

ILLINOIS POLLUTION CONTROL BOARD  
July 16, 1987

IN THE MATTER OF: )  
 )  
DEFINITION OF VOLATILE ) R86-37  
ORGANIC MATERIAL, )  
SECTION 215.104 )

PROPOSED RULE.                      FIRST NOTICE.

OPINION AND ORDER OF THE BOARD (by B. Forcade):

Today, the Board sends the Illinois Environmental Protection Agency's proposed amendments in this matter to first notice. Certain deadlines imposed by the Clean Air Act require that the Board quickly reach a final disposition of this matter. Moreover, should that disposition be adoption of the proposed amendments, it could quite possibly be required that affected facilities be in compliance by the same December 31, 1987, date. The Board sees this as a very tight timeframe within which the affected facilities might act, particularly given that a number of time-consuming procedural steps are yet to be undertaken before final disposition.

The Board, accordingly, takes its action today to allow that the activities associated with first notice may proceed concurrently with the final submissions of information and comments which the interested entities are expected to make over the next several weeks. In taking this action, the Board believes that whatever the outcome, final disposition of this matter will proceed in as timely a fashion as possible, to the benefit of all concerned. The Board cautions that this action in no way constitutes a determination by the Board on the ultimate merits of the proposed amendments. Additionally, the Board awaits a determination from the Department of Energy and Natural Resources regarding the necessity of an Economic Impact Study. Consequently, the record in this matter remains open. Final action in this matter will not proceed until such a determination has been filed with the Board.

ORDER

The following amendments to 35 Ill. Adm. Code Parts 211 and 215 are directed to the Secretary of State for first notice publication in the Illinois Register:

TITLE 35: ENVIRONMENTAL PROTECTION  
SUBTITLE B: AIR POLLUTION  
CHAPTER I: POLLUTION CONTROL BOARD  
SUBCHAPTER C: EMISSION STANDARDS AND LIMITATIONS  
FOR STATIONARY SOURCES

PART 211  
DEFINITIONS AND GENERAL PROVISIONS

SUBPART A: GENERAL PROVISIONS

Section  
211.101 Incorporations by Reference  
211.102 Abbreviations and Units

SUBPART B: DEFINITIONS

Section  
211.121 Other Definitions  
211.122 Definitions

Section 211.122 Definitions

"Gas Service": equipment which processes, transfers or contains a volatile organic material or mixture of volatile organic materials in a gaseous phase. means that the component contains process fluid that is in the gaseous state at operating conditions.

"Liquid Service": equipment which processes, transfers or contains a volatile organic material or mixture of volatile organic materials in a liquid phase means that the component contains process fluid that is in a liquid state at operating conditions.

"Volatile Organic Liquid": any liquid which contains volatile organic material.

"Volatile Organic Material": any organic material which has a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3-K (70-F). For purposes of 35 Ill. Adm. Code 215.442 through 215.444, volatile organic material means any organic material which has a vapor pressure of 10.34 kPa (1.5 psia) at 294.3-K (70-F). For purposes of 35 Ill. Adm. Code 215.181 through 215.184, 215.445 through 215.451, 215.204 through 215.209, 215.340 through 215.345, 215.401 through 215.404, 215.461 through 215.464 and 215.601 through 215.603, volatile organic material means any organic material which has a vapor pressure greater than 0.013 kPa (0.019 psia) at 294.3-K (70-F).

- a) any organic material which participates in atmospheric photochemical reactions or is measured by the applicable reference methods specified under Part 230, Appendix A, unless specifically exempted from this definition.
- b) For purposes of this definition, the following are not volatile organic materials:

Methane  
Ethane  
1,1,1, Trichloroethane  
Methylene chloride  
Trichlorofluoromethane  
Dichlorodifluoromethane  
Chlorodifluoromethane  
Trifluoromethane  
Trichlorotrifluoroethane  
Dichlorotetrafluoroethane  
Chloropentafluoroethane

(Source: Amended at \_\_\_ Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

TITLE 35: ENVIRONMENTAL PROTECTION  
SUBTITLE B: AIR POLLUTION  
CHAPTER I: POLLUTION CONTROL BOARD  
SUBCHAPTER c: EMISSION STANDARDS AND  
LIMITATIONS FOR STATIONARY SOURCES

PART 215  
ORGANIC MATERIAL EMISSION STANDARDS AND LIMITATIONS

SUBPART A: GENERAL PROVISIONS

Section  
215.100 Introduction  
215.101 Clean-up and Disposal Operations  
215.102 Testing Methods  
215.103 Abbreviations and Conversion Factors  
215.104 Definitions  
215.105 Incorporations by Reference  
215.106 Afterburners

SUBPART B: ORGANIC EMISSIONS FROM STORAGE  
AND LOADING OPERATIONS

Section  
215.121 Storage Containers  
215.122 Loading Operations  
215.123 Petroleum Liquid Storage Tanks

