shall be obtained as follows:

8.6.1 For determination of sulfur dioxide and nitrogen oxides emissions, the oxygen sample shall be obtained simultaneously at the same point in the duct as used to obtain the samples for Methods 6 and 7 determinations respectively. For Method 7, the oxygen sample shall be obtained using the grab sampling and analysis procedures of Method 3.

8.6.2 For determination of particulate emissions, the oxygen sample shall be obtained simultaneously by traversing the duct at the same sampling location used for each run of Method 5 under section 8.2. Method 1 shall be used for selection of the number of traverse points except that no more than 12 sample points are required.

8.7 When combination of fossil fuels are fired, the heat input, expressed in cal/hr (BTU/hr), shall be determined during each testing period by multiplying the gross calorific value of each fuel fired by the rate of each fuel burned. Gross caloric value shall be determined in accordance with ASTM methods D2015-66(72) (solid fuels) D240-76 (liquid fuels), or D1826-64(70) (gaseous fuels) as applicable. The rate of fuels burned during each testing period shall be determined by suitable methods and shall be confirmed by a material balance over the steam generation system.

Adopted v1/7-14-76; effective 9-1-76; amended v2/4-21-82.

	Date Submitted	Date Approved	Federal Register
Original Reg:	06/29/79	01/25/80	45 FR 6092
1st Revision:	05/21/99	10/23/01	66 FR 53658

Appendix A to Regulation 7.06

Determination of Allowable Sulfur Dioxide Emissions

Allowable sulfur dioxide emissions in pounds per million BTU per hour heat input =

$$\frac{ya + zb}{y + z}$$

where:

y = the percent of total heat input derived from liquid or gaseous fuel.

a = the allowable sulfur dioxide emission in pounds per million BTU heat input derived from liquid or gaseous fuel.

z = the percent of total heat input derived from solid fuel.

b = the allowable sulfur dioxide emission in pounds per million BTU heat input derived from solid fuel.

Appendix B to Regulation 7.06

Determination of Allowable Nitrogen Dioxide Emissions

Allowable nitrogen dioxide emissions in pounds per million BTU/hour heat input =

$$\frac{0.6w + 0.2x + 0.3y + 0.7z}{w + x + y \quad z}$$

where:

w = the percent of total heat input derived from lignite.

x = the percent of total heat input derived from gaseous fuel.

y = the percent of total heat input derived from liquid fuel.

z = the percent of total heat input derived from solid fuel (except lignite).

Appendix C to Regulation 7.06

Determination of Span Value
(in parts per million)

Fossil Fuel	Span Value for Sulfur Dioxide	Span Value for Nitrogen Oxides
Gas	Not applicable	500
Liquid	1,000	500
Solid	1,500	500
Combinations	1,000y + 1,500z	500 (x+y) + 1,000z

where:

x = the fraction of total heat input derived from gaseous fossil fuel.
y = the fraction of total heat input derived from liquid fossil fuel.
z = the fraction of total heat input derived from solid fossil fuel.

Appendix D to Regulation 7.06

Determination of F or Fc Factor

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$$Fc = \frac{2.0 \ X \ 10-^{5}(\%C)}{GCV} \quad (Metricunits)$$

$$Fc = \frac{321 \ x \ 10^{3}(\%C)}{GCV} \quad (Englishunits)$$

where:

H, C, S, N and O are content by weight of hydrogen, carbon, sulfur, nitrogen, and oxygen (expressed as percent) respectively, as determined on the same basis as GCV by ultimate analysis of the fuel fired, using ASTM method D3178-73 or D3176-74 (solid fuels) or computed from results using ASTM methods D1137-53(75), D19545- 64(73), or D1946-67(72) (gaseous fuels) as applicable.

GCV is the gross calorific value (cal/g, BTU/lb) of the fuel combusted, determined by ASTM test method D2015-66(72) for solid fuels or D1826-64(70) for gaseous fuels as applicable.

Appendix E to Regulation 7.06

Determination of F or Fc Factor for Firing Combinations

$$F = xF_1 + yF_2 + zF_3$$

where:

x,y,z = the fraction of total heat input derived from gaseous, liquid, and solid fuel, respectively.

F_1, F_2, F_3, = the value of F for gaseous, liquid, and solid fuels respectively under sections 7.6.3 and 7.6.4.

$$Fc = \sum_{i=1}^{n} X_i \, (Fc)_i$$

where:

X_i = the fraction of total heat input derived from each type fuel (e.g., natural gas, butane, crude oil, bituminous coal, etc.)

$(Fc)_i$ = the applicable Fc factor for each fuel type determined in accordance with sections 7.6.3 and 7.6.4.

REGULATION 7.07 Standard of Performance for New Incinerators

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates To: KRS Chapter 77 Air Pollution Control
Pursuant To: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the Air Pollution Control Board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of particulate emissions from new incinerators.

SECTION 1 Applicability

This regulation applies to each incinerator commenced on or after April 19, 1972, which is the affected facility. This regulation shall not apply to any medical waste incinerator, existing or new, as defined in Regulation 6.41 or 7.78. It shall not apply to any new municipal solid waste incinerator as defined in Regulation 7.76.

SECTION 2 Definitions

Terms used in this regulation not defined herein shall have the meaning given them in Regulation 1.02.

2.1 "Auxiliary fuel" means a substance burned in an incinerator to supply additional heat to attain temperature sufficiently high to dry and ignite waste material and to maintain ignition of the waste material, but which is never in contact with the waste material.

2.2 "Incinerator" means any furnace used in the process of burning waste for the purpose of reducing the volume of the waste by removing combustible matter.

SECTION 3 Standard for Particulate Matter

3.1 No owner or operator of any affected facility shall cause, suffer, allow, or permit the emission produced by the incineration of any substance to have greater than 20% opacity.

3.2 No owner or operator of an affected facility up to 499 lbs/hr capacity shall cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of 0.45 g/dscm (0.20 gr/dscf) corrected to 12% carbon dioxide excluding the contribution of carbon dioxide from auxiliary fuel.

3.3 No owner or operator of an affected facility of 500 1b/hr up to and including 45 metric tons per day charging rate (50 tons/day) shall cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of 0.23 g/dscm (0.1 gr/dscf) corrected to 12% carbon dioxide excluding the contribution of carbon dioxide from auxiliary fuel.

3.4 On and after the date on which the performance test required to be conducted by Regulation 7.01 is completed, no owner or operator of an affected facility of more than 45 metric tons per day charging rate (50 tons/day) shall cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of 0.18g/dscm

(0.08 gr/dscf) corrected to 12% carbon dioxide excluding the contribution of carbon dioxide from auxiliary fuel.

SECTION 4 Monitoring of Operations

The owner or operator of an affected facility of more than 45 metric tons per day charging rate (50 tons per day) shall record the daily charging rates and hours of operation.

SECTION 5 Nameplate

All affected facilities shall have a nameplate installed in a conspicuous place on the unit giving the manufacturer's name, model number, rated capacity, and the types of waste material for which the unit is designed.

SECTION 6 Test Methods and Procedures

6.1 The reference methods as defined in Regulation 1.04 shall be used to determine compliance with the standard prescribed in section 3.

6.2 The sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be 0.85 dscm (30.0 dscf) except that smaller sampling times or sample volumes, when necessitated by process variables or other factors, may be approved by the District.

6.3 If a wet scrubber is used, the gas analysis sample shall reflect flue gas conditions after the scrubber, allowing for carbon dioxide absorption by sampling the gas on the scrubber inlet and outlet sides according to either the procedure under sections 6.3.1 through 6.3.5 or the procedure under section 7.

6.3.1 The outlet sampling site shall be the same as for the particulate matter measurement.

6.3.2 Randomly select nine sampling points within the cross section at both the inlet and outlet sampling sites. Use the first set of three points for the first run, the second set for the second run, and the third set for the remaining set for the third run.

6.3.3 Simultaneously with each particulate matter run, extract and analyze for carbon dioxide an integrated gas sample traversing the three sample points and sampling at each point for equal increments of time. Conduct the runs at both inlet and outlet sampling sites.

6.3.4 Measure the volumetric flow rate at the inlet during each particulate matter run using the full number of traverse points. For the inlet, make two full velocity traverses approximately one hour apart during each run and average the results. The outlet volumetric flow rate may be determined from the particulate matter run.

6.3.5 Calculate the adjusted carbon dioxide percentage using the equation in Appendix A.

SECTION 7 Alternative Procedures

Alternatively, the following procedures may be substituted for the procedures in sections 6.3.3, 6.3.4, and 6.3.5.

7.1 Simultaneously with each particulate matter run, extract and analyze for carbon dioxide, oxygen, and carbon monoxide an integrated gas sample traversing the three sample points and sampling for equal increments of time at each point. Conduct the runs at both the inlet and outlet sampling sites.

7.2 After completing the analysis of the gas sample, calculate the percentages of excess air for both the inlet and outlet sampling sites.
7.3 Calculate the adjusted carbon dioxide percentage using the equation in Appendix B.
7.4 Particulate matter emissions, expressed in g/dscm, shall be corrected to 12% carbon dioxide by using the formula in Appendix C.

SECTION 8 Emission Monitoring

A continuous monitoring system for the measurement of opacity of emissions discharged into the atmosphere from each incinerator with a charging capacity of more than 45 metric tons per day (50 tons/day) shall be installed, calibrated, maintained, and operated by the owner or operator subject to this regulation. This requirement does not apply to incinerators using wet scrubbers.

Adopted v1/7-14-76; effective 9-1-76; amended v2/11-16-83, v3/9-15-93.

	Date Submitted	Date Approved	Federal Register
Original Reg:	06/29/79	01/25/80	45 FR 6092
1st Revision:	05/21/99	10/23/01	66 FR 53658

Appendix A to Regulation 7.07

$$\%CO_2\ A = \%CO_2\ D\ \left(\frac{Q_i}{Q_o} \right)$$

Calculation for Adjusted Carbon Dioxide Percentage

where:

$\%CO_2A$ = the adjusted carbon dioxide percentage which removes the effect of carbon dioxide absorption and dilution air.

$\%CO_2D$ = the percentage of carbon dioxide measured before the scrubber, dry basis.

Q_i = the volumetric flow rate before the scrubber average of two runs, dscf/min.

Q_o = the volumetric flow rate after the scrubber, dscf/min.

Appendix B to Regulation 7.07

Calculation for Adjusted Carbon Dioxide Percentage,

$$\%CO_2\ A = (\%CO_2\ D)\ \frac{(100 + \%\ EA_i)}{(100 + \%\ EA_o)}$$

Alternate Procedure

where:

$\%CO_2A$ = the adjusted outlet carbon dioxide percentage.

$\%CO_2D$ = the percentage of carbon dioxide measured before the scrubber, dry basis.

$\%Ea_i$ = the percentage of excess air at the inlet.

$\%Ea_o$ = the percentage of excess air at the outlet.

Appendix C to Regulation 7.07

Particulate Emissions Correction Calculation

$$C_{12} = \frac{12\ Cp}{\%CO_2}$$

Alternate Procedure

where:

C_{12} = he concentration of particulate matter corrected to 12% carbon dioxide.

Cp = the concentration of particulate matter.

$\%CO_2$ = the percentage of measured carbon dioxide or, when applicable, the adjusted outlet carbon dioxide percentage as determined by Appendix B.

REGULATION 7.08 Standards of Performance for New Process Operations

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates to: KRS Chapter 77 Air Pollution Control
Pursuant to: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the Air Pollution Control Board may make and enforce all orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of particulates and nitrous oxide emissions from new sources.

SECTION 1 Applicability

This regulation applies to each process operation that commenced construction, modification, or reconstruction after September 1, 1976, except any process otherwise regulated by any other portion of Regulation 7, with respect to those pollutants otherwise regulated.

SECTION 2 Definitions

Terms used in this regulation that are not defined in this regulation shall have the meaning given them in Regulation 1.02 *Definitions*.

2.1 "Affected facility" as related to process operations means the last operation preceding the emission of air contaminants that results:

2.1.1 In the separation of the air contaminant from the process materials, or

2.1.2 In the conversion of the process materials into air contaminants, but does not include an air abatement operation.

2.2 "Duplicate operation" means any combination of two or more individual process operations of any size that are of the same nature and are located at the same stationary source.

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

2.4 "Process weight" means the total weight of all materials introduced into any affected facility that may cause any emission of particulate matter, but does not include liquid and gaseous fuels charged, air, or uncombined water.

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

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

2.5.2 For cyclical or batch unit operations or unit processes, the total process weight for a period that covers a complete operation or an integral number of cycles divided by the hours of actual process operation during that period.

If the nature of any process operation or the design of any equipment would permit more than one interpretation of this definition, then the interpretation that results in the minimum value for allowable emissions shall apply.

SECTION 3 Standard for Particulate Matter

3.1 No owner or operator shall cause to be discharged into the atmosphere from any affected facility, or from any air pollution control equipment installed on any affected facility, any gases that may contain particulate matter that:

3.1.1 Is equal to or greater than 20% opacity or

3.1.2 Is in excess of the quantity in Table 1.

3.2 Mass Emission Standard

3.2.1 The process weight rate entry to be used in Table 1 for duplicate new process operations is the total or combined process weight rate of all the individual component operations.

3.2.2 In the event of expansion of any process or duplicate operations that were in existence or under construction as of September 1, 1976, by the addition of a new process or new duplicate operation, the total allowable emission rate for all process or duplicate operations shall be determined by the following equation:

$$F = B + D - E$$

where:

F = Total allowable emission rate for new and existing process operations.

B = Allowable emission rate for existing operations determined by entering A into Regulation 6.09 *Standards of Performance for Existing Process Operations* Table 1.

A = Total process weight for those process operations in existence or under construction as of September 1, 1976.

D = Allowable emission rate that would be obtained if the new and existing process operations were treated as new operations determined by entering C into Table 1 of this regulation.

C = Total process weight for both the new and existing process operations.

E = Allowable emission rate that would be obtained if the existing operations were treated as new operations determined by entering A into Table 1 of this regulation.

3.2.3 To determine an allowable emission rate for each stack when duplicate operations vent through separate stacks, the following formula shall be used:

$$E_s = \frac{E_t \quad P_s}{P_t}$$

where:

E_s = Allowable emission rate for the individual stack.

E_t = Total allowable emission rate for the duplicate operation from Table 1.
P_s = Process weight rate for process operations vented through the individual stack.
P_t = Total process weight rate for the duplicate operation.

3.2.4 If a single process operation is vented through multiple stacks, then the allowable emission rate for all stacks venting the source shall be equal to the allowable emission rate as if the source vented through a single stack.

SECTION 4 Standard for Nitrogen Oxides

No owner or operator shall cause to be discharged into the atmosphere from any affected facility or from any air pollution control equipment installed on any affected facility any NO_x fumes in excess of:

4.1 300 ppm by volume expressed as NO_2, or
4.2 An invisible discharge.

Adopted v1/7-14-76; effective 9-1-76; amended v2/11-16-83, v3/3-17-99, v4/01-17-18.

