

ILLINOIS POLLUTION CONTROL BOARD
August 6, 1987

IN THE MATTER OF:)
)
PROPOSED AMENDMENTS TO PART) R86-39
211 AND 215, LEAKS FROM SYNTHETIC)
ORGANIC CHEMICAL AND POLYMER)
MANUFACTURING EQUIPMENT)

ORDER OF THE BOARD (by J.D. Dumelle):

On July 16, 1987, the Board adopted an Order proposing amendments to 35 Ill. Adm. Code 211 and 215 for First Notice. However, two corrections must be made to that Order to insure publication in the Illinois Register. The Board accordingly takes its action today to make those two corrections.

1. Recodification of Sections 215.420-215.428

In the July 16, 1987 Order, Sections 215.420 through 215.428 were renumbered to become Sections 215.421 through 215.429. It has come to the Board's attention that, since more than three sections are being renumbered, the Illinois Administrative Procedures Act (IAPA) requires that this renumbering be accomplished by publication of a separate "notice of recodification". The process of recodification, however, does not allow for any substantive changes to be made to the text of the rules.

Therefore, the Board adopts the recodification of former Sections 215.420 through 215.428 to become the new Sections 215.421 through 215.429.

The following table clarifies the recodification accomplished by this Order.

<u>Present Part</u> (Sections Numbers)	<u>Recodified Part</u> (Section Numbers)
215.420	215.421
215.421	215.422
215.422	215.423
215.423	215.424
215.424	215.425
215.425	215.426
215.426	215.427
215.427	215.428
215.428	215.429

2. Amendment of July 16, 1987 Board Order

Because the recodification described above accomplishes the renumbering of Sections 215.421 through 215.429 (as recodified), those aspects of the July 16, 1987 Order dealing with that renumbering are no longer necessary in the R86-39 proposal. Only sections being substantively amended will remain after today's Order.

Also, due to inadvertence, proposed Section 215.420 and three definitions ("in vacuum service", "repaired" and "open-ended/valve") were omitted from the July 16, 1987, Order. Section 215.420 and those definitions will be included in today's Order.

For purposes of clarity and convenience, the Board will set out the entire proposal, as amended, in Number 2 of the Order below.

ORDER

1. The Board hereby adopts the following recodification to 35 Ill. Adm. Code 215. Subpart Q:

SUBPART Q: SYNTHETIC ORGANIC CHEMICAL AND
POLYMER MANUFACTURING

Section	
215.420	General Requirements (Recodified)
215.421	General Requirements
215.422	Inspection Program Plan for Leaks
215.423	Inspection Program for Leaks
215.424	Repairing Leaks
215.425	Recordkeeping for Leaks
215.426	Reporting for Leaks
215.427	Alternative Program for Leaks
215.428	Compliance Dates and Geographical Areas
215.429	Compliance Plan

Section 215.420 General Requirements (Recodified)

(Source: Recodified to Section 215.421 at 11 Ill. Reg. _____)

Section 215.421 General Requirements

The owner or operator of a plant which has more than 1,500 components in gas or light liquid service, which components are used to manufacture the synthetic organic chemicals or polymers listed in Appendix D, shall conduct leak inspection and repair programs in accordance with this Subpart for that equipment containing more than 10 percent volatile organic material as

determined by ASTM Method E-20, E-168 and E-169. A component shall be considered to be leaking if the volatile organic material concentration exceeds 10,000 ppm when measured at a distance of 0 cm from the component. The provisions of this Subpart are not applicable if the products listed in Appendix D are made from natural fatty acids for the production of hexadecyl alcohol.

