REGULATIONS OF THE OHIO AIR POLLUTION CONTROL BOARD

Relative To

The Control of Hydrocarbon and Photochemical Oxidant, Carbon Monoxide and Oxides of Nitrogen Emissions

Ohio Department of Health

Columbus, Ohio

DSW 588187

STLCOPCB4093523

AP-5-01. Definitions

As used in regulations AP-5-01 to AP-5-08, inclusive:

(A) "Organic material" means any chemical compound containing carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, metallic carbonates, and ammonium carbonate.

(B) "Liquid organic material" means any organic material which is a liquid at standard conditions.

(C) "Photochemically reactive material" means any liquid organic material with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified below or which exceeds any of the following individual percentage composition limitations, referred to the total volume of liquid:

(1) A combination of hydrocarbons, alcohols, aldehydes, esters, ethers or ketones having an olefinic or cyclo-olefinic type of unsaturation: 5 percent;

(2) A combination of aromatic hydrocarbons with eight or more carbon atoms to the molecule except ethyl benzene: 8 percent;

(3) A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: 20 percent.

Whenever any organic material or any constituent of an organic material may be classified from its chemical structure into more than one of the above groups of organic compounds, it shall be considered as a member of the most reactive chemical group, that is, that group having the least allowable percent of the total volume of liquid.

(D) "Volatile photochemically reactive material" means any photochemically reactive material which has a vapor pressure of 1.5 pounds per square inch absolute or greater under actual storage conditions.

(E) "Submerged fill pipe" means any fill pipe the discharge opening of which is entirely submerged when the liquid level is six (6) 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 eighteen (18) inches above the bottom of the tank.

(F) "Effluent water separator" means any tank, box, sump, or other container in which any volatile photochemically reactive material 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.

(G) "Architectural coating" means any coating used for residential or commercial buildings and their appurtenances, or industrial buildings.

(Adopted January 28, 1972; effective February 15, 1972.)

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AP-5-06. Classification of regions.

(A) Classification of regions shall be based upon measured ambient air quality where known or, where not known, estimated air quality in the area of maximum pollutant concentration. Each region shall be classified separately with respect to carbon monoxide and photochemical oxidants. Each region shall also be classified into one of two categories, defined as Priority I or Priority III. Classifications with respect to hydrocarbons will be the same as the classifications with respect to photochemical oxidants. Ambient concentration limits which define the classification system are:

(1) Carbon monoxide: Priority I: Equal to or above 55 milligrams per cubic meter (48 ppm), 1-hour maximum, or 14 milligrams per cubic meter (12 ppm), 8-hour maximum. Priority III: Below such values.

(2) Photochemical oxidants: Priority I: Equal to or above 195 micrograms per cubic meter (0.10 ppm), 1-hour maximum. Priority III: Below such value.

(B) In the absence of measured data to the contrary classification with respect to carbon monoxide, hydrocarbons and photochemical oxidants will be based on the following estimate of the relationship between these pollutants and population. Any region containing an area whose 1970 "urban place" population, as defined in the United States Bureau of Census, exceeds 200,000 will be classified Priority I. All other regions will be classified Priority III.

(Adopted January 28, 1972; effective February 15, 1972.)

CLASSIFICATION OF REGIONS

PRIORITY CLASSIFICATION – BY POLLUTANT

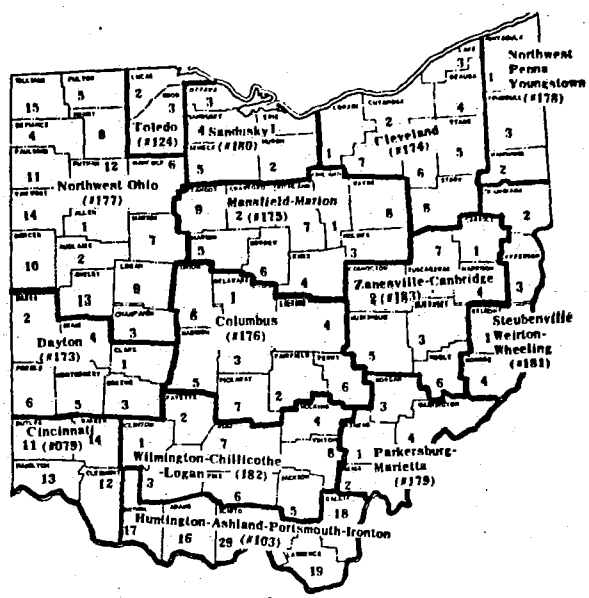
AIR QUALITY CONTROL REGION	FEDERAL NUMBER	PARTICULATES	SOx	CO	NOx	PhtOx
Cincinnati (Ky. – Ind.)	079	I	I	III	I	I
Cleveland (Akron, Canton, etc.)	174	I	I	III	I	I
Columbus	176	I	III	III	I	I
Dayton	173	I	II	III	I	I
Mansfield-Marion	175	II	II	III	III	III
Marietta (W. Va.)	179	IA*	I	III	III	III
Northwest Ohio	177	II	I	III	III	III
Portsmouth-Ironton (Ky. – W. Va.)	103	I	III	III	III	III
Sandusky	180	III	III	III	III	III
Steubenville (W. Va.)	181	I	I	III	III	III
Toledo (Michigan)	124	I	I	III	I	I
Wilmington-Chillicothe-Logan	182	III	III	III	III	III
Youngstown	178	I	I	III	III	III
Zanesville	183	II	IA*	III	III	III