	Date Submitted	Date Approved	Federal Register
Original Reg:	06/29/79	01/25/80	45 FR 6092
1st Revision:	05/21/99	10/23/01	66 FR 53658
2nd Revision:	03/23/18	05/21/19	84 FR 22982

REGULATION 7.09 Standards of Performance for New Process Gas Streams

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates To: KRS Chapter 77 Air Pollution Control
Pursuant To: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the Air Pollution Control Board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of emissions in new process gas streams.

SECTION 1 Applicability

This regulation applies to each affected facility, which means any process gas stream that:

1.1 Is not elsewhere subject to a standard of performance within these regulations with respect to hydrogen sulfide, sulfur dioxide, or carbon monoxide, and

1.2 Commenced on or after April 19, 1972.

SECTION 2 Definitions

Terms used in this regulation not defined herein shall have the meaning given them in Regulation 1.02.

2.1 "Process gas stream" means any gas stream emitted from any process.

SECTION 3 Standard for Hydrogen Sulfide

3.1 A person shall not cause or allow at an affected facility the release of a process gas stream containing hydrogen sulfide with a concentration greater than 10 grains per 100 dscf at 0% excess oxygen.

3.2 A person shall not cause or allow at an affected facility the combustion of a process gas stream containing hydrogen sulfide with a concentration greater than 10 grains per 100 dscf at 0% excess oxygen unless the resulting emission of sulfur dioxide is less than 40 tons per year and a modeling demonstration pursuant to Regulation 2.11 is made showing attainment and maintenance of the NAAQS for sulfur dioxide.

SECTION 4 Standard for Sulfur Dioxide

A person shall not cause or allow at an affected facility the release of a process gas stream containing sulfur dioxide with a concentration greater than 28.63 grains per 100 dscf at 0% excess oxygen unless the resulting emission of sulfur dioxide is less than 40 tons per year and a modeling demonstration pursuant to Regulation 2.11 is made showing attainment and maintenance of the NAAQS for sulfur dioxide.

SECTION 5 Standard for Carbon Monoxide

5.1 No person shall emit carbon monoxide gases from a process or waste gas stream unless they are burned at 1,300°F for 0.5 seconds or greater in a direct flame afterburner or equivalent device equipped with an indicating pyrometer that is positioned in the working area at the operator's eye level.

5.2 No person shall emit a carbon monoxide waste gas stream from any catalyst regeneration of a petroleum cracking system, petroleum fluid coker, or other petroleum process into the atmosphere unless the waste gas stream is burned at 1,300°F for 0.5 seconds or greater in a direct flame afterburner, or equivalent, equipped with an indicating pyrometer that is positioned in the working area at the operator's eye level.

Adopted v1/7-14-76; effective 9-1-76; amended v2/6-13-79, v3/6-18-97.

	Date Submitted	Date Approved	Federal Register
Original Reg:	06/29/79	01/25/80	45 FR 6092
1st Revision:	05/21/99	10/23/01	66 FR 53658

REGULATION 7.11 Standard of Performance for New Asphalt Paving Operations

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates To: KRS Chapter 77 Air Pollution Control
Pursuant To: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the Air Pollution Control Board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of emissions from new asphalt paving operations.

SECTION 1 Applicability

This regulation applies to each affected facility commenced on or after the effective date of the regulation. Any source that is ever subject to this regulation will always be subject to it unless the source changes its process to one not covered by this regulation.

SECTION 2 Definitions

Terms used in this regulation not defined herein shall have the meaning given them in Regulation 1.02.

2.1 "Asphalt" means a dark-brown to black cementitious material (solid, semisolid, or liquid in consistency) in which the predominating constituents are bitumens that occur in nature as such or that are obtained as residue in refining petroleum.

2.2 "Asphalt concrete plant" means any facility used to manufacture asphalt concrete by heating and drying aggregate.

2.3 "Asphalt Paving Operations" means the use of asphalt in any paving operation, public or private, including, but not limited to, paving of roads, paving of parking lots, maintenance operations, application of tack coats, sealants, etc., and mixing with asphalt cements.

2.4 "Cutback asphalt" means asphalt cement that has been liquified by blending with volatile organic compounds (diluents). Upon exposure to atmospheric conditions, the VOCs evaporate, leaving the asphalt cement to perform its function.

2.5 "Emulsified asphalt" means an emulsion of asphalt cement, VOCs, and water that contains a small amount of an emulsifying agent.

2.6 "Maintenance operation" means patching of holes and breaks in pavement as necessary for safety.

2.7 "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 and plugs the voids, hardens the top, and helps bind it to the overlying asphalt course. It also reduces the necessity of maintaining an untreated base course prior to placing the asphalt pavement.

2.8 "Unacceptable emulsion asphalt" means any emulsion asphalt which yields more than 7% by volume of oil distillate when tested according to AASHTO T 59-78 Sections 7 through 9.

SECTION 3 Standard for Particulate Matter

3.1 On and after the date on which the performance test required to be conducted by Regulation 7.01 is completed, no owner or operator subject to this regulation shall discharge or cause the discharge into the atmosphere from any affected facility any gases that:

3.1.1 Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf); or

3.1.2 Exhibit 20% opacity, or greater. Where the presence of uncombined water is the only reason for failure to meet the requirements of this section, such failure shall not be a violation.

SECTION 4 Standard for Volatile Organic Compounds

On or after April 1, 1980, no person shall use, or sell for use, manufacture, mix or store cutback asphalts or unacceptable emulsion asphalts for asphalt paving operations, except as exempted in Section 5.

SECTION 5 Exemptions

This regulation shall not apply to the following asphalt paving operations:

5.1 Application of penetrating prime coat; or

5.2 Maintenance operations during the months of November, December, January, February, and March.

SECTION 6 Recordkeeping Requirements

6.1 The manufacturer of cutback or emulsified asphalt shall maintain a current record in a format approved by the District for each batch of cutback or emulsified asphalt produced. The record shall contain the following information as a minimum:

6.1.1 The calendar date that the batch was produced;

6.1.2 The quantity in tons produced;

6.1.3 The customer's name and address to where the cutback or emulsified asphalt was sent; and,

6.1.4 For emulsified asphalt only, the oil distillate (organic solvent as determined by ASTM D-244). The District may accept, instead of ASTM D-244, a certification by the emulsified asphalt manufacturer of the composition of the batch if supported by actual batch formulation records.

6.2 The record required in section 6.1 shall be maintained on file for a minimum of two years after the date of record and shall be made available to the District upon request.

SECTION 7 Additional Applicable Regulations

Any source subject to this regulation will also be subject to 40 CFR Part 60 Subpart I adopted by reference in Regulation 7.02.

Adopted v1/7-14-76; effective 9-1-76; amended v2/5-15-91.

	Date Submitted	Date Approved	Federal Register
Original Reg:	06/29/79	01/25/80	45 FR 6092
1st Revision:	02/12/92	10/22/93	58 FR 54516
2nd Revision:	07/20/99	10/23/01	66 FR 53658

REGULATION 7.14 Standard of Performance for Selected New Petroleum Refining Processes and Equipment

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates To: KRS Chapter 77 Air Pollution Control
Pursuant To: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the Air Pollution Control Board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of hydrocarbon emissions from selected new petroleum refining processes and equipment.

SECTION 1 Applicability

This regulation applies to each affected facility commenced on or after the effective date of this regulation.

SECTION 2 Definitions

Terms used in this regulation not defined herein shall have the meaning given them in Regulation 1.02.

2.1 "Affected facility" means vacuum producing systems and process unit turnarounds associated with a petroleum refinery.
2.2 "Process unit turnaround" means the shutting down, depressurization, and purging of a process unit or vessel.
2.3 "Vacuum producing systems" means equipment which produces a partial vacuum in a vessel.

SECTION 3 Standard for Hydrocarbons

The owner or operator of an affected facility shall install, operate, and maintain all equipment necessary to accomplish the following:

3.1 Vacuum producing systems. All gaseous hydrocarbons emitted from condensers, hot wells, vacuum pumps, and accumulators shall be collected and vented to a firebox, flare or other control device of equivalent efficiency as determined by the District; and
3.2 Process unit turnaround. The gaseous hydrocarbons purged from a process unit or vessel shall be vented to a firebox, flare, or other control device of equivalent efficiency as determined by the District until the pressure in the process unit is less than 5 psig.

SECTION 4 Monitoring and Reporting Requirements

4.1 The owner or operator shall:
4.1.1 Keep a record of each process unit turnaround,
4.1.2 Record the approximate hydrocarbon concentration when the hydrocarbons were first discharged to the atmosphere, and
4.1.3 Record the approximate total quantity of hydrocarbons emitted to the atmosphere.
4.2 The owner or operator shall retain the records for at least two years and submit them to the District upon request.

Adopted v1/7-14-76; effective 6-13-79.

	Date Submitted	Date Approved	Federal Register
Original Reg:	06/29/79	01/25/80	45 FR 6092
1st Revision:	07/20/99	10/23/01	66 FR 53658

REGULATION 7.15 Standards of Performance for Gasoline Transfer to New Service Station Storage Tanks (Stage I Vapor Recovery)

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates to: KRS Chapter 77 Air Pollution Control
Pursuant to: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the air pollution control board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of emissions from gasoline delivery and storage tanks at existing service stations.

SECTION 1 Applicability

This regulation applies to the transfer of volatile organic compounds from transport vehicle tanks into storage tanks at new service stations (constructed or reconstructed after June 13, 1979) and the equipment involved therein. Owner/Operators of service stations and transporters of fuels must comply with this regulation.

SECTION 2 Definitions

Terms used in this regulation not defined herein shall have the meaning given them in Regulation 1.02.

2.1 "Affected facility" means the gasoline storage tanks at a service station with a capacity greater than 250 gallons each.

2.2 "Service station" means any public or private establishment which dispenses gasoline into vehicle fuel tanks.

2.3 "Submerged fill pipe" means any fill pipe the discharge of which is entirely submerged when the liquid level is six inches above the bottom of the tank or, when applied to a tank which is loaded from the side, shall mean any fill pipe the discharge opening of which is entirely submerged when the liquid level is 2 times the fill pipe diameter above the bottom of the tank.

2.4 "Vapor balance system" means a system which transfers vapors from storage tanks during filling operations to the storage compartment of the transport vehicle delivering fuel.

2.5 "Vent line restriction" means:

2.5.1 An orifice of 1/2 to 3/4 inch inside diameter in the vent line,

2.5.2 A pressure-vacuum relief valve which opens at not less than eight ounces per square inch pressure and not less than 0.5 ounces per square inch vacuum unless a different vacuum relief setting is required by safety or fire authorities, or

2.5.3 A vent shut-off valve which is activated by connection of the vapor return hose.

SECTION 3 Standard for Gasoline Transfer

3.1 The owner or operator of an affected facility shall install, maintain, and operate the following devices on the storage tanks:

3.1.1 Submerged fill pipe;

3.1.2 If the gasoline storage tank is equipped with a separate gauge well, a gauge well drop tube shall be installed which extends to within six inches of the bottom of the tank;

3.1.3 Vent line restrictions on the affected facility; and

3.1.4 Vapor balance system and vapor tight connections on the liquid fill and vapor return hoses. The cross-sectional area of the vapor return hose and any other vapor return passages in the circuit connecting the vapor space in the service station tank to that of the truck tank must be at least 50% of the liquid fill hose cross-sectional area for each tank and free of flow restrictions to achieve acceptable recovery. The vapor balance equipment must be maintained according to the manufacturer's specifications. The type, size and design of the vapor balance system are subject to the approval of the District.

3.2 The owner or operator may elect to use an alternate control system provided it can be demonstrated to the District's satisfaction to achieve an equivalent control efficiency.

3.3 The owner or operator shall not allow delivery of fuel to the storage tanks until the vapor balance system is properly connected to the transport vehicle and the affected facility.

3.4 No person shall deliver gasoline to a service station without connecting the vapor return hose between the tank of the delivery truck and the storage tank receiving the product. The vapor balance system must be operating in accordance with the manufacturer's specifications.

3.5 Opening of a truck tank hatch for the purpose of visual inspection is permitted for a period not to exceed one minute and only after pumping from that compartment has stopped for at least three minutes prior to the opening. All truck tank hatches must be closed during pumping.

3.6 Except for above ground tank filling, all lines must be gravity drained in such a manner that upon disconnect no liquid spillage would be expected.

3.7 Above ground tanks shall be equipped with dry breaks with any liquid spillage upon the line disconnect not exceeding 10 ml.

3.8 Equipment subject to this section shall be operated and maintained with no defects and:

3.8.1 All fill tubes shall be equipped with vapor-tight covers including gaskets,

3.8.2 All dry breaks shall have vapor-tight seals and shall be equipped with vapor-tight covers or dust covers,

3.8.3 All vapor return passages shall be operated so there can be no obstruction of vapor passage from the storage tank back to the delivery vehicle,

3.8.4 All storage tank vapor return pipes and fill pipes without dry breaks shall be equipped with vapor-tight covers including gaskets, and

3.8.5 All hoses, fittings, and couplings shall be in a vapor-tight condition.

SECTION 4 Permitting of Service Station Tank Construction or Reconstruction

When the owner or operator of a new service station causes or allows excavation to begin at the service station for the purpose of adding or replacing an underground gasoline storage tank or tanks, this event will constitute the commencement of reconstruction or construction of the affected facility. When an owner or operator of a new service station causes or allows a foundation to be built for the purpose of adding or replacing an above ground fixed gasoline storage tank or causes or allows a non- fixed gasoline storage tank to be brought to the service station for the purpose of transferring gasoline into vehicle fuel tanks, this event will constitute the commencement of reconstruction or construction of the affected facility. The owner or operator of the affected facility must submit a permit application and obtain a construction permit before commencing the construction or reconstruction project.

SECTION 5 Equipment Changes

When the owner or operator of a service station chooses to replace, add, or change any of the equipment required in section 3 including, but not limited to, vent line restrictions, drop tubes and submerged fill tubes, no later than ten days after installation the owner or operator shall notify the District in writing. This will not constitute a construction or reconstruction. This does not apply to routine replacement of gaskets.

SECTION 6 Compliance

Equipment at new service stations shall be in compliance with this regulation at startup. Compliance will be verified by inspections performed by District personnel. However, stations built before April 20, l988 do not have to comply with sections 3.7 and 3.8 until October 20, l988.

Adopted v1/6-13-79; effective 6-13-79; amended v2/11-16-83, v3/1-20-88,
4-20-88.

	Date Submitted	Date Approved	Federal Register
Original Reg:	06/29/79	01/25/80	45 FR 6092
1st Revision:	05/21/99	10/23/01	66 FR 53658

REGULATION 7.20 Standard of Performance for New Gasoline Loading Facilities at Bulk Plants

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates To: KRS Chapter 77 Air Pollution Control
Pursuant To: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the Air Pollution Control Board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of volatile organic compound emissions from new gasoline loading facilities at bulk plants.

SECTION 1 Applicability

This regulation applies to each new affected facility which commenced construction, modification, or reconstruction after June 13, l979.

SECTION 2 Definitions

Terms used in this regulation not defined herein shall have the meaning given them in Regulation 1.02.