(Source: Former Section 215.421 recodified to Section 215.422, new Section 215.421 recodified from Section 215.420 at 11 Ill. Reg. _____)

Section 215.422 Inspection Program Plan for Leaks

The owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to Section 215.421 shall prepare an inspection program plan which contains, at a minimum:

- a) An identification of all components and the period in which each will be monitored pursuant to Section 215.423;
- b) The format for the monitoring log required by Section 215.424;
- c) A description of the monitoring equipment to be used pursuant to Section 215.423; and
- d) A description of the methods to be used to identify all pipeline valves, pressure relief valves in gaseous service, all leaking components, and the ball and plug valves and pumps exempted under Section 215.423(h) such that they are obvious and can be located by both plant personnel performing monitoring and Agency personnel performing inspections.

(Source: Former Section 215.422 recodified to Section 215.423, new Section 215.422 recodified from Section 215.421 at 11 Ill. Reg. _____)

Section 215.423 Inspection Program for Leaks

The owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to Section 215.421 shall, for the purposes of detecting leaks, conduct a component inspection program consistent with the following provisions.

- a) Test annually those components operated near extreme temperature or pressure such that they would be unsafe to routinely monitor, and those components located more

than two meters above or away from permanent worker access structures or surfaces;

- b) Test all other pressure relief valves in gaseous service, pump seals, pipeline valves, process drains and compressor seals not earlier than March 1 or later than June 1 of each year;
- c) If more than 2 percent of the components tested pursuant to subsection (b) are found to leak, again test all pressure relief valves in gaseous service, pipeline valves in gaseous service and compressor seals by methods and procedures approved by the Agency not earlier than June 1 or later than September 1 of each year;
- d) Observe visually all pump seals weekly;
- e) Test immediately any pump seal from which liquids are observed dripping;
- f) Test any relief valve within 24 hours after it has vented to the atmosphere; and
- g) Test immediately after repair any component that was found leaking.
- h) Ball and plug valves, inaccessible valves, storage tank valves, pumps equipped with mechanical seals, pressure relief devices connected to an operating flare header or vapor recovery device are exempt from the monitoring requirements in this Section.

(Source: Former Section 215.423 recodified to Section 215.424, new Section 215.423 recodified from Section 215.422 at 11 Ill. Reg. _____)

Section 215.424 Repairing Leaks

All leaking components must be repaired and retested as soon as practicable but no later than 21 days after the leak is found unless the leaking component cannot be repaired until the process unit is shutdown or the repair part is received. Records of repairing and retesting must be maintained in accordance with Sections 215.425 and 215.426.

(Source: Former Section 215.424 recodified to Section 215.425, new Section 215.424 recodified from Section 215.423 at 11 Ill. Reg. _____)

Section 215.425 Recordkeeping for Leaks

- a) The owner or operator of a synthetic organic chemical or polymer manufacturing plant shall maintain a leaking components monitoring log which shall contain, at a minimum, the following information:
 - 1) The name of the process unit where the component is located;
 - 2) The type of component (e.g., valve, seal);
 - 3) The identification number of the component;
 - 4) The date on which a leaking component is discovered;
 - 5) The date on which a leaking component is repaired;
 - 6) The date and instrument reading of the recheck procedure after a leaking component is repaired;
 - 7) A record of the calibration of the monitoring instrument;
 - 8) The identification number of leaking components which cannot be repaired until process unit shutdown; and
 - 9) The total number of components inspected and the total number of components found leaking during that monitoring period.
- b) Copies of the monitoring log shall be retained by the owner or operator for a minimum of two years after the date on which the record was made or the report prepared.
- c) Copies of the monitoring log shall be made available to the Agency, upon verbal or written request, at any reasonable time.

(Source: Former Section 215.425 recodified to Section 215.426, new Section 215.425 recodified from Section 215.424 at 11 Ill. Reg. _____)

Section 215.426 Report for Leaks

The owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to Section 215.421 shall:

- a) Submit a report to the Agency prior to the 1st day of July and October listing all leaking components identified pursuant to Section 215.423 but not repaired within 21 days, all leaking components awaiting process unit shutdown, the total number of components inspected and the total number of components found leaking;
- b) Submit a signed statement with the report attesting that all monitoring and repairs were performed as required under Sections 215.421 through 215.427.