215.124 External Floating Roofs  
215.125 Compliance Dates and Geographical Areas  
215.126 Compliance Plan

SUBPART C: ORGANIC EMISSIONS FROM  
MISCELLANEOUS EQUIPMENT

Section  
215.141 Separation Operations  
215.142 Pumps and Compressors  
215.143 Vapor Blowdown  
215.144 Safety Relief Valves

SUBPART R: PETROLEUM REFINING AND RELATED  
INDUSTRIES; ASPHALT MATERIALS

Section  
215.441 Petroleum Refinery Waste Gas Disposal  
215.442 Vacuum Producing Systems  
215.443 Wastewater (Oil/Water) Separator  
215.444 Process Unit Turnarounds  
215.445 Leaks: General Requirements  
215.446 Monitoring Program Plan for Leaks  
215.447 Monitoring Program for Leaks  
215.448 Recordkeeping for Leaks  
215.449 Reporting for Leaks  
215.450 Alternative Program for Leaks  
215.451 Sealing Device Requirements  
215.452 Compliance Schedule for Leaks  
215.453 Compliance Dates and Geographical Areas

Section 215.102 Testing Methods

a) The total organic material concentrations in an effluent stream shall be measured by a flame ionization detector, or by other methods approved by the Illinois Environmental Protection Agency (Agency), according to the provisions of 35 Ill. Adm. Code 201.

b) Measurement of Vapor Pressures

- 1) For a single-component, the actual vapor pressure shall be obtained from Boublik, T., V. Fried and E. Hala, "the Vapor Pressure of Pure Substances," Elsevier Scientific Publishing Co., New York (1973), other standard reference texts or determined by ASTM (American Society of Testing and Materials) Method D-2879-83 (Approved 1983).
- 2) For a mixture, the actual vapor pressure shall be taken as:

- i) The lesser of the sum of the actual vapor pressure of each component or each volatile organic material component, as determined above, weighted by its mole fraction, or
- ii) If the vapor pressure of the organic material or volatile organic material is specified, the sum of the actual vapor pressure of each such component as determined above weighted by its mole fraction.

(Source: Amended at \_\_\_ Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

Section 215.104 Definitions

The definitions of 35 Ill. Adm. Code 201 and 211 apply to this Part, as well as the definition contained in this Section. Where the definition contained in this Section is more specific than that found in Parts 201 or 211, it shall take precedence in application of this Part.

**"Volatile Organic Material":** Any organic material which has a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3-K (70-F). For purposes of this definition, the following are not volatile organic materials:

- Methane
- Ethane
- 1,1,1-trichloroethane
- Methylene chloride
- Trichlorofluoromethane
- Dichlorodifluoromethane
- Chlorodifluoromethane
- Trifluoromethane
- Trichlorotrifluoroethane
- Chloropentafluoroethane

For purposes of the following Sections, volatile organic materials are any organic materials having the corresponding vapor pressures at 294.3-K (70-F):

<u>Sections</u>	<u>Vapor Pressure</u>
215.181 - 215.184	0.013 kPa ( .0019 psia)
215.184 - 215.209	0.013 kPa ( .0019 psia)
215.340 - 215.345	0.013 kPa ( .0019 psia)
215.401 - 215.408	0.013 kPa ( .0019 psia)
215.420 - 215.428	0.013 kPa ( .0019 psia)
215.441 - 215.444	10.34 kPa ( 1.5 psia)
215.445 - 215.451	0.013 kPa ( .0019 psia)

215.461 - 215.464	0.013 kPa	( .0019 psia)
215.510 - 215.513	0.013 kPa	( .0019 psia)
215.601 - 215.613	0.013 kPa	( .0019 psia)

(Source: Amended at \_\_\_ Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

SUBPART B: ORGANIC EMISSIONS FROM STORAGE  
AND LOADING OPERATIONS

Section 215.121 Storage Containers

No person shall cause or allow the storage of any volatile organic ~~material~~ liquid with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3 K° (70° F) or any gaseous organic material in any stationary tank, reservoir or other container of more than 151 cubic meters (40,000 gal) capacity unless such tank, reservoir or other container:

- a) Is a pressure tank capable of withstanding the vapor pressure of such ~~materials~~ liquid or the pressure of the gas, so as to prevent vapor or gas loss to the atmosphere at all times; or
- b) Is designed and equipped with one of the following vapor loss control devices:
  - 1) A floating roof which rests on the surface of the volatile organic ~~material~~ liquid and is equipped with a closure seal or seals between the roof edge and the tank wall. Such floating roof shall not be permitted if the volatile organic ~~material~~ liquid has a vapor pressure of 86.19 kPa (12.5 psia) or greater at 294.3° K (70° F). No person shall cause or allow the emission of air contaminants into the atmosphere from any gauging or sampling devices attached to such tanks, except during sampling or maintenance operations.
  - 2) A vapor recovery system consisting of:
    - A) A vapor gathering system capable of collecting 85% or more of the uncontrolled volatile organic material that would be otherwise emitted to the atmosphere; and
    - B) A vapor disposal system capable of processing such volatile organic material so as to prevent its emission to the atmosphere. No person shall cause or allow the emission of air contaminants into the atmosphere from any

gauging or sampling devices attached to such tank, reservoir or other container except during sampling.