2.1 "Affected facility" means a bulk gasoline plant.
2.2 "Bottom fill system" means a system of filling transport vehicle tanks through an opening that is flush with the bottom of the transport vehicle tank.
2.3 "Bulk gasoline plant" means a facility for the storage and dispensing of gasoline that employs tank trucks, trailers, railroad cars, or other mobile non-marine vessels for both incoming and outgoing gasoline transfer operations.
2.4 "Gasoline" means any petroleum distillate having a Reid vapor pressure of 4.0 pounds per square inch or greater used as a fuel for internal combustion engines.
2.5 "Submerged fill tube system" means a fill tube the discharge of which is entirely submerged when the liquid level is six inches above the bottom of the transport vehicle tank.
2.6 "Transport vehicle" means tank trucks, trailers, railroad tank cars, or barges.
2.7 "Vapor balance system" means a combination of pipes or hoses which create a closed system between the vapor spaces of a unloading tank and a received tank such that vapors displaced from the receiving tank are transferred to the tank being unloaded.

SECTION 3 Standard for Volatile Organic Compounds

3.1 The owner or operator of an affected facility shall install, maintain, and operate:
  3.1.1 Stationary storage tank control devices according to Regulation 7.12 or 6.13.
  3.1.2 A vapor balance system for:
    3.1.2.1 Filling of stationary storage tanks from transport vehicle tanks and
    3.1.2.2 Filling of transport vehicle tanks from stationary storage tanks.
  3.1.3 For loading into transport vehicle tanks, either:
    3.1.3.1 A submerged fill tube system or
    3.1.3.2 A bottom fill system.

3.2 The vapor balance system shall be equipped with fittings which are vapor tight and will automatically close upon disconnection so as to prevent the release of organic material.

3.3 The cross-sectional area of the vapor return hose must be at least 50% of the cross-sectional area of the liquid fill line and free of flow restrictions.

3.4 The vapor balance system must be equipped with interlocking devices which prevent transfer of gasoline until the vapor return hose is connected.

3.5 Transport vehicle tank hatches shall be closed at all times during loading operations.

3.6 There shall be no leaks from the pressure/vacuum relief valves and hatch covers of the stationary storage tanks during loading.

3.7 The pressure relief valves on storage vessels and tank trucks or trailers shall be set to release at no less than 0.7 psig unless a lower setting is required by applicable fire codes.

3.8 The owner or operator shall not load gasoline into any transport vehicle or receive gasoline from any transport vehicle which does not have proper fittings for connection of the vapor balance system, nor shall the owner or operator load or receive gasoline unless the vapor balance system is properly connected and in good working order. Except as provided in section 3.9, the fittings on the transport vehicle tanks must be vapor tight and automatically close upon disconnection so as to prevent the release of organic material.

3.9 The following shall apply to the loading of a transport vehicle tank by means of a submerged fill tube system:

3.9.1 When inserted into the tank, the submerged fill tube system must form a vapor tight seal with the tank; and

3.9.2 Tank hatches are to be opened for the minimum time necessary to insert or remove the submerged fill tube system.

3.10 No owner or operator shall permit gasoline to be spilled, discarded in sewers, stored in open containers, or handled in any other manner that would result in evaporation.

3.11 On or after December 31, 1982, no owner or operator of an affected facility shall allow loading of a tank truck unless the following provisions are met:

3.11.1 Loading of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline tank trucks using the following procedures:

3.11.1.1 No owner or operator of an affected facility shall allow loading unless the gasoline tank truck and its vapor collection system have been tested as having a pressure change of no more than seventy-five (75) mm water (three (3) in. water) in five (5) minutes when pressurized to 450 mm water (eighteen (18) in. water) and evacuated to 150 mm water (six (6) in. water) using the test procedure in section 3.11.1.2 of this regulation.

3.11.1.2 Method 27, "Determination of Vapor Tightness of Gasoline Delivery Tank Using Pressure-Vacuum Test", specified in 40 CFR 60, Appendix A, July 1, 1991, shall be used to determine compliance with section 3.11.1.1 of this administrative regulation. The owner or operator of the tank truck shall have the tank truck tested annually and shall maintain records of tes data, date of testing, identification of tank truck, tpe of repair, retest data and dat. Records shall be maintained by the owner or operator of the tank truck for two (2) years after the date of testing and shall be made available upon request by the District.

3.11.2 The vapor balance system and associated equipment are designed and operated to prevent gauge pressure in the tank truck from exceeding l8 inches of water and prevent vacuum from exceeding six inches of water;

3.11.3 A pressure tap or any equivalent system as approved by the District is installed on the vapor balance system so that a liquid manometer supplied by the District can be connected by an inspector to the tap in order to determine compliance with section 3.11.2. The pressure tap shall be installed by the owner or operator as close as possible to the connection with the delivery tank, and shall consist of a 1/4 inch tubing connector which is compatible with the use of 3/16 inch inside diameter plastic tubing; and

3.11.4 During loading, there is no reading greater than or equal to 100% of the lower explosive limit (LEL, measured as propane) at a distance of 2.5 centimeters around the perimeter of a potential leak source associated with the vapor balance system of a bulk gasoline plant as detected by a combustible gas detector using the test procedure in section 5.

SECTION 4 Alternate Control System

The owner or operator may elect to use an alternate control system if it can be demonstrated to the District's satisfaction that the alternate system will achieve equivalent control efficiency.

SECTION 5 Compliance

5.1 A new affected facility shall comply with the requirements of this regulation on startup.

5.2 On or after December 31, 1982, the test procedure as defined in "Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems" (OAQPS 1.2-119, EPA) Appendix B or an equivalent procedure approved by the District, shall be used to determine compliance with the standard prescribed in section 3.11 during inspections conducted pursuant to KRS 77.165 or KRS 224.10-100(10).

Adopted v1/7-14-76; effective 6-13-79; amended v2/11-16-83; v3/06-19-19

	Date Submitted	Date Approved	Federal Register
Original Reg:	06/29/79	01/25/80	45 FR 6092
1st Revision:	05/21/99	10/23/01	66 FR 53658
2nd Revision:	09/06/19	03/11/21	86 FR 12816

REGULATION 7.22 Standard of Performance for New Volatile Organic Materials Loading Facilities

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates To: KRS Chapter 77 Air Pollution Control
Pursuant To: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the Air Pollution Control Board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of emissions from new volatile organic materials loading facilities.

SECTION 1 Applicability

This regulation applies to each loading facility which loads more than 200 gallons in any one day of volatile organic materials into tank trucks, trailers, or railroad tank cars commencing on or after the effective date of this regulation.

SECTION 2 Definitions

Terms used in this regulation not defined herein shall have the meaning given them in Regulation 1.02.

2.1 "Submerged fill pipe" means any fill pipe the discharge of which is entirely submerged when the liquid level is six inches above the bottom of the tank or, when applied to a tank which is loaded from the side, shall mean every fill pipe the discharge opening of which is entirely submerged when the liquid level is two times the fill pipe diameter above the bottom of the tank.

2.2 "True vapor pressure" means the equilibrium partial pressure exerted by organic material as determined in accordance with methods specified by the District.

2.3 "Vapor recovery system" means a vapor gathering system capable of collecting 90% by weight of all hydrocarbon vapors and gases discharged and a vapor disposal system capable of processing such hydrocarbon vapors and gases so as to prevent their emission to the atmosphere.

2.4 "Volatile organic material" means any volatile organic compound which has a true vapor pressure of 78 mm Hg (1.5 psia) or greater under actual storage conditions.

SECTION 3 Control of Volatile Organic Materials

3.1 No owner or operator of any loading facility from which more than 200 gallons but less than 20,000 gallons of volatile organic materials are loaded in any one day shall load any volatile organic materials into any tank, truck, trailer, or railroad car from any loading facility unless such loading is accomplished by submerged fill, bottom loading, or equivalent methods approved by the District. Pneumatic, hydraulic or other mechanical means shall be provided to prevent liquid organic compounds drainage from the loading device when it is removed from the hatch, or to accomplish complete drainage before such removal.

3.2 No owner or operator of any loading facility from which 20,000 gallons or more of volatile organic materials are loaded in any one day shall load such materials unless such facility is equipped with a device that reduces the emissions of all hydrocarbon vapors and gases by at least 90% by weight that is properly installed, in good working order, and in operation. Loading shall be accomplished in such a manner that all displaced vapor and air will be vented only to the vapor recovery system. Measures shall be taken to prevent liquid drainage from the loading device when it is not in use or to accomplish complete drainage before the loading device is disconnected.

SECTION 4 Exemptions

Gasoline loading facilities are exempt from this regulation. (See the specific gasoline loading regulation).

Adopted v1/7-14-76; effective 6-13-79, amended v2/3-17-93.

	Date Submitted	Date Approved	Federal Register
Original Reg:	05/21/99	10/23/01	66 FR 53662

REGULATION 7.25 Standard of Performance for New Sources Using Volatile Organic Compounds

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates to: KRS Chapter 77 Air Pollution Control
Pursuant to: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the air pollution control board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of emissions of volatile organic compounds from new sources.

SECTION 1 Applicability

This regulation applies to each affected facility not elsewhere regulated in Regulation 7 as to emissions of VOCs and which commenced after the effective date of this regulation. Sources previously under Regulation 7.24 are subject to this regulation.

1.1 Those portions of any series of affected facilities designed for processing a continuous web, strip, or wire which emit volatile organic compounds shall be taken collectively to determine compliance with this regulation.

1.2 Emissions of VOCs resulting from air or heated drying of products for the first 12 hours after their removal from an affected facility shall be included in determining compliance with this regulation.

1.3 Emissions of VOCs to the atmosphere from the cleanup with VOCs of any affected facility shall be included with other emissions of VOCs from that affected facility for determining compliance with this regulation.

1.4 This section shall not apply to the spraying or other use of insecticides, pesticides, or herbicides.

SECTION 2 Definitions

Terms used in this regulation not defined herein shall have the meaning given them in Regulation 1.02.

2.1 "Affected facility" means any equipment, machine, and other device, or any combination of facilities at a source, which uses VOCs and which has the potential to emit greater than 5 tons of VOCs per year.

2.2 "Potential emissions" means the emissions that will result if the equipment, machine, or other device is operated 8,760 hours per year, unless limited by permit conditions, at maximum actual capacity and without any emissions controls or vapor recovery systems unless required by permit conditions.

2.3 "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.

2.3.1 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); 1,1,1-trichloro-2,2,2-trifluoroethane (CFC-113); trichlorofluoromethane (CFC-11); dichlorodifluoro-methane (CFC-12); chlorodifluoro-methane (CFC-22); trifluoromethane (FC-23); 1,2-dichloro 1,1,2,2-tetrafluoroethane (CFC-114); chloropentafluoroethane (CFC-115); 1,1,1-trifluoro 2,2-dichloroethane (HCFC-123); 1,1,1,2-tetrafluoro-ethane (HFC-134a); 1,1-dichloro 1-fluoroethane (HCFC-141b); 1-chloro 1,1-difluoroethane (HCFC-142b); 2-chloro 1,1,1,2-tertrafluoroethane (HCFC-124); pentafluoroethane (HFC-125); 1,1,2,2-tetra-fluoroethane (HFC-134); 1,1,1-trifluoroethane (HFC-143a); 1,1-difluoroethane (HFC-152a); and perfluorocarbon compounds which fall into these classes:

2.3.1.1 Cyclic, branched, or linear, completely fluorinated alkanes;

2.3.1.2 Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;

2.3.1.3 Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and

2.3.1.4 Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

2.3.2 For purposes of determining compliance with emissions limits, VOC will be measured by the approved test methods in Regulation 1.04. Where such method also measures compounds with negligible photochemical reactivity, these negligiblity-reactive compounds may be excluded as VOC if the amount of such compounds is accurately quantified, and such exclusion is approved by the District.

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

SECTION 3 Standard for Volatile Organic Compounds

3.1 No owner or operator shall construct or operate an affected facility unless it is equipped with and utilizes best available control technology (BACT) as determined at the time of the construction permit review by the District. Emission rates in terms of pounds of VOCs per hour and/or work practice, equipment specifications, and/or raw material specifications shall be set out as permit conditions on the construction and/or operating permits to insure compliance with this requirement.

3.2 Affected facilities permitted prior to December 16, 1987, that emit no more emissions than that permitted at such date shall be deemed to be in compliance.

3.3 The time period for compliance determinations shall not exceed 24 hours and may be less if limited by a permit restriction, but it shall not exceed the hours operated in a day. For previously permitted sources, the averaging time for compliance shall be 24 hours unless the source either operates less hours per day or a shorter time is specified in the permit.

SECTION 4 Monitoring and Reporting

4.1 Any person controlling the emission of VOCs pursuant to this regulation shall provide, properly install, calibrate, maintain in good working order and in operation, devices as specified in the permit to construct or the permit to operate, or as specified by the District, for indicating temperatures, pressures, rates of flow or other operating conditions necessary to determine the degree and effectiveness of air pollution control equipment.

4.2 Any person using VOC or any material containing VOCs shall supply the District, upon request and in the manner and form prescribed, written evidence of the chemical composition, physical properties, and amount consumed for each VOC used.

SECTION 5 Compliance

A new affected facility shall comply with the requirements of this regulation on startup.

Adopted v1/7-14-76; effective 6-13-79; amended v2/2-17-88, v3/3-17-93.

	Date Submitted	Date Approved	Federal Register
Original Reg:	06/29/79	01/25/80	45 FR 6092
1st Revision:	05/21/99	10/23/01	66 FR 53662

REGULATION 7.34 Standard of Performance for New Sulfite Pulp Mills

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates To: KRS Chapter 77 Air Pollution Control
Pursuant To: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the Air Pollution Control Board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of sulfur oxides emissions from new sulfite pulp mills.

SECTION 1 Applicability

This regulation applies to each affected facility that:

1.1 Is associated with a sulfite pulp mill,
1.2 Is not subject to another standard of performance within these regulations with respect to sulfur oxides, and
1.3 Commenced on or after April 19, 1972.

SECTION 2 Definitions

Terms used in this regulation shall have the meaning given them in Regulation 1.02.

SECTION 3 Standard for Sulfur Oxides Emissions

No person shall cause or permit sulfur oxides emissions from blow pits, washer vents, storage tanks, digester relief, recovery system, etc., to exceed 9.0 lbs per air dried ton of pulp produced.

Adopted v1/4-19-72; effective 4-19-72; amended v2/7-14-76 effective 9-1-76, v3/6-13-79.

	Date Submitted	Date Approved	Federal Register
Original Reg:	06/29/79	01/25/80	45 FR 6092
1st Revision:	07/20/99	10/23/01	66 FR 53662

REGULATION 7.36 Standard of Performance for New Volatile Organic Compound Water Separators

Air Pollution Control District of Jefferson
County Jefferson County, Kentucky

Relates To: KRS Chapter 77 Air Pollution Control
Pursuant To: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the Air Pollution Control Board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of emissions from new water separators.

SECTION 1 Applicability

This regulation applies to each affected facility, which means each oil-effluent water separator that recovers 200 gallons a day or more of any volatile organic compound from any equipment which processes, refines, stores, or handles hydrocarbons with a Reid vapor pressure of 0.5 pounds or greater, commenced construction, modification, or reconstruction after April 19, 1972.