(Source: Former Section 215.426 recodified to Section 215.427, new Section 215.426 recodified from Section 215.425 at 11 Ill. Reg. _____)

Section 215.427 Alternative Program for Leaks

The Agency shall approve an alternative program of monitoring, recordkeeping, and/or reporting to that prescribed in Sections 215.421 through 215.426, upon a demonstration by the owner or operator of such plant that the alternative program will provide plant personnel and Agency personnel with an equivalent ability to identify and repair leaking components. The owner or operator utilizing an alternative monitoring program shall submit to the Agency an alternative monitoring program plan consistent with the provisions of Section 215.422.

(Source: Former Section 215.427 recodified to Section 215.428, new Section 215.427 recodified from Section 215.426 at 11 Ill. Reg. _____)

Section 215.428 Compliance Dates and Geographical Areas

- a) Except as otherwise stated in subsection (b), every owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to Sections 215.421 through 215.427 shall comply with the standards and limitations of those Sections beginning October 31, 1985.
- b) If a plant is not located in one of the counties listed below, the owner or operator of the plant shall comply with the requirements of Sections 215.421 through 215.427 no later than December 31, 1987:

Bond	Madison
Clinton	McHenry
Cook	Monroe
DeKalb	Montgomery
DuPage	Morgan
Franklin	Pope
Greene	Randolph

Jackson
Jersey
Johnson
Kane
Lake
Macoupin

Saline
Sangamon
St. Clair
Union
Will
Williamson

(Board note: Counties are designated as attainment or nonattainment for ozone by the United States Environmental Protection Agency (USEPA). The USEPA noted in its redesignation rulemaking, that it will publish a rulemaking notice on Williamson County's attainment status. (45 Fed. Reg. 21949, May 16, 1983.) Should Williamson County be redesignated as attainment prior to October 31, 1985, it and the counties contiguous to it will be considered deleted from the above list.)

- c) Notwithstanding subsection (b), if any county is redesignated as nonattainment by the USEPA at any time subsequent to the effective date of this Section, the owner or operator of a plant located in that county who would otherwise be subject to the compliance date in subsection (b) shall comply with the requirements of Sections 215.421 through 215.427 within one year from the date of redesignation but in no case later than December 31, 1987.

(Source: Former Section 215.428 recodified to Section 215.429, new Section 215.428 recodified from Section 215.427 at 11 Ill. Reg. _____)

Section 215.429 Compliance Plan

- a) The owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to Section 215.428(a) or (b) shall submit to the Agency a compliance plan, no later than December 31, 1985.
- b) The owner or operator of a plant subject to Section 215.428(c) shall submit a compliance plan within 90 days after the date of redesignation, but in no case later than December 31, 1986.
- c) The owner or operator of a plant subject to Section 215.428(c) shall not be required to submit a compliance plan if redesignation occurs after December 31, 1986.
- d) The plan and schedule shall meet the requirements of 35 Ill. Adm. Code 201.

(Source: Former Section 215.428 recodified to Section 215.429, new Section 215.429 recodified from Section 215.428 at 11 Ill. Reg. _____)

2. The Board hereby amends the proposed order of July 16, 1987, in R86-39, to read in its entirety as follows:

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 211.122 Definitions

"Component": Any piece of ~~petroleum refinery~~ equipment which has the potential to leak volatile organic material including, but not limited to, pump seals, compressor seals, seal oil degassing vents, pipeline valves, pressure relief devices, process drains and open ended pipes. Except for Subpart Q, this definition excludes valves which are not externally regulated, flanges and equipment in heavy liquid service.

(Source: Amended in R86-39 at 11 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

Section 215.104 Definitions

"Component": Any piece of equipment which has the potential to leak volatile organic material including, but not limited to, pump seals, compressor seals, seal oil degassing vents, pipeline valves, pressure relief devices, process drains and open ended pipes. This definition excludes valves which are not externally regulated, flanges, and equipment in heavy liquid

service. For purposes of Subpart Q, this definition also excludes ball and plug valves.