- 3) Other equipment or means of equal efficiency approved by the Agency according to the provisions of 35 Ill. Adm. Code 201.

(Source: Amended at \_\_\_ Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

#### Section 215.122 Loading Operations

- a) No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere during the loading of any organic material from the aggregate loading pipes of any loading facility having through-put of greater than 151 cubic meters per day (40,000 gal/day) into any railroad tank car, tank truck or trailer unless such loading facility is equipped with submerged loading pipes or a device that is equally effective in controlling emissions and is approved by the Agency according to the provisions of 35 Ill. Adm. Code 201.
- b) No person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 946 l (250 gal), unless such tank is equipped with a permanent submerged loading pipe or an equivalent device approved by the Agency according to the provisions of 35 Ill. Adm. Code 201, or unless such tank is a pressure tank as described in Section 215.121(a) or is fitted with a recovery system as described in Section 215.121(b)(2).
- c) Exception: If no odor nuisance exists the limitations of this Section shall only apply to the loading of volatile organic ~~material~~ liquid with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3° K (70° F).

(Source: Amended at \_\_\_ Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

#### Section 215.141 Separation Operations

- a) No person shall use any single or multiple compartment effluent water separator which receives effluent water containing 757 l/day (200 gal/day) or more of organic material from any equipment processing, refining, treating, storing or handling organic material unless such effluent water separator is equipped with air pollution control equipment capable of reducing by 85

percent or more the uncontrolled organic material emitted to the atmosphere. Exception: If no odor nuisance exists the limitations of this subparagraph shall only apply to volatile organic material not apply if the vapor pressure of the organic material is below 17.24 kPa (2.5 psia) at 294.3°K (70°F).

- b) Subsection (a) shall not apply to water and crude oil separation in the production of Illinois crude oil, if the vapor pressure of such crude oil is less than 34.5 kPa (5 psia).

(Source: Amended at \_\_\_ Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

#### Section 215.142 Pumps and Compressors

No person shall cause or allow the discharge of more than 32.8 ml (2 cu in) of ~~liquid~~ volatile organic material liquid with vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3° K (70°F) into the atmosphere from any pump or compressor in any 15 minute period at standard conditions.

(Source: Amended at \_\_\_ Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

#### Section 215.442 Vacuum Producing Systems

No owner or operator of a petroleum refinery shall cause or allow the operation of any vacuum producing system unless the condensers, hot wells and accumulators of any such system are equipped with vapor loss control equipment including, but not limited to, piping, valves, flame arrestors and hot well covers to vent any volatile organic material with a vapor pressure of 10.34 kPa (1.5 psia) or greater at 294.3°K (70°F) to a heater, fire box, flare, refinery fuel gas system or other equipment or system of equal emission control as approved by the Agency. This Section shall not apply to vacuum producing systems on lube units.

(Source: Amended at \_\_\_ Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

#### Section 215.443 Wastewater (Oil/Water) Separator

No owner or operator of a petroleum refinery shall operate any wastewater (oil/water) separator at a petroleum refinery unless the separator is equipped with air pollution control equipment capable of reducing by 85 percent or more the uncontrolled organic material emitted to the atmosphere. If no odor nuisance



exists, the limitation of this Section shall only apply to volatile organic material not apply if the vapor pressure of the organic material is below 10.34 kPa (1.5 psia) at 204.3° K (70° F) at all times.

(Source: Amended at \_\_\_ Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

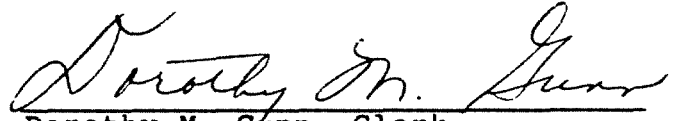
Section 215.444 Process Unit Turnarounds

- a) No owner or operator of a petroleum refinery shall cause or allow a refinery process unit turnaround except in compliance with an operating procedure as approved by the Agency.
- b) Unless a procedure is already on file with the Agency as part of an approved operating permit no later than November 1, 1979, the owner or operator of a petroleum refinery shall submit to the Agency for approval a detailed procedure for reducing emissions of volatile organic material during refinery process unit turnarounds from volatile organic material with a vapor pressure of 10.34 kPa (1.5 psia) or greater at 294.3° K (70° F). The Agency shall not approve the procedure unless it provides for:
  - 1) Depressurization of the refinery process unit or vessel to a flare, refinery fuel gas system or other equipment or system of equal emission control, as approved by the Agency, until the internal pressure from the vessel or unit is less than 5.0 psig before allowing the vessel to be vented to the atmosphere;
  - 2) Recordkeeping of the following items:
    - A) Each date that a refinery unit or vessel is shut down; and
    - B) The total estimated quantity of volatile organic material emitted to the atmosphere and the duration of the emission in hours.

(Source: Amended at \_\_\_ Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

IT IS SO ORDERED.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Proposed Rule, First Notice Opinion and Order was adopted on the 16<sup>th</sup> day of July, 1987, by a vote of 6-0.

  
Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board