SECTION 2 Definitions

Terms used in this regulation not defined herein shall have the meaning given them in Regulation 1.02.

2.1 "Enclosed container" means a vessel which entirely encloses the content except for pressure relief vents.

2.2 "Floating roof" means a vessel cover consisting of double deck, pontoon single deck, internal floating cover or covered floating roof, which rests upon and is supported by the liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and vessel wall.

2.3 "Submerged fill pipe" means any fill pipe the discharge of which is entirely submerged when the liquid level is 6 inches above the bottom of the vessel; or when applied to a vessel which is loaded from the side, shall mean any fill pipe the discharge opening of which is entirely submerged when the liquid level is two times the fill pipe diameter above the tank.

2.4 "Vapor recovery system" means a vapor gathering system capable of collecting all hydrocarbon vapors and gases discharged from a vessel and a vapor disposal system capable of processing such hydrocarbon vapors and gases so as to prevent their emission to the atmosphere.

2.5 "Volatile organic compound water separator" means any tank box, sump, or other container in which any VOC or product thereof, floating on or entrained or contained in water entering such tank, box, sump, or other container, is physically separated and removed from such water prior to outfall, drainage, or recovery of such water.

SECTION 3 Standard for Hydrocarbon

The emissions of all hydrocarbon vapors and gases shall be reduced 90% by weight. All gauging and sampling devices shall be gas tight except when gauging and/or sampling is in progress.

Standards may be met by employing one or more of the following features: floating roof, submerged fill pipes, or a vapor recovery system.

SECTION 4 Compliance
An affected facility shall be in compliance on start up.

Adopted v1/4-19-72; effective 4-19-72; amended v2/7-14-76 effective 9/1/76; v3/6-13-79, v4/01-17-18.

	Date Submitted	Date Approved	Federal Register
Original Reg:	06/29/79	01/25/80	45 FR 6092
1st Revision:	07/20/99	10/23/01	66 FR 53658
2nd Revision:	03/23/18	07/11/19	84 FR 33004

REGULATION 7.51 Standard of Performance for New Liquid Waste Incinerators

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates To: KRS Chapter 77 Air Pollution Control
Pursuant To: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the Air Pollution Control Board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of emissions from new liquid waste incinerators.

SECTION 1 Applicability

This regulation applies to those facilities disposing of waste solvents, chemicals, and other materials by incineration after the effective date of this regulation.

SECTION 2 Definitions

Terms used in this regulation not defined herein shall have the meaning given them in Regulation 1.02.

2.1 "Auxiliary fuel" means natural gas, propane, butane, distillate fuel oil or other fuel free of toxic compounds and containing not more than 0.5% incombustible particulate.
2.2 "Average gas temperature" is the mean temperature of the products of combustion while in the incinerator, averaged from the liquid waste burner temperature to the exit gas temperature, and prior to any spray chamber or air pollution control device.
2.3 "Combustible liquid waste" means any liquid waste with a heat content greater than 10,000 BTU/lb or capable of sustaining combustion in an incinerator without auxiliary fuel.
2.4 "Exit gas temperature" means the temperature of the products of combustion measured at the end of the incinerator and prior to any air pollution control device.
2.5 "Halogenated liquid wastes" are substances which contain any Halogen elements (bromine, chlorine, fluorine, iodine or astatine) in their chemical compositions.
2.6 "Liquid waste" means any material in a liquid form which has no commercial value other than recovery of its recyclable components or has been transferred to a facility for disposal.
2.7 "Liquid waste incinerator" is a device for incineration of liquid waste.
2.8 "Partially combustible liquid waste" means any liquid waste with a heat content greater than 5000 BTU/lb and less than 10,000 BTU/lb requiring auxiliary fuel for sustained combustion.
2.9 "Residence time" means the time required for the products of combustion to travel from the liquid waste burner to the exit of the incinerator or secondary combustion chamber while maintaining the average gas temperature associated with the residence time.

SECTION 3 Standard for Particulate Matter

No owner or operator subject to this regulation shall cause the emission of particulate matter from a liquid waste incinerator to exceed:

3.1 0.08 gr/dscf corrected to 7% O_2 excluding the contribution of CO_2 from auxiliary fuel, or

3.2 10% opacity.

SECTION 4 Standard for Volatile Organic Compounds

Any and all VOCs in a liquid waste must be destroyed to such an extent that no more than 0.01% is emitted to the atmosphere (as defined in 40 CFR Part 264 Subpart O).

SECTION 5 Standard for Toxic Air Pollutants

The provisions of Regulation 5.12 apply.

SECTION 6 Equipment Standards

6.1 Incineration of partially combustible liquids shall be accomplished in an incinerator equipped with means of firing sufficient auxiliary fuel to sustain combustion at temperatures as required by this regulation. No auxiliary fuel shall be required for incineration of combustible liquids unless otherwise required by the District.
6.2 Incineration of liquid wastes with a viscosity of 750 SSU or greater shall be accomplished in a burner equipped with steam or air atomization.
6.3 Incineration of halogenated liquid wastes shall be accomplished in an incinerator equipped with a wet scrubber or a device of equivalent control efficiency.
6.4 Incineration of liquid wastes containing inorganic salts shall be accomplished in an incinerator equipped with a particulate control device of sufficient efficiency to meet the emission standard in sections 3.1 and 3.2.
6.5 The incinerator shall be capable of maintaining an exit gas temperature of at least 1600 ^{0}F and a residence time of at least 1.5 seconds or such parameters as are determined by the District to provide complete combustion of the liquid waste.
6.6 The incinerator shall be equipped with a fail-safe device designed to interrupt the delivery of liquid waste to the burner in the event of:
  6.6.1 Fire or flame reaching the line delivering waste to the burner,
  6.6.2 Loss of burner flame,
  6.6.3 Venting due to malfunctions, or
  6.6.4 Excessive CO concentration as specified by the District after the performance test.
6.7 The delivery pipe to the liquid waste burner shall be equipped with a flow indicator capable of measuring the maximum demand of the burner and equipped with a continuous recorder.
6.8 The incinerator shall be equipped with an indicating pyrometer or thermometer to measure the exit gas temperature.

SECTION 7 Recordkeeping

The owner or operator of any liquid waste incinerator subject to this regulation shall record the following information and maintain the records for a two year period making the records available to the District upon request:

7.1 Daily operating hours of liquid waste incinerator;
7.2 Daily log of liquid waste received and specifying:
  7.2.1 The amount received,
  7.2.2 A general description of the waste,
  7.2.3 The source from whom the waste was received,
  7.2.4 A designation of whether or not the waste contains toxic materials as listed in Regulation 5.12 Appendix B, and

7.2.5 The quantity of waste fed as recorded per section 6.7;

7.3 The exit gas temperature indicator of section 6.8 shall be recorded on a continuous recorder with a total system accuracy of at least ± 25 ^{0}F;

7.4 The emission of carbon monoxide and oxygen in the exit exhaust gases shall be measured and recorded continuously in a manner consistent with Regulation 7.01 and 40 CFR Part 60 Appendix B;

7.5 Facilities that are permitted to burn 1,000 pounds per hour or more of liquid waste shall provide monitoring outputs for those parameters of sections 7.3 and 7.4 with necessary transmission facilities to feed this data directly into the District's computer upon District request and at the expense of the facilities; and

7.6 If a wet scrubber is to be used for acid gas emission control, then the pH of the scrubbing liquor must be maintained in the range of 6.5 to 7.5 at point of entry into the scrubber. A continuous monitoring device with recorder shall be used to maintain a record of the pH.

SECTION 8 Performance Tests

Performance tests are required of all affected facilities pursuant to the following:

8.1 Between 60 to 180 days after initial startup of the incinerator and at such other times as may be required by the District, the owner or operator of the incinerator shall conduct those performance tests specified by the District in accordance with Regulation 1.04 and furnish the District a written report of the results of such performance tests. These tests shall include tests for particulates, hydrogen chloride, and various metals as a minimum. Other pollutants may require testing upon notice from the District;

8.2 The performance tests shall be conducted under such conditions as the District shall specify to the facility operator based upon representative performance of the incinerator and the control equipment. The owner or operator shall make available to the District such records as may be necessary to determine the conditions of the performance tests;

8.3 The District shall be notified at least 30 days in advance of the projected starting date for any performance test; and

8.4 In addition, the District may require such tests as it thinks proper to determine compliance with this regulation.

Adopted v1/7-14-76; effective 6-13-79, amended v2/1-20-88.

	Date Submitted	Date Approved	Federal Register
Original Reg:	06/29/79	01/25/80	45 FR 6092
1st Revision:	05/21/99	10/23/01	66 FR 53662

REGULATION 7.52 Standard of Performance for New Fabric, Vinyl, and Paper Surface Coating Operations

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates To: KRS Chapter 77 Air Pollution Control
Pursuant To: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the Air Pollution Control Board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of emissions from new fabric, vinyl and paper surface coating operations.

SECTION 1 Applicability

This regulation applies to each affected facility commenced on or after June 13, 1979. Any source that is ever subject to this regulation will always be subject to it unless the source changes its process to one not covered by this regulation.

SECTION 2 Definitions

Terms used in this regulation not defined herein shall have the meaning given to them in Regulation 1.02.

2.1 "Affected facility" means a coating line for fabric, vinyl, or paper.
2.2 "Applicator" means the mechanism or device used to apply the coating including, but not limited to, roll, knife, or rotogravure coater.
2.3 "Coating line" means a series of one or more coating applicators and any associated flashoff area, drying area, and/or oven wherein a coating is applied, dried, and/or cured. A coating line ends with the end of the drying or curing area or prior to the beginning of the application of the next coating. It is not necessary to have an oven or a flashoff area in order to be included in this definition. This shall include, but is not limited to:
    2.3.1 Mixing operations;
    2.3.2 Process storage;
    2.3.3 Applicators;
    2.3.4 Drying operation including, but not limited to, flashoff area evaporation, oven drying, baking, curing, and polymerization;
    2.3.5 Clean up operations;
    2.3.6 Leaks, spills and disposal of VOCs;
    2.3.7 Processing and handling of recovered VOCs; and
    2.3.8 An affected facility which is capable of performing both paper coating and paper printing will be considered as performing a paper printing operation subject to Regulation 6.29.
2.4 "Fabric coating" means the coating of a textile substrate to impart properties that are not initially present, such as strength, stability, water or acid repellency, or appearance.
2.5 "Flashoff area" means the space between the applicator and the oven.
2.6 "Knife coating" means the application of a coating material to a substrate by means of

drawing the substrate beneath a knife that spreads the coating evenly over the full width of the substrate.

2.7 "Paper coating" means the application of a uniform layer of material across the entire width of a web of paper, pressure sensitive tapes regardless of substrate, related web coating processes on plastic film such as typewriter ribbons, photographic film, magnetic tape, and decorative coatings on metal foil such as gift wrap and packaging, but does not include the printing of paper.

2.8 "Printing" means the formation of words, designs and pictures, usually by a series of application rolls each with only partial coverage. It applies to flexographic and rotogravure processes as applied to publication, specialty, and packaging printing as defined in Regulation 6.29.

2.9 "Process storage" means mixing tanks, holding tanks, and other tanks, drums, or other containers which contain surface coatings, volatile organic compounds, or recovered volatile organic compounds; but does not mean storage tanks which are subject to Regulation 6.13 or 7.12.

2.10 "Roll coating" means the application of a coating material to a substrate by means of hard rubber or steel rolls.

2.11 "Rotogravure coating" means the application of a uniform layer of material across a substrate by means of a roll coating technique in which the entire coating roll is uniformly etched with recessed cells and no pattern or design is present. The coating material is picked up in these recessed cells and is transferred to the substrate.

2.12 "Vinyl coating" means the coating of vinyl coated fabric or vinyl sheets which includes decorative or protective topcoats or printing. Vinyl coating does not include the application of vinyl plastisol to fabric to form the substrate that is subsequently coated (VOC emissions from the application of plastisol are near zero).

2.13 "Volatile organic compounds net input" means the total amount of VOCs input to the affected facility minus the amount of VOCs that are not emitted into the atmosphere. Volatile organic compounds that are prevented from being emitted to the atmosphere by the use of control devices shall not be subtracted from the total for the purposes of determining VOC net input. When the nature of any operation or design of equipment is such as to permit more than one interpretation of this definition, the interpretation that results in the minimum value for allowable emission shall apply.

SECTION 3 Standard for Volatile Organic Compounds

No person shall cause, allow, or permit an affected facility to discharge into the atmosphere more than 15% by weight of the VOCs net input into the affected facility.

SECTION 4 Compliance

4.1 A new affected facility shall comply with the requirements of this regulation on start-up.

4.2 In all cases, the design of any control system is subject to approval by the District.

4.3 Compliance with the standard in Section 3 shall be demonstrated by a material balance except in those cases where the District determines that a material balance is not possible. For those cases where a material balance is not possible, compliance will be determined based upon an engineering analysis by the District of the control system design, control device efficiency, control system capture efficiency, and any other factors that could influence the performance of the system. If so requested by the District, performance tests as specified by the District shall be conducted in order to determine the efficiency of the control device. The control system capture efficiency shall be measured according to the methods specified in Regulation 1.05.

4.4 With the prior approval of the District, the owner or operator may elect to effect such changes in the affected facility as are necessary to qualify for an exemption under Section 5.

4.5 Whenever deemed necessary by the District, the District shall obtain samples of the coatings used at an affected facility to verify that the coatings meet the requirements in Section 5.

4.5.1 EPA Method 24 shall be used to determine the VOC content of coatings.

SECTION 5 Exemptions

5.1 Any affected facility coating fabric or paper shall be exempt from the provisions of Section 3 if the VOC content of the coating is less than 0.35 kg/l of coating (2.9 lb/gal) excluding water and exempt solvents, delivered to the applicators associated with the coating line.

5.2 Any affected facility coating vinyl shall be exempt from the provisions of Section 3 if the VOC content of the coating is less than 0.45 kg/l of coating (3.8 lb/gal) excluding water and exempt solvents, delivered to the applicators associated with the coating line.

5.3 No owner or operator of a fabric or vinyl coating line subject to this section shall apply coating on any such line during any day whose daily-weighted average VOC content, calculated in accordance with the procedure specified in section 5.3.1, exceeds the emission limit in this section. Equivalency calculations must be done on a solids applied basis. Volatile organic compound emission reduction credit is not allowed when plastisols are used in emission averaging schemes involving vinyl printing and topcoating.

5.3.1 The daily weighted average VOC content, which means the VOC content of two or more coatings as applied on a coating line during any day and weighted according to the fraction of the total coating volume that each coating represents, shall be calculated using the following equation:

$$VOC_w = \sum_{i=1}^{n} \frac{V_i C_i}{VT}$$

where:

VOC_w = The average VOC content of two or more coatings as applied each day on a coating line in units of kg VOC/l of coating (lb/gal), minus water and exempt solvents.

V_i = The volume of each coating as applied each day on a coating line in units of liters (gallons) minus water and exempt solvents.

C_i = The VOC content of each coating as applied each day on a coating line in units of kg VOC/l of coating (lb/gal) minus water and exempt solvents.