"In Vacuum Service:" For the purposes of Part 215, Subpart Q, Sections 215.430 through 215.438 equipment which is operating at an internal pressure that is at least 5 kPa (0.73 psia) below ambient pressure.

"Open-Ended/Valve": Any valve, except pressure relief devices, having one side of the valve in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

"Repaired": For the purposes of Part 215, Subpart Q, Sections 215.430 through 215.438 equipment component which is adjusted, or otherwise altered, to eliminate a leak.

(Source: Amended in R86-39 at 11 Ill. Reg. ____, effective _____)

Section 215.420 Applicability

The provisions of Sections 215.421 through 215.429 of this subpart shall apply to all plants in the State of Illinois which manufacture synthetic organic chemicals and polymers, except those located in any of the following counties: Will, McHenry, Cook, DuPage, Lake, Kane, Madison, St. Clair, Macoupin, and Monroe. The provisions of Sections 215.430 through 215.438 shall apply to the counties specifically enumerated above.

In addition, if any county is redesignated as nonattainment by the USEPA subsequent to December 31, 1987, the owner or operator of a plant located in that county shall comply with the requirements of Sections 215.430 through 215.438 upon the effective date of the redesignation.

(Source: Added in R86-39 at 11 Ill. Reg. ____, effective _____)

Section 215.421 General Requirements

The owner or operator of a plant which has more than 1,500 components in gas or light liquid service, which components are used to manufacture the synthetic organic chemicals or polymers listed in Appendix D, shall conduct leak inspection and repair programs in accordance with this Subpart for that equipment containing more than 10 percent volatile organic material as determined by ASTM method E-20 260, E-168, and E-169. A component shall be considered to be leaking if the volatile organic material concentration exceeds 10,000 ppm when measured at a distance of 0 cm from the component. The provisions of this Subpart are not applicable if the products listed in Appendix D

are made from natural fatty acids for the production of hexadecyl alcohol.

(Source: Amended in R86-39 at 11 Ill. Reg. ____, effective _____)

Section 215.428 Compliance Dates and Geographical Areas

- a) Except as otherwise stated in subsection (b), Every owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to Sections 215.421 through 215.427 shall comply with the standards and limitations of those Sections beginning October 31, 1985 December 31, 1987.
- b) If a plant is not located in one of the counties listed below, the owner or operator of the plant shall comply with the requirements of Sections 215.420 through 215.426 no later than December 31, 1987:

- | | |
|----------|------------|
| Bend | Madison |
| Clinton | McHenry |
| Cook | Monroe |
| DeKalb | Montgomery |
| DuPage | Morgan |
| Franklin | Pope |
| Greene | Randolph |
| Jackson | Saline |
| Jersey | Sangamon |
| Johnson | St. Clair |
| Kane | Union |
| Lake | Will |
| Macoupin | Williamson |

(Board note: Counties are designated as attainment or nonattainment for ozone by the United States Environmental Protection Agency (USEPA). The USEPA noted in its redesignation rulemaking, that it will publish a rulemaking notice on Williamson County's attainment status. (45 Fed. Reg. 21949, May 16, 1983.) Should Williamson County be redesignated as attainment prior to October 31, 1985, it and the counties contiguous to it will be considered deleted from the above list.)

- e) Notwithstanding subsection (b), if any county is redesignated as nonattainment by the USEPA at any time subsequent to the effective date of this Section, the owner or operator of a plant located in that county who would otherwise be subject to the compliance date in subsection (b) shall comply with the requirements of Sections 215.420 through 215.426 within one year from

the date of redesignation but in no case later than December 31, 1987.