Criteria: Priority I Region indicates that the pollutant concentration is greater than the federal primary air quality standard.

Federal Register August 14, 1971) *Air quality levels reflecting emissions predominantly from a single point source.

Priority II Region indicates that a pollutant is greater than the secondary air quality standard, but less than a Priority I.

Priority III Region indicates that the outdoor concentration of a pollutant is presently less than the secondary air quality standard.



AP-5-07. Control of emissions of organic materials from stationary sources.

(A) These regulations are applicable to all existing stationary sources located within a Priority I region and to all new stationary sources regardless of location.

(B) Except as otherwise provided in these regulations, all new stationary emission sources of photochemically reactive materials shall minimize such emissions by use of the latest available control techniques and operating practices in accordance with best current technology.

(C) Nothing in this regulation shall be construed to preclude the use of alternative means to abate emissions, if such alternative is approved by the Board and will not result in emissions significantly greater than would result from the application of the means specified herein.

(D) Storage of volatile photochemically reactive materials.

(1) No person shall place, store, or hold in any stationary tank, reservoir or other container of more than 65,000 gallons capacity any volatile photochemically reactive material unless such tank, reservoir, or other container is a pressure tank capable of maintaining working pressures sufficient at all times to prevent vapor or gas loss to the atmosphere or is designed, and equipped with one of the following vapor loss control devices:

(a) A floating pontoon or double-deck type cover equipped with closure seals to enclose any space

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between the cover's edge and compartment wall. This control equipment shall not be permitted if the volatile photochemically reactive material has a vapor pressure of 12.5 pounds per square inch absolute or greater under actual storage conditions. All tank gauging or sampling devices shall be gas-tight except when tank gauging or sampling is taking place.

(b) A vapor recovery system which reduces the emission of organic materials into the atmosphere by at least 90 percent by weight. All tank gauging or sampling devices shall be gas-tight except when tank gauging or sampling is taking place.

(c) Other equipment or means of air pollution control as may be approved by the Board.

(2) No person shall place, store, or hold in any stationary storage vessel of more than 500-gallon capacity any volatile photochemically reactive material unless such vessel is equipped with a permanent submerged fill pipe, is loaded through the use of a portable loading tube which can be inserted below the liquid level line during loading operations, or is a pressure tank as described in subsection (D) (1) of this regulation or is fitted with a vapor recovery system as described in subsection (D) (1) (b) of this regulation.

(E) Volatile photochemically reactive materials loading facilities.

(1) No person shall load in any one day more than 40,000 gallons of any volatile photochemically reactive material into any tank truck, trailer, or railroad tank car from any loading facility unless the loading facility is equipped with a vapor collection and disposal system properly installed, in good working order, in operation, and consisting of one of the following:

(a) An adsorber system or condensation system which processes and recovers at least 90 percent by weight of all vapors and gases from the equipment being controlled.

(b) A vapor handling system which directs all vapors to a fuel gas system.

(c) Other equipment or means for purposes of air pollution control as may as acceptable to and approved by the Board.

(2) All loading from facilities subject to the provisions of subsection (E) (1) (a) and (E) (1) (b) of this regulation shall be accomplished in such a manner that all displaced vapors and gases shall be vented only to the vapor collection system. A means shall be provided to prevent liquid drainage from the loading device when it is not in use or to accomplish complete drainage before the loading device is disconnected.

(F) Volatile photochemically reactive material/water separation.

(1) No person shall use any compartment of any

vessel or device operated for the recovery of volatile photochemically reactive materials from an effluent water separator which recovers 200 gallons a day or more of any volatile photochemically reactive material unless such compartment is equipped with one of the following vapor loss control devices, properly installed, in good working order and in operation:

(a) A solid cover with all openings sealed and totally enclosing the liquid contents of the compartment. All gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place.

(b) A floating pontoon or double-deck type cover equipped with closure seals to enclose any space between the cover's edge and compartment wall. All gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place.

(c) A vapor recovery system which reduces the emission of organic materials into the atmosphere by at least 90 percent by weight. All gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place.

(d) Other equipment or means of air pollution control as may be approved by the Board.

(G) Operations using liquid organic materials.