VT = The total volume of all coatings as applied each day on a coating line in units of liters (gallons) minus water and exempt solvents.

n = The number of different coatings as applied each day on a coating line.

SECTION 6 Recordkeeping

6.1 An owner or operator of a stationary source using adhesives, coatings, solvents, and/or graphic arts materials and subject to this regulation shall maintain daily records of operations for the most recent two year period. The records shall be made available to the District, Cabinet, or EPA upon request. The records shall include, but not be limited to, the following:

6.1.1 The rule number applicable to the operation for which the records are being maintained;

6.1.2 The application method and substrate type (metal, plastic, paper, etc.);

6.1.3 The amount and type of adhesive, coatings, (including catalyst and reducer for multicomponent coatings), solvent, and/or exempt compounds;

6.1.4 The VOC content as applied in each adhesive, coating, solvent, and/or graphic arts material;

6.1.5 The date for each application of adhesive, coating, solvent, and/or graphic arts material;

6.1.6 The amount of surface preparation, clean-up, wash-up of solvent (including exempt compounds) used and the VOC content of each; and

6.1.7 Oven temperature, where applicable.

6.2 The VOC content shall be calculated using a percent solids basis (less water and exempt solvents) for adhesives, coating, and inks; using EPA Method 24.

6.3 When a source utilizes add-on controls to achieve compliance, documentation will be necessary to assure proper operation. Examples of some controls and related information are:

6.3.1 Thermal incineration - combustion temperature, inlet and outlet VOC concentration from emission tests, how and when these concentrations were determined, destruction or removal efficiency and manufacturer data;

6.3.2 Catalytic incineration - exhaust gas temperature, change in temperature across catalyst bed, date of last change of catalyst bed, inlet and outlet VOC concentration from emission test, how and when these concentrations were determined, destruction or removal efficiency, and manufacturer data;

6.3.3 Condenser - inlet temperature of cooling medium, outlet temperature of cooling medium, inlet and outlet VOC concentration from emission tests, how and when these concentrations were determined, removal efficiency, and manufacturer data; and

6.3.4 When a source utilizes add-on controls, compliance shall be determined by using EPA Method 25.

Adopted v1/5-20-82; effective 5-20-82; amended v2/4-21-82, v3/11-16-83, v4/4-20-88, v5/5-15-91.

Date Submitted Date Approved Federal Register

Original Reg:	06/29/79	01/25/80	45 FR 6092
1st Revision:	02/12/92	10/22/93	58 FR 54516
2nd Revision:	07/20/99	10/23/01	66 FR 53662

REGULATION 7.55 Standard of Performance for New Insulation of Magnet Wire

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates To: KRS Chapter 77 Air Pollution Control
Pursuant To: KRS chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the Air Pollution Control Board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of emissions of volatile organic compounds from magnetic wire coatings.

SECTION 1 Applicability

This regulation applies to each affected facility commenced on or after the effective date of this regulation.

SECTION 2 Definitions

Terms used in this regulation not defined herein shall have the meaning given them in Regulation 1.02.

2.1 "Affected facility" means a coating line for insulation of magnet wire.

2.2 "Applicator" means the mechanism or device used to apply the coating, including, but not limited to, a coating bath.

2.3 "Coating die" means the device, located between the applicator and the drying oven, that scrapes off excess coating and leaves a thin film of desired thickness.

2.4 "Coating line" means a series of equipment and/or operations used to apply, dry, or cure any coatings containing VOCs. This shall include, but is not limited to:

2.4.1 mixing operations;
2.4.2 process storage;
2.4.3 applicators;
2.4.4 drying operations including coating die area evaporation, oven drying, baking, curing, and polymerization;
2.4.5 clean up operations;
2.4.6 leaks, spills and disposal of VOCs; and
2.4.7 processing and handling of recovered VOCs.
2.4.8 For the purposes of determining compliance with this regulation, if any equipment or operation could be considered to be a part of more than one coating line, its VOC emissions shall be assigned to each coating line of which it is a part proportionally to the throughput of VOC it receives from or distributes to each coating line.
2.4.9 If any portion of the series of equipment and/or operations qualify for an exemption according to section 5, then that portion shall be considered to be a separate coating line.

2.5 "Magnet wire" means wire used in such equipment as electrical motors, generators, and transformers which carries an electrical current.

2.6 "Process storage" means mixing tanks, holding tanks, and other tanks, drums, or other containers which contain surface coatings, VOCs, or recovered VOCs, but does not mean storage tanks which are subject to Regulation 7.12.

2.7 "Volatile organic compounds net input" means the total amount of VOCs input to the affected facility minus the amount of VOCs that are not emitted into the atmosphere. Volatile organic compounds that are prevented from being emitted to the atmosphere by the use of control devices shall not be subtracted from the total for the purposes of determining VOC net input. When the nature of any operation or design of equipment is such as to permit more than one interpretation of this definition, the interpretation that results in the minimum value for allowable emission shall apply.

SECTION 3 Standard For Volatile Organic Compounds

No person shall cause, allow, or permit an affected facility to discharge into the atmosphere more than 10% by weight of the VOC net input into the affected facility.

SECTION 4 Compliance

4.1 In all cases, the design of any control system is subject to approval by the District.

4.2 Compliance with the standard in section 3 shall be demonstrated by a material balance except in those cases where the District determines that a material balance is not possible. For those cases where a material balance is not possible, compliance will be determined based upon an engineering analysis by the District of the control system design, control device efficiency, control system capture efficiency and any other factors that could influence the performance of the system. If so requested by the District, performance tests as specified by the District shall be conducted in order to determine the efficiency of the control device.

4.3 With the prior approval of the District, the owner or operator may elect to effect such changes in the affected facility as are necessary to qualify for an exemption under section 5.

4.4 Whenever deemed necessary, the District shall obtain samples of the coatings used at an affected facility to verify that the coatings meet the requirements in section 5. The following methods of analyses for coatings shall be used as applicable except in those cases where the District determines that other methods would be more appropriate:

4.4.1 ASTM D 1644-75 Method A;
4.4.2 ASTM D 1475-60(74);
4.4.3 ASTM D 2369-73; or
4.4.4 Federal Standard 141a, Method 4082.1.

SECTION 5 Exemptions

An affected facility shall be exempt from section 3 if the VOC content of the coating is less than 0.20 kilograms per liter of coating (1.7 pounds per gallon) excluding water, delivered to the applicators associated with the coating line.

Adopted v1/6-13-79; effective 6-13-79; amended v2/3-17-93.

	Date Submitted	Date Approved	Federal Register
Original Reg:	06/29/79	01/25/80	45 FR 6092
1st Revision:	05/21/99	10/23/01	66 FR 53662

REGULATION 7.56 Standard of Performance for Leaks from New Petroleum Refinery Equipment

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates To: KRS Chapter 77 Air Pollution Control
Pursuant To: KRS Chapter 77 Air Pollution Control
Necessity And Function: KRS 77.180 provides that the Air Pollution Control Board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of leakage from equipment at new petroleum refineries.

SECTION 1 Applicability

This regulation applies to each affected facility commenced on or after May 20, 1981.

SECTION 2 Definitions

Terms used in this regulation not defined herein shall have the meaning given to them in Regulation 1.02.

2.1 "Affected facility" means each individual component within a petroleum refinery complex that could potentially leak VOCs to the atmosphere.
2.2 "Component" means equipment or apparatus which includes, but is not limited to, pump seals, compressor seals, seal oil degassing vents, pipeline valves, flanges and other connections, pressure relief devices, process drains, and open-ended pipes that could potentially leak VOCs to the atmosphere.
2.3 "Gas service" means equipment that processes, transfers, or contains a VOC or mixture of VOCs in the gaseous phase.
2.4 "Leak" means the presence of a VOC concentration exceeding 10,000 ppm when tested in the manner in Section 5.
2.5 "Liquid service" means equipment that processes, transfers, or contains a VOC or VOC mixture in the liquid phase.
2.6 "Petroleum refinery complex" means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum or through redistillation, cracking, rearrangement or reforming of unfinished petroleum derivatives.

SECTION 3 Standard for Volatile Organic Compounds

The owner or operator of an affected facility shall:

3.1 When any affected facility within the petroleum refinery complex is found to be leaking, repair the leak within 15 days. A component recheck shall be made after repair. If the leak is still present or a new leak is created by the repair, further maintenance shall be performed until the VOC emission drops below the screening value (10,000 ppm); and
3.2 Any time a valve is located at the end of a pipe or line containing VOCs, seal the end of the line with a second valve, a blind flange, a plug or a cap. This requirement does not apply to safety pressure relief valves.

SECTION 4 Monitoring and Reporting Requirements

The owner or operator of an affected facility shall conduct monitoring and submit records as specified below:

4.1 The refinery operator shall perform component monitoring using the method in Section 5 as follows:

4.1.1 Monitor with a portable VOC detection device one time per year (annually) pump seals, pipeline valves in liquid service, and process drains;

4.1.2 Monitor with a portable VOC detection device four times per year (quarterly) compressor seals, pipeline valves in gas service, and pressure relief valves in gas service;

4.1.3 Monitor visually fifty-two times per year (weekly) pump seals; and

4.1.4 No individual monitoring is necessary for pressure relief valves in liquid service and pipeline flanges.

4.2 Pipeline valves and pressure relief valves for gas service shall be marked or noted so that their location is readily obvious to both the refinery operator performing the monitoring and the District.

4.3 Whenever liquids are observed dripping from a pump seal, the seal shall be checked immediately with a portable detector to determine if a leak of VOCs is present.

4.4 Whenever a relief valve operates and venting to the atmosphere occurs, the operator shall monitor such valve immediately. Pressure relief devices which are tied in to either a flare header or vapor recovery device shall be exempted from the monitoring requirements.

4.5 When a leak is located, a weatherproof and readily visible tag bearing an identification number and the date the leak is located shall be affixed to the leaking component. The location, tag number, date and stream composition of the leak shall also be noted on a survey log. When the leak is repaired, the date of repair and date and instrument reading of component recheck after maintenance shall be entered in the survey log and the tag discarded. The operator shall retain the survey log for two years after the inspection is completed.

4.6 After quarterly monitoring has been performed, the refinery operator shall submit a report to the District listing all leaks that were located but not repaired within the 15 day limit and a signed statement attesting to the fact that all monitoring has been performed as stipulated in the control plan. Leaks that cannot be repaired within 15 days shall be repaired during the next scheduled turn-around, or if unable to be brought into compliance, a deviation shall be requested and obtained on an individual basis.

SECTION 5 Test Methods and Procedures

5.1 Except as provided in Regulation 1.04, the test methods as defined in "Control of Volatile Organic Compound Leaks from Petroleum Refinery Equipment" (OAQPS 1.2-111, EPA) Appendix B, shall be used to determine compliance with the standard in Section 3 and monitoring requirements in Section 4.

5.2 The owner or operator may elect to use alternate monitoring methods if it can be demonstrated to the District's satisfaction that the alternate methods will achieve equivalent control efficiency.

SECTION 6 Deviation and Modification

6.1 If, after at least two complete annual checks, the refinery operator determines that modifications of the monitoring requirements are in order, the operator may request in writing to the District that a revision be made. The submittal shall include data that have been developed to justify any modifications in the monitoring schedule.

6.2 If the District finds an excessive number of leaks during an inspection, or if the refinery operator found an excessive number of leaks in any given area during scheduled monitoring, the District shall increase the required frequency of operator inspections for that part of the facility.

6.3 Deviation with the standards and limitations contained in this regulation, when supported by adequate technical information will be considered by the District on a case-by-case basis to allow for technological or economic circumstances which are unique to a source. An alternative program must be approved by EPA as a revision to the SIP.

SECTION 7 Additional Applicable Regulations

Any source subject to this regulation will also be subject to 40 CFR Part 60 Subpart GGG adopted by reference in Regulation 7.02.

Adopted v1/5-20-81; effective 5-20-81; amended v2/4-21-82, v3/4-20-88, v4/5-15-91.

	Date Submitted	Date Approved	Federal Register
Original Reg:	10/20/81	06/09/82	47 FR 25011
1st Revision:	02/12/92	10/22/93	58 FR 54516
2nd Revision:	07/20/99	10/23/01	66 FR 53662

REGULATION 7.58 Standard of Performance for New Factory Surface Coating Operations of Flat Wood Paneling

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates To: KRS Chapter 77 Air Pollution Control
Pursuant To: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the Air Pollution Control Board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of surface coating emissions from new wood panel facilities.

SECTION 1 Applicability

This regulation applies to each affected facility commenced on or after May 20, 1981. Any source that is ever subject to this regulation will always be subject to it unless the source changes its process to one not covered by this regulation.

SECTION 2 Definitions

Terms used in this regulation not defined herein shall have the meaning given to them in Regulation 1.02.

2.1 "Affected facility" means a coating line for the factory surface coating of interior flat wood paneling.

2.2 "Applicator" means the mechanism or device used to apply the coating including, but not limited to, roll coaters, curtain coaters, sprays and brushes.

2.3 "Class II hardboard paneling finishes" means finishes which meet the specifications of Voluntary Product Standard PS-59-73, filed by reference in 401 KAR 50:015, as approved by the American National Standards Institute.

2.4 "Classification date" means the effective date of this regulation.

2.5 "Coating line" means one or more coating applicators and any associated flashoff area, drying area, and/or oven wherein a coating is applied, dried, and/or cured. A coating line ends with the end of the drying or curing area prior to the beginning of the application of the next coating. It is not necessary to have an oven or a flashoff area in order to be included in this definition. This shall include, but is not limited to:

2.5.1 Mixing operations;
2.5.2 Process storage;
2.5.3 Applicators;
2.5.4 Drying operations including, but not limited to, flashoff area evaporation, oven drying, baking, curing, and polymerization;
2.5.5 Clean up operations;
2.5.6 Leaks, spills and disposal of VOCs; and
2.5.7 Processing and handling of recovered VOCs.

2.6 "Flashoff area" means the space between the applicator and the oven.

2.7 "Hardboard" means a panel manufactured primarily from inter- felted lignocellulosic fibers which are consolidated under heat and pressure in a hot-press.

2.8 "Hardwood plywood" means the plywood surface layer is a veneer of hardwood.

2.9 "Interior flat wood paneling" means printed interior wall panels made of hardwood plywood and thin particle board, natural finish hardwood plywood panels, or hardboard paneling with Class II finishes.

2.10 "Natural finish hardwood plywood panels" means panels whose original grain pattern is enhanced by essentially transparent finishes frequently supplemented by fillers and toners.

2.11 "Particle board" means a manufactured board made of individual wood particles which have been coated with a binder and formed into flat sheets by pressure. Thin particle board has a thickness of 1/4 inch or less.

2.12 "Printed panels" means panels whose grain or natural surface is obscured by fillers and basecoats upon which a simulated grain or decorative pattern is printed.

2.13 "Process storage" means mixing tanks, holding tanks, and other tanks, drums, or other containers which contain surface coatings, volatile organic compounds; but does not mean storage tanks which are subject to Regulation 6.13 or 7.12.