(Source: Amended in R86-39 at 11 Ill. Reg. ____, effective _____)

Section 215.429 Compliance Plan

- a) The owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to Section 215.428(a) or (b) shall submit to the Agency a compliance plan, no later than December 31, 1985.
- b) The owner or operator of a plant subject to Section 215.427(e) shall submit a compliance plan within 90 days after the date of redesignation, but in no case later than December 31, 1986.
- e) The owner or operator of a plant subject to Section 215.427(e) shall not be required to submit a compliance plan if redesignation occurs after December 31, 1986.
- db) The plan and schedule shall meet the requirements of 35 Ill. Adm. Code 201.

(Source: Amended in R86-39 at 11 Ill. Reg. ____, effective _____)

Section 215.430 General Requirements

The owner or operator of a plant which processes more than 3660 Mg/yr (4033 tons/year) gaseous and/or light liquid volatile organic material, and whose components are used to manufacture the synthetic organic chemicals or polymers listed in Appendix D, shall conduct leak inspection and repair programs for that equipment in accordance with this Subpart. Leak inspection and repair programs shall be conducted for that equipment containing 10 percent or more by weight volatile organic material as determined by ASTM method E-168, E-169 and E-260. A component shall be considered to be leaking if the volatile organic material is equal to, or is greater than 10,000 parts per million by volume (ppmv) as methane or hexane as determined by USEPA Reference Method 21, indication of liquids dripping, or indication by a sensor that a seal or barrier fluid system has failed. The provisions of this Subpart are not applicable if the equipment components are used to produce heavy liquid chemicals only from heavy liquid feed or raw materials.

(Source: Added in R86-39 at 11 Ill. Reg. ____, effective _____)

Section 215.431 Inspection Program Plan for Leaks

The owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to Section 215.430 shall prepare an inspection program plan which contains, at a minimum:

- a) An identification of all components and the period in which each will be monitored pursuant to Section 215.432.
- b) The format for the monitoring log required by Section 215.434.
- c) A description of the monitoring equipment to be used pursuant to Section 215.432, and
- d) A description of the methods to be used to identify all pipeline valves, pressure relief valves in gaseous service, all leaking components, and components exempted under Section 215.432(i) such that they are obvious and can be located by both plant personnel performing monitoring and Agency personnel performing inspections.

(Source: Added in R86-39 at 11 Ill. Reg. ____, effective _____)

Section 215.432 Inspection Program for Leaks

The owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to Section 215.430 through 215.438, shall for the purposes of detecting leaks, conduct a component inspection program consistent with the following provisions:

- a) Test annually those components operated near extreme temperature of pressure such that they would be unsafe to routinely monitor, and those components located more than two meters above permanent worker access structures or surfaces;
- b) Test quarterly all other pressure relief valves in gas service, pumps in light liquid service, valves in light service and in gas service, and compressors.
- c) If less than or equal to 2 percent of the valves in light liquid service and in gas service tested pursuant to subsection (b) are found not to leak for 5 consecutive quarters, no leak tests shall be required for three consecutive quarters. Thereafter, leak tests shall resume for the next quarter. If that test shows less than or equal to 2 percent of the valves in light liquid service and in gas service are leaking, then no tests are required for the Next 3 quarters. If more than 2 percent are leaking, then tests are required for

the next 5 quarters.

- d) Observe visually all pump seals weekly.
- e) Test immediately any pump seal from which liquids are observed dripping.
- f) Test any relief valve within 24 hours after it has vented to the atmosphere.
- g) Test immediately after repair any component that was found leaking.
- h) Within 1 hour of its detection, a weatherproof and readily visible tag bearing an identification number and the date on which the leak was detected must be affixed on the leaking component and remain in place until the leaking component is repaired.
- i) Any component that is in vacuum service, pressure relief devices connected to an operating flare header or vapor recovery devices are exempt from the monitoring requirements in this Section.