(1) A person shall not discharge more than 15 pounds of organic materials into the atmosphere in any one day, nor more than 3 pounds in any one hour, from any article, machine, equipment, or other contrivance in which any liquid organic material or substance containing liquid organic material comes into contact with flame or is baked, heat-cured, or heat-polymerized, in the presence of oxygen, unless said discharge has been reduced by at least 85 percent.

(2) A person shall not discharge more than 40 pounds of organic material into the atmosphere in any one day, nor more than 8 pounds in any one hour, from any article, machine, equipment, or other contrivance used under conditions other than described in subsection (G) (1) of this regulation for employing, applying, evaporating or drying any photochemically reactive material or substance containing such photochemically reactive material, unless said discharge has been reduced by at least 85 percent.

(3) Any series of articles, machines, equipment or other contrivances designed for processing a continuously moving sheet, web, strip, or wire which is subjected to any combination of operations described in subsection (G) (1) or (G) (2) of this regulation involving any photochemically reactive material, or substance containing such photochemically reactive material, shall be subject to compliance with subsection (G) (2) of this regulation. Where only nonphotochemically reactive materials or substances containing only nonphotochemically reactive materials

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are employed or applied, and where any portion or portions of said series of articles, machines, equipment, or other contrivances involves operations described in subsection (G) (1) of this regulation, said portions shall be collectively subject to compliance with subsection (G) (1) of this regulation.

(4) Emissions of organic materials to the atmosphere from the cleanup with photochemically reactive materials of any article, machine, equipment, or other contrivance described in subsection (G) (1), (G) (2), or (G) (3) of this regulation, shall be included with the other emissions of organic materials from that article, machine, equipment, or other contrivance for determining compliance with this regulation.

(5) Emissions of organic materials to the atmosphere resulting from air or heated drying of products for the first 12 hours after their removal from any article, machine, equipment, or other contrivance described in subsection (G) (1), (G) (2), or (G) (3) of this regulation, shall be included with other emissions of organic materials from that article, machine, equipment, or other contrivance, for determining compliance with this regulation.

(6) Emissions of organic materials into the atmosphere required to be controlled by subsection (G) (1), (G) (2), or (G) (3) of this regulation, shall be reduced by:

(a) Incineration, provided that 90 percent or more of the carbon in the organic material being incinerated is oxidized to carbon dioxide, or

(b) Adsorption, or

(c) Processing in a manner determined by the Board to be not less effective than (a) or (b) above.

(7) A person incinerating, adsorbing, or otherwise processing liquid organic materials pursuant to this rule shall provide, properly install, and maintain in calibration, in good working order and in operation, devices as specified in the authority to construct or the permit to operate, or as specified by the Board, for indicating temperatures, pressures, rates of flow, or other operating conditions necessary to determine the degree and effectiveness of air pollution control.

(8) Any person using liquid organic materials or substances containing liquid organic materials shall supply the Board, upon request and in the manner and form prescribed by the Board, written evidence of the chemical composition, physical properties, and amount consumed for each organic solvent used.

(9) The provisions of section (G) of this regula- shall not apply to:

(a) The use of equipment for which other requirements are specified by sections (D), (E), and (F) of this regulation, or which are exempt from air pollution control requirements by said sections.

(b) The spraying or other employment of insecticides, pesticides, or herbicides.

(c) The use of any material, in any article, machine, equipment, or other contrivance described in subsection (G) (1), (G) (2), (G) (3), or (G) (4) of this regulation, if:

(i) the volatile content of such material consists only of water and liquid organic material, and

(ii) the liquid organic material comprises not more than 20 percent of said volatile content, and

(iii) the volatile content is not a photochemically reactive material.

(d) The use of any material, in any article, machine, equipment or other contrivance described in subsection (G) (1), (G) (2), (G) (3), or (G) (4) of this regulation, if:

(i) the volatile content of such material does not exceed 20 percent by volume of said material, and

(ii) the volatile content is not a photochemically reactive material.

(e) The use, in any article, machine, equipment, or other contrivance described in subsection (G) (1), (G) (2), (G) (3), or (G) (4), of liquid organic materials which exhibit a boiling point higher than 220° F at 0.5 millimeter mercury absolute pressure, or having an equivalent vapor pressure, unless such liquid organic material is exposed to temperatures exceeding 220° F.

(f) The use of any material, in any article, machine, equipment or other contrivance described in subsection (G) (1), (G) (2), (G) (3), or (G) (4), if it can be demonstrated to the Board's satisfaction that the emissions of organic materials into the atmosphere from such article, machine, equipment or other contrivance are not photochemically reactive.

(H) Architectural coatings.

(1) A person shall not sell or offer for sale for use in containers of greater than 1-gallon capacity, any architectural coating containing a photochemically reactive material.

(2) A person shall not employ, apply, evaporate, or dry any architectural coating, purchased in containers of greater than 1-gallon capacity, containing a photochemically reactive material.