2.14 "Volatile organic compounds net input" means the total amount of VOCs input to the affected facility minus the amount of VOCs that are not emitted into the atmosphere. Volatile organic compounds that are prevented from being emitted to the atmosphere by use of control devices shall not be subtracted from the total for the purposes of determining VOC net input. When the nature of any operation or design of equipment is such as to permit more than one interpretation of this definition, the interpretation that results in the minimum value for allowable emission shall apply.

SECTION 3 Standard for Volatile Organic Compounds

No person shall cause, allow, or permit an affected facility to discharge into the atmospheres more than 15% by weight of the VOC net input into the affected facility.

SECTION 4 Compliance

4.1 In all cases, the design of any control system is subject to approval by the District.

4.2 Compliance with the standard in Section 3 shall be demonstrated by a material balance except in those cases where the District determines that a material balance is not possible. For those cases where a material balance is not possible, compliance will be determined based upon an engineering analysis by the District of the control system design, control device efficiency, control system capture efficiency, and any other factors that could influence the performance of the system. If so requested by the District, performance tests as specified by the District shall be conducted in order to determine the efficiency of the control device. The control system capture efficiency shall be measured according to methods specified in Regulation 1.05.

4.3 With the prior approval of the District, the owner or operator may elect to effect such changes in the facility as are necessary to qualify for an exemption under Section 5.

4.4 Whenever deemed necessary by the District, the District shall obtain samples of the coatings used at an affected facility to verify that the coatings meet the requirements in Section 6.

4.4.1 EPA Method 24 shall be used to determine the VOC content of coatings.

SECTION 5 Exemption

Any affected facility shall be exempt from Section 3 if the total VOC content of all the coatings applied to a specific area of finished paneling product is:

5.1 Less than 2.9 kg/100 sq m of VOCs of coated surface (6.0 lb/1000 sq ft) for printed interior wall panels made of hardwood plywood and thin particle board;

5.2 Less than 5.8 kg/100 sq m of VOCs of coated surface (12.0 lb/1000 sq ft) for natural finish hardwood plywood panels; or

5.3 Less than 4.8 kg/l00 sq m of VOCs of coated surface (10.0 lb/l000 sq ft) for Class II finishes for hardboard paneling. Volatile organic compound content values are expressed in units of mass of VOC (kg,lb) per area of surface to which the coating is applied (100 m^2, 1000ft^2), excluding water and exempt solvents.

5.4 No owner or operator of a flat wood paneling surface coating line subject to this section shall apply coating on any such line, during any day, whose daily-weighted average VOC content, calculated in accordance with section 5.4.1, exceeds the emission limit in this section. Equivalency calculations must be done on a solids applied basis.

5.4.1 The daily weighted average VOC content, which means the VOC content of two or more coatings as applied on a coating line during any day and weighted according to the fraction of the total coating volume that each coating represents, shall be calculated using the following equation:

$$VOC_w = \sum_{i=1}^{n} \frac{V_i C_i}{VT}$$

where:

VOC_w = The average VOC content of two or more coatings as applied each day on a coating line in units of kg VOC/l of coating (lb/gal) minus water and exempt solvents.

V_i = The volume of each coating as applied each day on a coating line in units of liters (gallons) minus water and exempt solvents.

C_i = The VOC content of each coating as applied each day on a coating line in units of kg VOC/l of coating (lb/gal) minus water and exempt solvents.

VT = The total volume of all coatings as applied each day on a coating line in units of liters (gallons) minus water and exempt solvents.

n = The number of different coatings as applied each day on a coating line.

SECTION 6 Recordkeeping

6.1 An owner or operator of a stationary source using coatings, solvents, and/or graphic arts materials and subject to this regulation shall maintain daily records of operations for the most recent two year period. The records shall be made available to the District, Cabinet, or EPA upon request. The records shall include, but not be limited to, the following:

6.1.1 The rule number applicable to the operation for which the records are being maintained;
6.1.2 The application method and substrate type (metal, plastic, etc.);
6.1.3 The amount and type of coatings, (including catalyst and reducer for multicomponent coatings), solvent, and/or exempt compounds;
6.1.4 The VOC content as applied in each coating, solvent, and/or graphic arts material;
6.1.5 The date for each application of coating, solvent, and/or graphic arts material;
6.1.6 The amount of surface preparation, clean-up, wash-up of solvent (including exempt compounds) used and the VOC content of each; and
6.1.7 Oven temperature, where applicable.

6.2 VOC content shall be calculated using a percent solids basis (less water and exempt solvents) for coating, and inks; using EPA Method 24.

6.3 When a source utilizes add-on controls to achieve compliance, documentation will be necessary to assure proper operation. Examples of some controls and related information are:

6.3.1 Thermal incineration - combustion temperature, inlet and outlet VOC concentration from emission tests, how and when these concentrations were determined, destruction or removal efficiency and manufacturer data;
6.3.2 Catalytic incineration - exhaust gas temperature, change in temperature across catalyst bed, date of last change of catalyst bed, inlet and outlet VOC concentration from emission test, how and when these concentrations were determined, destruction or removal efficiency, and manufacturer data;
6.3.3 Condenser - inlet temperature of cooling medium, outlet temperature of cooling medium, inlet and outlet VOC concentration from emission tests, how and when these concentrations were determined, removal efficiency, and manufacturer data; and
6.3.4 When a source utilizes add-on controls, compliance shall be determined by using EPA Method 25.

Adopted v1/5-20-81; effective 5-20-81; amended v2/4-20-82, v3/5-15-91.

	Date Submitted	Date Approved	Federal Register
Original Reg:	10/20/81	06/09/82	47 FR 25011
1st Revision:	02/12/92	10/22/93	58 FR 54516
2nd Revision:	07/20/99	10/23/01	66 FR 53662

REGULATION 7.59 Standards of Performance for New Miscellaneous Metal Parts and Products Surface Coating Operations

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates To: KRS Chapter 77 Air Pollution Control
Pursuant To: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the Air Pollution Control Board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of volatile organic compound emissions from new miscellaneous metal parts and products surface coating operations.

SECTION 1 Applicability

This regulation applies to each affected facility commenced on or after May 20, 1981. Any affected facility that is ever subject to this regulation will always be subject to it unless the affected facility changes its process to one not covered by this regulation.

SECTION 2 Definitions

Terms used in this regulation not defined herein shall have the meaning given to them in Regulation 1.02.

2.1 "Affected facility" means a coating line located at job shops and original equipment manufacturing industries that applies coatings on a metal substrate not elsewhere subject to regulation in this chapter.

2.2 "Air-dried coatings" means a coating that is dried by the use of air or forced warm air at temperatures up to 90°C (194°F).

2.3 "Applicator" means the mechanism or device used to apply the coating, including, but not limited to, dipping, spraying, or flow-coating.

2.4 "Clear Coating" means a coating which either lacks color or opacity, or which is transparent and uses the surface to which it is applied as a reflectant base or undertone color.

2.5 "Coating line" means a series of one or more coating applicators and any associated flashoff area, drying area, or oven wherein a coating is applied and subsequently, dried, or cured. A coating line ends with the end of the drying or curing area or prior to the beginning of the application of the next coating. It is not necessary to have an oven or a flashoff area in order to be included in this definition. This shall include, but is not limited to:

2.5.1 Mixing operations,
2.5.2 Process storage,
2.5.3 Applicators,
2.5.4 Drying operations including, but not limited to, flashoff area evaporation, oven drying, baking, curing, and polymerization,
2.5.5 Clean up operations,
2.5.6 Leaks, spills, and disposal of VOCs, and
2.5.7 Processing and handling of recovered VOCs.

2.6 "Extreme performance coating" means a coating that is designed to protect a coated part from outdoor or harsh exposure or extreme environmental conditions and that is applied to a part that, in its use as a finished product, is intended to be subjected to outdoor or harsh exposure or extreme environmental conditions.

2.7 "Flashoff area" means the space between the applicator and the oven.

2.8 "Miscellaneous metal parts and products" means items including, but not limited to:

2.8.1 Large farm machinery (harvesting, fertilizing, and planting machines, tractors, combines, etc.),

2.8.2 Small farm machinery (lawn and garden tractors, lawn mowers, rototillers, etc.),

2.8.3 Small appliances (fans, mixers, blenders, crock pots, dehumidifiers, vacuum cleaners, etc.),

2.8.4 Commercial machinery (computers and auxiliary equipment, typewriters, calculators, vending machines, etc.),

2.8.5 Industrial machinery (pumps, compressors, conveyor components, fans, blowers, transformers, etc.),

2.8.6 Fabricated metal products (metal covered doors, frames, etc.), and

2.8.7 Any other industrial category which coats metal parts or products under the Standard Industrial Classification Code 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), or Major Group 39 (miscellaneous manufacturing industries).

2.9 "Outdoor or harsh exposure or extreme environmental conditions" means exposure to any of the following: year round weather conditions, temperatures consistently above 95°C, detergents, scouring solvents, corrosive atmospheres, and similar environmental conditions.

2.10 "Prime coat" means the first of two or more films of coating applied in an operation.

2.11 "Process storage" means mixing tanks, holding tanks, and other tanks, drums, or other containers that contain surface coatings, volatile organic compounds, or recovered volatile organic compounds, but does not mean storage tanks that are subject to Regulation 6.13 or 7.12.

2.12 "Single coat" means only one film of coating is applied to the metal substrate.

2.13 "Topcoat" means the final film or series of films of coating applied in a two coat (or more) operation.

SECTION 3 Standards for Volatile Organic Compounds

3.1 A person shall not cause or allow the emission of VOC from any affected facility resulting from the coating of metallic surfaces in excess of the applicable emission rate as follows:

3.1.1 0.52 kg of VOC/l (4.3 lb of VOC/gal) of coating, excluding water and exempt solvents, as applied for clear coatings,

3.1.2 0.42 kg of VOC/l (3.5 lb of VOC/gal) of coating, excluding water and exempt solvents, as applied for air-dried coatings,

3.1.3 0.42 kg of VOC/l (3.5 lb of VOC/gal) of coating, excluding water and exempt solvents, as applied for extreme performance coatings, or

3.1.4 0.36 kg of VOC/l (3.0 lb of VOC/gal) of coating, excluding water and exempt solvents, as applied for all other coatings.

3.2 Compliance with the emission limits specified in section 3.1 shall be based upon the coatings used for the affected facility during a calendar-day averaging period. The District may specifically authorize compliance to be based upon a longer averaging period that shall not exceed 1 calendar month.

3.3 If more than 1 limit of section 3.1 would be applicable for a specific coating, the least stringent limit shall apply.

3.4 Upon written request by the owner or operator of the affected facility, and approval by the District, the emission limits specified in section 3.1 may be achieved by an equivalent emission limit expressed in kg of VOC/l (lb of VOC/gal) of coating solids, as applied. The equivalent emission limit shall be established by the following equation:

$$A = \frac{E}{S}$$

where:

A = Allowable equivalent emission limit, in kg of VOC/l (lb of VOC/gal) of coating solids, as applied.

E = Applicable emission limit as specified in section 3.1, in kg of VOC/l (lb of VOC/gal) of coating, excluding water and exempt solvent, as applied.

S = Solids volume fraction representative of a compliance coating, in liter (gallon) of solids per liter (gallon) of coating, excluding water and exempt solvents, as applied. The value of "S" shall be determined by using one of the following equations:

$$S = 1 - \frac{E}{0.88} \quad Where\ E\ is\ kg\ of\ VOC / l$$

$$S = 1 - \frac{E}{7.36} \quad Where\ E\ is\ lb\ of\ VOC / gal$$

SECTION 4 Compliance

4.1 A new affected facility shall comply with the requirements of this regulation on startup.

4.2 In all cases, the design of any control system is subject to approval by the District.

4.3 Compliance with an emission limit in section 3.4 shall be demonstrated by a material balance except in those cases where the District determines that a material balance is not possible. For those cases where a material balance is not possible, compliance will be determined based upon an engineering analysis by the District of the control system design, control device efficiency, control system capture efficiency, and any other factors that could influence the performance of the system. If so requested by the District, performance tests as specified by the District shall be conducted in order to determine the efficiency of the control device. The control system capture efficiency shall be measured according to methods specified in Regulation 1.05.

4.4 Whenever deemed necessary by the District, the District shall obtain samples of the coatings used at an affected facility to verify compliance with Section 3.

4.4.1 The method of analysis for coatings is EPA Method 24.

4.5 For each coating line that applies multiple coatings, all of which are subject to the same numerical emission limitation in section 3.1, during the same averaging period, e.g., all coatings used on the line are subject to 0.42 kg of VOC/l (3.5 lb of VOC/gal) of coating, excluding water and exempt solvents, the daily weighted VOC content, calculated in accordance with the procedure in section 4.4.1, shall not exceed the coating VOC content limit corresponding to the category of coating used.

4.5.1 The averaging period weighted average VOC content, which means the VOC content of two or more coatings as applied on a coating line during any averaging period and weighted according to the fraction of the total coating volume that each coating represents, shall be calculated using the following equation:

$$VOC_w = \sum_{i=l}^{n} \frac{V_i C_i}{V T}$$

where:

VOC_w = The average VOC content of two or more coatings as applied each averaging period on a coating line, in kg VOC/l (lb of VOC/gal) of coating, excluding water and exempt solvents.

V_i = The volume of each coating as applied each averaging period on a coating line in units of liters (gallons), excluding water and exempt solvents.

C_i = The VOC content of each coating as applied each averaging period on a coating line in units of kg of VOC/l (lb of VOC/gal) of coating, excluding water and exempt solvents.

VT = The total volume of all coatings as applied each averaging period on a coating line in units of liters (gallons), excluding water and exempt solvents.

n = The number of different coatings as applied each averaging period on a coating line.

SECTION 5 Exemptions

5.1 The surface coating of the following metal parts and products, or operations, are exempt from the standards in section 3 of this regulation:

5.1.1 The exterior of airplanes and marine vessels, but not parts for the exterior of airplanes and marine vessels that are coated as a separate manufacturing or coating operation,

5.1.2 Automobile refinishing,

5.1.3 Customized top coating of automobiles and trucks if production is less than 35 vehicles per day,

5.1.4 Metallic surfaces that are subject to Regulation 6.16, 6.17, 6.19, 7.02, or 7.55, and

5.1.5 Parts consisting of both metallic and nonmetallic components, if a demonstration is made, to the satisfaction of the District, that the limits of this rule cannot be met due to the presence of the nonmetallic component. In this case, Regulation 7.25 applies to the coating of these parts.

5.2 Any affected facility shall be exempt from Section 3 if the total VOC emissions from all affected facilities subject to this regulation are less than or equal to five tons per year (potential emissions prior to any add-on controls).