(Source: Added in R86-39 at 11 Ill. Reg. ____, effective _____)

Section 215.433 Repairing Leaks

All leaking components must be repaired and retested as soon as practicable but no later than 15 days after the leak is found unless the leaking component cannot be repaired until the process unit is shutdown. Records of repairing and retesting must be maintained in accordance with Section 215.434 and 215.435.

(Source: Added in R86-39 at 11 Ill. Reg. ____, effective _____)

Section 215.434 Recordkeeping for Leaks

- a) The owner or operator of a synthetic organic chemical or polymer manufacturing plant shall maintain a leaking components monitoring log which shall contain, at a minimum, the following information:
 - 1) The name of the process unit where the component is located;
 - 2) The type of component (e.g., valve, seal);
 - 3) The identification number of the component;

- 4) The date on which a leaking component is discovered;
 - 5) The date on which a leaking component is repaired;
 - 6) The date and instrument reading of the recheck procedure after a leaking component if repaired;
 - 7) A record of the calibration of the monitoring instrument;
 - 8) The identification number of leaking components which cannot be repaired until process unit shutdown; and
 - 9) The total number of valves in light liquid service and in gas service inspected, the total number and the percentage of these valves found leaking during the monitoring period.
- b) Copies of the monitoring log shall be retained by the owner or operator for a minimum of two years after the date on which the record was made or the report prepared.
 - c) Copies of the monitoring log shall be made available to the Agency upon verbal or written request, at any reasonable time.

(Source: Added in R86-39 at 11 Ill. Reg. ____, effective _____)

Section 215.435 Report for Leaks

The owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to Section 215.430 through 215.438 shall:

- a) Submit a report to the Agency quarterly, including prior to the 1st day of July listing all leaking components identified pursuant to Section 215.432 but not repaired within 15 days, all leaking components awaiting process unit shutdown, the total number of components inspected, the type of components inspected, and the total number of components found leaking, the total number of valves inspected and the number and percentage of valves found leaking.
- b) Submit a signed statement with the report attesting that all monitoring and repairs were performed as required under Section 215.430 through 215.436.

(Source: Added in R86-39 at 11 Ill. Reg. ____, effective _____)

Section 215.436 Alternative Program for Leaks

The Agency shall approve an alternative program of monitoring, recordkeeping, and/or reporting to that prescribed in Sections 215.430 through 215.438, upon a demonstration by the owner or operator of such plant that the alternative program will provide plant personnel and Agency personnel with an equivalent ability to identify and repair leaking components. The owner or operator utilizing an alternative monitoring program shall submit to the Agency an alternative monitoring program plan consistent with the provisions of Section 215.431.

(Source: Added in R86-39 at 11 Ill. Reg. ____, effective _____)

Section 215.437 Open-Ended Valves

- a) Each open-ended valve shall be equipped with a cap, blind flange, plug, or a second valve, except during operations requiring fluid flow through the open-ended valve.
- b) Each open-ended valve equipped with a second valve shall be operated in an manner such that the valve on the process fluid end is closed before the second valve is closed.
- c) Open-ended valves which serve as a sampling connection shall be equipped with a closed purge system or closed vent system such that:
 - 1) Purged process fluid be returned to the process line with zero VOM emissions to atmosphere, or
 - 2) Purged process fluid be collected and recycled to the process line with zero VOM emissions to atmosphere.

(Source: Added in R86-39 at 11 Ill. Reg. ____, effective _____)

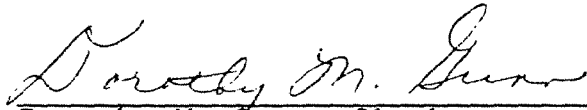
Section 215.438 Compliance Date

The owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to Sections 215.430 through 215.438 shall comply with the standards and limitations of those Sections no later than December 31, 1987.

(Source: Added in R86-39 at 11 Ill. Reg. ____, effective _____)

IT IS SO ORDERED

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Order was adopted on the 6th day of August, 1987, by a vote of 6-0.



Dorothy M. Gunn, Clerk
Illinois Pollution Control Board