(3) A person shall not thin or dilute for application any architectural coating with a photochemically reactive material.

(I) Disposal and evaporation of solvents.

A person shall not, during any one day, dispose of a total of more than 1-1/2 gallons of any volatile photochemically reactive material, or dispose of any substance containing more than 1-1/2 gallons of any volatile photochemically reactive material, by any means which will permit the evaporation of such volatile photochemically reactive material into the atmosphere.

(J) Waste gas disposal.

(1) No person shall emit a waste gas stream from any ethylene producing plant or other ethylene emission source into the atmosphere unless the waste gas stream is properly burned at 1,300° F for 0.3 seconds

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or greater in a direct-flame afterburner or an equally effective device as may be approved by the Board.

(2) No person shall emit organic materials to the atmosphere from a waste gas flare system unless such materials are burned by smokeless flares, or an equally effective control device as approved by the Board.

(3) The provisions of subsections (J) (1) and (J) (2) of this regulation shall not apply to emissions from emergency relief and vapor blowdown systems. Emissions from emergency relief and vapor blowdown systems shall be controlled upon special order of the Board by burning by smokeless flare, or equally effective device as may be approved by the Board. (Adopted January 28, 1972; effective February 15, 1972.)

AP-5-08. Control of carbon monoxide emissions from stationary sources.

(A) These regulations are applicable to all existing stationary sources located within a Priority I Region and to all new stationary sources regardless of location.

(B) Except as otherwise provided in these regulations, all new stationary carbon monoxide emission sources shall minimize carbon monoxide emissions by use of the best available control techniques and operating practices in accordance with best current technology.

(C) Nothing in this regulation shall be construed to preclude the use of alternative means to abate emissions, if such alternative is approved by the Board and will not result in emissions significantly greater than would result from the application of the means specified herein.

(D) Process equipment.

No person shall emit the carbon monoxide gases generated during the operation of a grey iron cupola, blast furnace, or basic oxygen steel furnace unless they are burned at 1,300° F for 0.3 seconds or greater in a direct-flame afterburner or equivalent device equipped with an indicating pyrometer which is positioned in the working area at the operator's eye level.

(E) No person shall emit 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 0.3 seconds or greater in a direct-flame afterburner or boiler equipped with an indicating pyrometer which is positioned in the working area at the operator's eye level.

(Adopted January 28, 1972; effective February 15, 1972.)

AP-7-05. Classification of regions.

(A) Classification of regions shall be based upon measured ambient air quality where known or, where not known, estimated air quality in the area of maximum pollutant concentration. Each region shall be classified with respect to nitrogen dioxides into one of two categories, defined as Priority I or Priority III. Ambient concentration limits which define the classification system are: Priority I: Equal to or above 110 micrograms oxides of nitrogen (as nitrogen dioxide) per cubic meter (6.0 ppm), annual arithmetic mean, Priority III: Below such value.

(B) In the absence of measured data to the contrary, classification will be based on the following estimate of the relationship between nitrogen dioxide and population: Any region containing an area whose 1970 "urban place" population, as defined in the United States Bureau of Census, exceeds 200,000 will be classified Priority I. All other regions will be classified Priority III.

(Adopted January 28, 1972; effective February 15, 1972.)

(See priority and classification table and map, page(s) 2 and 3.)

AP-7-06. Control of nitrogen oxides emissions from stationary sources.

(A) These regulations are applicable to all existing stationary sources located within a Priority I Region and to all new sources regardless of location.

(B) Except as otherwise provided in these regulations, all stationary nitrogen oxide emission sources shall minimize nitrogen oxide emissions by use of the latest available control techniques and operating practices in accordance with best current technology.

(C) Combustion sources.

(1) No person shall cause or permit emissions of nitrogen oxides, calculated as nitrogen dioxide, from a gas-fired boiler with a capacity of 250 million B.T.U./hr. or more and completed before the effective date of this regulation in excess of 0.20 pounds per million B.T.U. of heat input.

(2) No person shall cause or permit emissions of nitrogen oxides, calculated as nitrogen dioxide, from an oil-fired boiler with a capacity of 250 million B.T.U./hr. or more and completed before the effective date of this regulation in excess of 0.30 pounds per million B.T.U. of heat input.

(3) No person shall cause or permit emissions of nitrogen oxides, calculated as nitrogen dioxide, from a coal-fired boiler with a capacity of 250 million B.T.U. per hour or more in excess of 0.9 pounds per million B.T.U. of heat input.

(D) Nitric acid manufacture.

No person shall cause or permit the emission of nitrogen oxides, calculated as nitrogen dioxide, from nitric acid manufacturing plants in excess of 5.5 pounds per ton of 100 percent acid produced.

(Adopted January 28, 1972; effective February 15, 1972.)

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