SECTION 6 Recordkeeping

6.1 An owner or operator of an affected facility subject to this regulation shall maintain records of operations for each averaging period for the most recent two-year period. The records shall be made available to the District upon request. The records shall include, but not be limited to, the following:

6.1.1 The regulation and section number applicable to the affected facility for which the records are being maintained,

6.1.2 The application method and substrate type (metal, plastic, etc.),

6.1.3 The amount and type of coatings (including catalyst and reducer for multicomponent coatings) and solvent (including exempt compounds) used at each point of application during the averaging period. The District may specifically authorize the usage record to reflect a period longer than the compliance averaging period, with the usage prorated for each compliance averaging period by a method approved by the District. In this case, the usage record period shall not exceed 1 calendar month,

6.1.4 The VOC content as applied in each coating and solvent,

6.1.5 The date, or usage record period, for each application of coating and solvent,

6.1.6 The amount of surface preparation, clean-up, wash-up of solvent (including exempt compounds) used and the VOC content of each material used during the averaging period. The District may specifically authorize the usage record to reflect a period longer than the compliance averaging period, with the usage prorated for each compliance averaging period by a method approved by the District. In this case, the usage record period shall not exceed 1 calendar month, and

6.1.7 Oven temperature, where applicable.

6.2 The VOC content shall be calculated using a percent solids basis (excluding water and exempt solvents) for coatings using EPA Method 24.

6.3 When an affected facility utilizes add-on controls to achieve compliance, documentation will be necessary to assure proper operation. Examples of some controls and related information are:

6.3.1 Thermal incineration: combustion temperature, inlet and outlet VOC concentration from emission tests, how and when these concentrations were determined, destruction or removal efficiency, and manufacturer data,

6.3.2 Catalytic incineration: exhaust gas temperature, change in temperature across catalyst bed, date of last change of catalyst bed, inlet and outlet VOC concentration from emission test, how and when these concentrations were determined, destruction or removal efficiency, and manufacturer data, and

6.3.3 Condenser: inlet temperature of cooling medium, outlet temperature of cooling medium, inlet and outlet VOC concentration from emission tests, how and when these concentrations were determined, removal efficiency, and manufacturer data.

6.4 When an affected facility utilizes add-on controls, compliance shall be determined by using EPA Method 25.

6.5 In lieu of the records requirement by sections 6.1 through 6.4 above, any facility claiming an exemption pursuant to Section 5 shall keep records sufficient to demonstrate applicability of the claimed exemption. For facilities exempt pursuant to section 5.2, this shall include but not be limited to record of the total potential VOC emissions from all processes or process operations subject to this regulation prior to any add-on controls on a rolling twelve month basis.

SECTION 7 Deviations

Deviations from the standards and limitations in this regulation, when supported by adequate technical information, will be considered by the District on a case-by-case basis to allow for technological or economic circumstances that are unique to an affected facility. However, these deviations will require federal approval pursuant to Regulation 1.08.

Adopted v1/5-20-81; effective 5-20-81; amended v2/4-21-82, v3/2-19-86, v4/5-15-91, v5/4-23-96, v6/01-17-18, v7/06-19-19.

	Date Submitted	Date Approved	Federal Register
Original Reg:	02/12/92	10/22/93	58 FR 54516
1st Revision:	05/21/99	10/23/01	66 FR 53658
2nd Revision:	03/23/18	08/12/19	84 FR 39756
3rd Revision:	09/05/19	09/02/20	85 FR 54510

REGULATION 7.60 Standard of Performance for New Synthesized Pharmaceutical Product Manufacturing Operations

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates To: KRS Chapter 77 Air Pollution Control
Pursuant To: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the Air Pollution Control Board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of emissions from new pharmaceutical manufacturing operations.

SECTION 1 Applicability

This regulation applies to each affected facility commenced on or after May 20, 1981. Any source that is ever subject to this regulation will always be subject to it unless the source changes its process to one not covered by this regulation.

SECTION 2 Definitions

Terms used in this regulation not defined herein shall have the meaning given to them in Regulation 1.02.

2.1 "Affected facility" means all sources of VOC at any pharmaceutical manufacturing facility, including vents from reactors, distillation units, fryers, storage of VOC, transfer of VOC, extraction equipment, filters, crystallizers, and centrifuges that emit 6.8 kilograms (15 pounds) of VOC per day or more as determined by the CTG of Pharmaceutical Manufacture (EPA-450/2-78-029) Appendix B.

2.2 "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.

2.3 "Reactor" means a vat or vessel, which may be jacketed to permit temperature control, designed to contain chemical reactions.

2.4 "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.

2.5 "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 chemicals from vegetable materials or animal tissues, and formulation and packaging of the product is not covered by this regulation.

SECTION 3 Standard for Volatile Organic Compounds

The owner or operator of an affected facility shall install, maintain and operate the control equipment and observe at all times the following operating requirements:

3.1.1 Each vent from reactors, distillation operations, crystalizers, centrifuges, and vacuum dryers that emit 6.8 kg/day (15 lb/day) or more of VOCs shall be equipped with surface condensers or other methods of control which provide emission reductions equivalent to the use of surface condensers which meet the requirements in section 3.1.2.

3.1.2 If surface condensers are used, the condenser outlet gas temperature shall not exceed the following temperatures (degrees Celsius) when condensing VOCs with the respective minimum vapor pressures (kilopascals). All vapor pressures are referenced to 20 °C:

3.1.2.1 Negative 25 °C; 40 kPa (5.8 psi);
3.1.2.2 Negative 15 °C; 20 kPa (2.9 psi);
3.1.2.3 0 °C; 10 kPa (1.5 psi);
3.1.2.4 10 °C; 7 kPa (1.0 psi); and,
3.1.2.5 25 °C; 3.5 kPa (0.5 psi).

3.2.1 For air dryers and production equipment exhaust systems that emit 150 kg/day (330 lb/day) or more of VOCs, emissions shall be reduced by 90%.

3.2.2 For air dryers and production equipment exhaust systems that emit less than 150 kg/day (330 lb/day), emissions shall be reduced to 15 kg/day (33 lb/day).

3.3.1 For storage tanks storing VOCs with a vapor pressure greater than 28 kPa (4.21 psi) at 20 °C, one liter of displaced vapor shall be allowed to be released to the atmosphere for every 10 liters transferred (i.e., a 90% effective vapor balance or equivalent) or truck/rail car delivery to all tanks greater than 7,500 liters (2,000 gal) capacity except where tanks are equipped with floating roofs, vapor recovery systems, or their equivalent. This requirement does not apply to transfer of VOCs from one in-plant location to another.

3.3.2 For tanks storing VOCs with a vapor pressure greater than 10 kPa (1.5 psi) at 20 °C, pressure/vacuum conservation vents shall be set at plus or minus 0.2 kPa, except where more effective air pollution control equipment is used.

3.4 All centrifuges containing VOCs, rotary vacuum filters processing liquid containing VOCs and any other filters having an exposed liquid surface where the liquid contains VOCs shall be enclosed. This applies to liquids exerting a total VOC vapor pressure of 3.5 kPa (0.5 psi) or more at 20 °C.

3.5 All in-process tanks containing VOC at any time shall have covers which shall be closed except for short periods when production, sampling, maintenance, or inspection procedures require operator access.

3.6 For liquids containing VOCs, all leaks in which liquid can be observed to be running or dripping from vessels and equipment (for example, pumps, valves, flanges) shall be repaired within 15 days. A visual recheck shall be made after repair. If the leak is still present or a new leak is created by the repair, further maintenance shall be performed until the VOC emission drops below the screening value (observed to be running or dripping). Leaks that cannot be repaired within 15 days shall be repaired during the next scheduled turnaround, or if unable to be brought into compliance a deviation shall be requested and obtained on an individual basis. Leak detection/ maintenance and repair procedures shall include maintaining a log identifying when the leak occurred and reporting every 90 days those leaks not repaired after 15 days. The operator shall retain the survey log for two years after the inspection is completed.

SECTION 4 Compliance Procedures

4.1 A new affected facility shall comply with this regulation on startup.

4.2 Compliance will be determined based upon an engineering analysis by the District of the control system design, control device efficiency, control system capture efficiency, and any other factors that could influence the performance of the system. If so requested by the District, performance tests as specified by the District shall be conducted in order to determine the efficiency of the control device.

SECTION 5 Monitoring Requirements

When absorbers, condensers, incinerators, or scrubbers are used to achieve compliance with Section 3, the following monitoring devices shall be an integral part of the control device:

5.1 For carbon absorbers, a monitoring device connected to an alarm device which indicates carbon bed breakthrough;

5.2 For condensers, a temperature sensing device located in the exit gas stream;

5.3 For incinerators, temperature sensing devices located in the combustion chamber for thermal incinerators and in the catalyst pre-heat chamber for catalytic incinerators; and

5.4 For scrubbers, flow meters for measuring flow rate of scrubbing medium or pressure drop measuring devices indicating back pressure and pressure drop across the scrubber.

Adopted v1/5-20-81; effective 5-20-81; amended v2/4-21-82, v3/4-20-88, v4/5-15-91.

	Date Submitted	Date Approved	Federal Register
Original Reg:	02/12/92	10/22/93	58 FR 54516
1st Revision:	07/20/99	10/23/01	66 FR 53662

REGULATION 7.77 Standards of Performance for New Blast Furnace Casthouses

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates To: KRS Chapter 77 Air Pollution Control
Pursuant To: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the Air Pollution Control Board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of emissions from new blast furnace casthouses.

SECTION 1 Applicability

This regulation applies to blast furnace casthouses commenced on or after the effective date of this regulation.

SECTION 2 Definitions

Terms used in this regulation not defined herein shall have the meaning given them in Regulation 1.02.

2.1 "Blast Furnace" means a furnace producing pig iron by introducing iron bearing materials, coke, and flux materials into a vessel and introducing heated combustion air to form a reducing gas which is passed counter current to the descending raw materials.

2.2 "Blast Furnace Casthouse" means the building or buildings which house the following:

2.2.1 Casting of hot metal from a blast furnace from an opening at the bottom of the furnace through a runner into a torpedo car; or

2.2.2 Casting of the slag from a blast furnace from an opening at the bottom of the furnace through runners into a slag ladle or slag pit.

2.3 "Control device" means the air pollution control equipment used to remove particulate matter generated in the blast furnace casthouses from the effluent gas stream.

SECTION 3 Standards for Particulate Matter

No owner or operator of a blast furnace casthouse subject to this regulation shall cause to be discharged into the atmosphere from the blast furnace casthouse any gases which:

3.1 Exhibit an average opacity in excess of 10%.

3.2 If such gases exit from a gas cleaner, no owner or operator subject to the provisions of this regulation shall cause to be discharged into the atmosphere any gases which:

3.2.1 Contain particulate matter in excess of 0.010 gr/dscf as tested during casting of hot metal and/or slag; and

3.2.2 Exhibit an average opacity in excess of 10%.

SECTION 4 Test Methods and Procedures

Reference test methods in 40 CFR Part 60 Appendix A shall be used to determine compliance with the standards prescribed in Section 3 as follows:

4.1 Reference Method 5 for the concentration of particulate matter and associated moisture content;
4.2 Reference Method 1 for sample and velocity traverses;
4.3 Reference Method 2 for velocity and volumetric flow rate;
4.4 Reference Method 3 for gas analysis; and
4.5 Reference method 9 for the determination of opacity.
4.6 For the purpose of determining compliance with Section 3, the following procedures shall be used to supplement Method 9:
4.6.1 A series of consecutive observations taken at 15 second intervals shall be made during the entire period of the time that hot metal and slag are being cast. Compliance shall be based on a comparison of the standards in Section 3 with the highest average opacity occurring over any six consecutive minutes during the period of observation. If emissions are being emitted from the roof monitor or other discharge points from the building, the State of Kentucky currently certified opacity reader shall read and record all plume emission points with a minimum of one six-minute average reading record for each. The failure of single emission point to meet the standards in Section 3 will cause the entire casthouse to fail the standard.
4.6.2 Method 9 shall be adhered to precisely in the observation and recording of all readings from all emission points.

SECTION 5 Variances

The District may grant a variance from the control requirements of this regulation. Requests for a variance shall be supported by adequate technical and economic documentation, provided that the alternative strategy shall result in an equivalent overall reduction in particulate emissions from the source as would be required by this regulation.

Adopted v1/10-20-93; effective 10-20-93.

	Date Submitted	Date Approved	Federal Register
Original Reg:	05/21/99	10/23/01	66 FR 53662

REGULATION 7.79 Standards of Performance for New Commercial Motor Vehicle and Mobile Equipment Refinishing Operations

Air Pollution Control District of Jefferson County
Jefferson County, Kentucky

Relates To: KRS Chapter 77 Air Pollution Control
Pursuant To: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 provides that the Air Pollution Control Board may make and enforce all needful orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the control of Volatile Organic Compound (VOC) emissions from new commercial motor vehicle and mobile equipment refinishing operations.

SECTION 1 Applicability

This regulation applies to new existing commercial facilities making spot repairs, panel repairs, refinishing of parts and/or the refinishing of the entire motor vehicle or mobile equipment. It is in effect for all facilities built on or after the date of adoption.

SECTION 2 Definitions

Terms used in this regulation not defined herein shall have the meaning given them in Regulation 1.02.

2.1 "Adhesion promoter" means a coating used to promote adhesion of a topcoat on surfaces such as trim moldings, door locks, door sills, or any coating which provides adhesion to plastic substrates, where sanding is not practical.

2.2 "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.

2.3 "Basecoat" means a pigmented topcoat which is the first topcoat applied as part of a multiple stage topcoat system.

2.4 "Basecoat/clearcoat system" means a topcoat system composed of a pigmented basecoat portion and a transparent and clear overcoat portion.

2.5 "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.

2.6 "Catalyst" means a substance whose presence enhances the reaction between chemical compounds.

2.7 "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.

2.8 "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.

2.9 "Color match" means the ability of a repair coating to blend into an existing coating so that color difference is not visible.

2.10 "Excluded VOC" means any of the compounds expressly excluded from the definition of volatile organic compound in Regulation 1.02.

2.11 "Elastomeric material" means topcoats and primers that are specifically formulated for application over flexible parts such as filler panels and elastomeric bumpers.

2.12 "Electrostatic application" means the application of charged atomized paint droplets which are deposited by electrostatic attraction.

2.13 "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:

2.13.1 Industrial grade detergents, cleaners or abrasive scouring agents, or

2.13.2 Extreme environmental conditions during the vehicle's principle use.

2.14 "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.

2.15 "Ground support vehicles" means vehicles used in support of aircraft activities at airports.

2.16 "Group I vehicles and equipment" means passenger cars, large- sized truck cabs and chassis, light and medium duty trucks and vans, motor homes, recreational vehicles and motorcycles.

2.17 "Group II vehicles" means buses and mobile equipment.

2.18 "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.

2.19 "Material Safety Data Sheet" (MSDS) means the chemical, physical, technical and safety information document supplied by the manufacturer of the coating, solvent or other chemical product, usually through his distribution network or retailers.

2.20 "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.

2.21 "Midcoat" means a semi-transparent topcoat which is a middle topcoat applied as part of a multiple topcoat system.

2.22 "Mobile equipment" means any equipment which may be drawn or is capable of being driven on a roadway, including but not limited to: truck bodies, truck trailers, cargo vaults, utility bodies, camper shells, construction equipment (mobile cranes, bulldozers, concrete mixers), farming equipment (tractors, plows, pesticide sprayers), and miscellaneous equipment (street cleaners, golf carts, ground support vehicles, tow motors, fork lifts).

2.23 "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.

2.24 "Panel" means a complete section (e.g., hood, door), which typically is approximately nine square feet.

2.25 "Precoat" means any coating which is applied to bare metal primarily to deactivate the metal surface for corrosion resistance to a subsequent water-base primer.

2.26 "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 corrosion resistance and adhesion.

2.27 "Primer" means any coating applied prior to the application of a topcoat for the purpose of corrosion resistance and adhesion of the topcoat.

2.28 "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.

2.29 "Primer surfacer" 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.

2.30 "Reducer" means the solvent used to thin enamel.

2.31 "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.

2.32 "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.

2.33 "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.

2.34 "Three-stage coating system" means a topcoat system composed of a pigmented basecoat portion, a semi-transparent midcoat portion, and a transparent clearcoat portion.

2.35 "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.

2.36 "Touch-up coating" means any coating applied by brush and, in some limited cases, by aerosol spray to repair minor surface damage or imperfections.

2.37 "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.

2.38 "Truck" means a motor vehicle designed, used, or maintained primarily for the transportation of property.

2.39 "Large-sized truck" means a truck having a manufacturer's gross vehicle weight rating of more than 8500 pounds.

2.40 "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.

2.41 "Van" means a closed truck for carrying property or persons.

2.42 "Volatile Organic Compound" (VOC) means any organic compound which would be emitted during use, application, curing or drying of a solvent or surface coating. Some organic compounds are not considered to be ozone precursors and shall not be considered a part of the coating or solvent for this regulation. Regulation 1.02 identifies these excluded VOCs.

2.43 "Waterborne primer" means any primer using water as the primary solids suspension agent, usually containing 2.5 lbs/gal or less of VOC, as applied.

SECTION 3 Exemptions

The following activities are exempted from this regulation:

3.1 Application of aerosol coating products,

3.2 Graphic designs such as the application of letters, lines, logos, numbers, striping, etc. covering less than 10% of the total painted surface of the vehicle, 3.3 Original Equipment Manufacturer (OEM) coatings applied at manufacturing or assembly plants which are subject to Regulations 6.36, 7.02 or 40 CFR Part 60 Subpart MM,

3.4 Touch-up operations involving the application of very small quantities of coatings, usually by brush,

3.5 Application of waterborne coatings of less than two lbs/gal of VOC, as applied, and

3.6 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:

3.6.1 Not more than one complete motor vehicle or mobile equipment per week shall be refinished,

3.6.2 Not more than five panel or spot repair jobs per week shall be performed, and

3.6.3 No visible emissions shall leave the applicator's property.

3.7 An exemption pursuant to this section does not constitute an exemption from any other regulation.

SECTION 4 Standards for VOC

Any 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 sections 4.1 and 4.2. 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 solvent, as applied to the coated surface. Appendix A provides equations to calculate VOC content of coatings and compound coatings.

4.1 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 sections 4.1.1, or 4.1.2.

4.1.1 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, unless the conditions of section 4.3 are met:

Coating	**VOC lb/gal**
Surface Cleaner	2.0
Pretreatment wash primer	6.5
Precoat	5.5
Primer/primer surfacer	6.0
Primer sealer	6.5
Topcoat	6.5
Metallic/iridescent topcoat	6.5
Extreme performance	6.5

4.1.2 Effective May 1, 1995, 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, unless the conditions of section 4.3 are met:

Coating	VOC lb/gal
Surface Cleaner	1.7
Pretreatment wash primer	6.5
Precoat	5.5
Primer/primer surfacer	4.8
Primer sealer	4.6
Topcoat	5.2
Metallic/iridescent topcoat	5.2
Extreme performance	6.2

4.2 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 sections 4.2.1 and 4.2.2.

4.2.1 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, unless the conditions of section 4.3 are met:

Coating	VOC lb/gal
Surface Cleaner	2.0
Pretreatment wash primer	6.5
Precoat	5.5
Primer/primer surfacer	6.0
Primer sealer	6.5
Topcoat	6.5
Metallic/iridescent topcoat	6.5
Extreme performance	6.5

4.2.2 Effective May 1, 1995, no coatings shall be used which have a VOC content in excess the following limits, expressed as pounds of VOC per gallon of coating as applied, unless the conditions of section 4.3 are met:

Coating	VOC lb/gal
Surface Cleaner	1.7
Pretreatment wash primer	6.5
Precoat	5.5
Primer/primer surfacer	2.8
Primer sealer	3.5
Topcoat	3.5
Metallic/iridescent topcoat	3.5
Extreme performance	6.2

4.3 The limitations of VOC content in sections 4.1 and 4.2 shall not be exceeded unless:

4.3.1 Emissions are controlled to an equivalent level by air pollution control equipment,

4.3.2 The efficiency of the control equipment is a minimum of 85%, and

4.3.3 The control equipment has been approved by the District and permits issued.

4.4 Specialty coatings shall not be applied unless:

4.4.1 The VOC content is equal to or less than seven pounds of VOC per gallon of coating as applied, and

4.4.2 The application of all such coatings, except safety related coatings, shall not exceed 10% of all coatings applied on a weekly basis.

SECTION 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:

5.1 Spraying operations shall be performed in a totally enclosed spray booth or a totally enclosed spray area which provides, as a minimum:

5.1.1 A series of exhaust filters, wet or dry, that have a 90% particulate control efficiency, and

5.1.2 Proper maintenance of the equipment in accordance with the manufacturer's recommendations or, in the absence of the above, reasonable care.

5.2 Effective May 1, 1995, spraying equipment shall have a minimum transfer efficiency of 65% at eight inches from the work surface. Compliance may be achieved by any of the following:

5.2.1 Electrostatic application equipment operated and maintained in accordance with the manufacturer's recommendations, 5.2.2 HVLP spray equipment operated and maintained in accordance with the manufacturer's recommendations, or

5.2.3 Any other coating application equipment which has been satisfactorily demonstrated to be capable of achieving a minimum of 65% efficiency and approved by the District.

5.3 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 device shall be 85%.

5.4 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 °F and the used solvent is contained for subsequent disposal by authorized means.

SECTION 6 Prohibitions

6.1 No person shall specify or require for use the application of any coating if such use results in a violation of this regulation. This prohibition is applicable to all contracts wherein a coating is to be applied at any location within Jefferson County, KY. This prohibition shall not apply if the coating is to be utilized at surface coating facilities where control equipment has been installed meeting the requirements of section 5.3.

6.2 No person shall sell within Jefferson County, KY any coating if such product exceeds any of the provisions of this regulation or would exceed any provision as typically applied. This prohibition is applicable to the sale of any coating which is to be applied at any location within Jefferson County. This prohibition shall not apply if the coating is to be utilized at surface coating facilities where control equipment has been installed meeting the requirements of section 5.3.

6.3 Cleaning of equipment by spraying solvent through the spray gun with no reasonable attempt to reclaim the used solvent is prohibited.

SECTION 7 Operating Requirements

The owner/operator shall implement good housekeeping practices which include, but are not limited to, the following:

7.1 All equipment shall be maintained in accordance with the manufacturer's recommendations,

7.2 All fresh or used solvents shall be stored in closed containers,

7.3 All waste coatings, used automotive fluids, spray booth filters, etc. shall be stored in closed containers prior to disposal by authorized means, and

7.4 Storage of cloth or paper products used for solvent surface preparation and cleanup shall be stored in closed containers prior to disposal by authorized means.

7.5 A person using pressure pots shall use either:

7.5.1 Bag-type liners to aid cleanup and minimize cleaning solvent use,

7.5.2 Insert containers to aid cleanup and minimize cleaning solvent use, or

7.5.3 Other reasonable practices to reduce the amount of cleaning solvent used.

7.5 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 into the atmosphere.

7.6 Personnel performing spraying operations must be trained to properly position a spray gun to minimize overspray.

7.7 Reasonable effort shall be employed to schedule operations of a similar nature to significantly reduce overall VOC material consumption.

SECTION 8 Reporting and Recordkeeping Requirements

Any person subject to this regulation shall comply with the following requirements as a minimum.

8.1 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:

8.1.1 Name and appropriate identification of coating, catalyst, hardener, reducer, etc. used,

8.1.2 Mix ratio of components used, and

8.1.3 VOC content of coating, as applied, less water and excluded solvents, in pounds per gallon.

8.2 Daily records shall be maintained which shall include:

8.2.1 Identification of applied coatings pursuant to section 8.1.1, and

8.2.2 Quantity of each coating applied.

8.3 Monthly records shall be maintained which shall include:

8.3.1 Type of solvent used for cleanup and/or surface preparation, and

8.3.2 Quantity of each solvent, cleaner, etc. used.

8.4 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 section 8.1.1 and shall include as a minimum:

8.4.1 Designation of VOC content as supplied, expressed in lbs/gal, less water and excluded VOC solvents,

8.4.2 Designation of all hazardous and/or toxic components. Designation shall include, as a minimum: the CAS registration number of the component; the weight percent of the component; and the weight of the product, expressed in lbs/gal, or alternately, the specific gravity of the product, and

8.4.3 Other pertinent physical and chemical data.

8.5 Records specified in this section shall be retained and readily available for inspection by EPA; the Cabinet; the District; and other responsible parties commencing upon adoption of this regulation and maintained for five years.

Adopted v1/2-2-94; effective 2-2-94.

	Date Submitted	Date Approved	Federal Register
Original Reg:	06/30/97	09/13/99	64 FR 49404
1st Revision:	07/20/99	10/23/01	66 FR 53690

Appendix A to Regulation 7.79

Standards of Performance for New Commercial Motor Vehicle
and Mobile Equipment Refinishing Operations

VOC content shall be given and/or calculated in lbs/gal.

Calculation 1:

The VOC content of a basecoat/topcoat system shall be calculated according to the following equation:

$$VOC_{ms} = \frac{VOC_{bc} + 2VOC_{cc}}{3}$$

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:

$$Content = \frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}}$$

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:

$$Content = \frac{W_s - W_w - W_{es}}{Vm}$$

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:

$$VOC_{ms} = \frac{VOC_{bc} + VOC_{mc} + 2VOC_{cc}}{4}$$

where:

A three-stage coating 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 given basecoat.
VOC_{mc} = the VOC content, less water and less exempt compounds as applied, of any given midcoat.
VOC_{cc} = the VOC content, less water and less exempt compounds as applied, of any given clearcoat.

REGULATION 7.81 Standard of Performance for New or Modified Bakery Oven Operations

Air Pollution Control District of Jefferson County Jefferson County, Kentucky

Relates To: KRS Chapter 77 Air Pollution Control
Pursuant To: KRS Chapter 77 Air Pollution Control
Necessity and Function: KRS 77.180 authorizes the Air Pollution Control Board to adopt and enforce all orders, rules, and regulations necessary or proper to accomplish the purposes of KRS Chapter 77. This regulation provides for the quantification and control of volatile organic compound (VOC) emissions from new or modified bakery ovens.

SECTION 1 Definitions

Terms used in this regulation that are not defined in this regulation shall have the meaning given them in Regulation 1.02 *Definitions*.

1.1 "Affected facility" means a bakery oven that bakes yeast-leavened pan bread, rolls, buns, or similar products. An affected facility does not include a bakery oven that exclusively bakes the following exempt products: crackers, pretzels, sweet goods, muffins, croutons, breadsticks, similar baked foodstuffs that are not yeast-leavened, or products that are leavened chemically in the absence of yeast.
1.2 "Leaven" means to raise a dough by causing gas to permeate it.
1.3 "Spike" means an additional amount of yeast added upon the dough side.
1.4 "Spike time" means the time period over which spiking is accomplished.
1.5 "Yeast percentage" means the weight ratio of yeast to total recipe flour.

SECTION 2 Applicability

This regulation applies to new or modified affected facilities that commenced operation or had a construction permit issued on or after July 19, 1995. If 1 or more new or modified affected facilities at a stationary source are subject to the requirements of Sections 3, 4, and 5, then each new or modified affected facility at the stationary source is always subject to those requirements unless the affected facility exclusively bakes exempt products or the process of the affected facility is changed to a process that is not subject to this regulation.

SECTION 3 Standard for Control of VOC Emissions from New or Modified Bakery Ovens

A person who owns or operates 1 or more new or modified affected facilities at the same stationary source that in total emit more than 150 pounds of VOC per day as calculated according to the methods in Section 6 shall either:

3.1 Reduce VOC emissions to less than or equal to 150 pounds per day, or
3.2 Reduce VOC emissions by at least 85% by weight, based on overall control efficiency.

SECTION 4 Methods for Control of VOC Emissions from New or Modified Bakery Ovens

Compliance with Section 3 may be accomplished by using add-on control devices, process modification, or any combination of these. This may be accomplished either by conventional or alternative technology. All compliance methods are subject to prior approval by the District. Alternative control technology or alternative process technology shall be evaluated on a case-by-case basis and shall be demonstrated to the District's satisfaction to achieve the required control efficiency.

SECTION 5 Testing Requirements

5.1 The owner or operator of an affected facility who installs a control device shall perform a stack test using either Method 25A of 40 CFR Part 60 Appendix A or another test method approved by the District and shall submit test reports to the District within 180 days after startup of the control device.

5.2 The owner or operator of an affected facility who performs a stack test shall provide the District with at least a 30-day prior notice of the planned performance test.

5.3 The owner or operator of an affected facility shall submit a test protocol to the District for approval within 7 working days prior to the test notification.

5.4 The owner or operator of an affected facility shall notify the District within 5 working days of the initial start up of the affected facility.

SECTION 6 Methods for Calculating VOC Emissions from Bakery Ovens

The total VOC emissions from affected facilities shall be calculated by using the following emission factor equations:

6.1 For products made with yeast spike, the formula is:

$$E.F. = 0.95Y_1 + 0.195Ti - 0.51S - 0.86Ts + 1.90$$

where:

E.F. = pounds VOC per ton of baked product.
Yi = initial baker's percent of yeast to the nearest tenth of a percent, expressed in decimal form (e.g., 3.2% is expressed as 0.032).
Ti = total yeast action time in hours to the nearest tenth of an hour.
S = final (spike) baker's percent of yeast to the nearest tenth of a percent, expressed in decimal form.
Ts = spiking time in hours to the nearest tenth of an hour.

6.2 For products made with no final yeast spike, the formula is:

$$E.F. = 0.95Yi + O.J\ 95Ti + 1.90$$

6.3 For daily VOC emissions in pounds per day: the formula is:

$$Emissions = E.F. \times BP$$

where:

E.F. = pounds VOC per ton of baked product.
BP = product production in tons per day.

SECTION 7 Exemptions

If all new or modified affected facilities at the same stationary source emit in total less than or equal to 150 pounds of VOC per day, then they are exempt from the requirements of Sections 3, 4, and 5.

SECTION 8 Recordkeeping Requirements

An owner or operator of 1or more new or modified bakery ovens subject to this regulation shall maintain daily production records of non-exempt products baked. These records shall include the type of product baked, the amount of raw material processed, the initial and final yeast percentage, the total yeast action time, and the total daily VOC emissions. The owner or operator shall use the formula in Section 6 in order to calculate the total daily VOC emissions. Each record shall be maintained for a minimum of 5 years and made available to the District upon request.

Adopted v1/7-19-95; effective 7-19-95; amended v2/5-17-00.

	Date Submitted	Date Approved	Federal Register
Original Reg:	05/21/99	10/23/01	66 FR 53658