

ILLINOIS POLLUTION CONTROL BOARD  
February 19, 1981

IN THE MATTER OF: )  
 )  
AMENDMENTS TO CHAPTER 3: ) R76-21  
WATER POLLUTION )

PROPOSED RULE. FIRST NOTICE  
ORDER OF THE BOARD (by D. Satchell):

On November 23, 1976 the Illinois Institute for Environmental Quality (since renamed the Illinois Institute of Natural Resources) filed a proposal for amendments to Chapter 3: Water Pollution. Hearings and the Economic Impact Studies have been completed. The Board proposes to adopt the language which appears below. The Clerk is directed to file a notice of proposed rulemaking with the Secretary of State. The record will remain open for comment for forty-five days from the date of publication in the Illinois Register.

Subpart A: General Effluent Standards

Rule 400 Preamble

This part prescribes the maximum concentrations of various contaminants ~~that~~ which may be discharged to the waters of the State. Subpart A prescribes standards of general applicability. Site specific rules and particular exceptions are found in Subpart B.

Rule 401 General Provisions

- a) (Unchanged)
- b) (Unchanged)
- c) Averaging

~~Except as otherwise specifically provided in this Part, compliance with the numerical standards in this Part shall be determined on the basis of 24-hour composite samples. In addition, no contaminant shall at any time exceed five times the numerical standard prescribed in this Part.~~

- c) Except as otherwise specifically provided, proof of violation of the numerical standards of this Part shall be determined on the basis of one or more of the following averaging rules:
  - 1) The average of three or more flow-weighted 24-hour composite samples taken in a calendar month shall not exceed the prescribed numerical standard.

- 2) No flow-weighted 24-hour composite sample shall exceed two times the prescribed numerical standard.
- 3) No grab sample, whether taken individually or as an aliquot of a composite sample, shall exceed five times the prescribed numerical standard.
- 4) If a discharge is pursuant to an NPDES permit which does not contain a definition of "flow-weighted 24-hour composite sample" for a given parameter for which monitoring is required, then the following rules also apply:
  - A) The average of three or more grab samples taken in a single day shall not exceed two times the prescribed numerical standard.
  - B) The average of nine or more grab samples taken on three or more days in a calendar month shall not exceed the prescribed numerical standard.
- d) If samples are averaged over a given period of time, all samples available in that time period shall be included in the average.
- e) Reporting and monitoring requirements are established by way of permit condition pursuant to Rules 501 and 910(f).

Rule 408 Additional Contaminants

- a) ~~The following levels of contaminants shall not be exceeded by any effluent.~~
- a) No person shall cause or allow the concentration of the following constituents in any effluent to exceed the following levels, subject to the averaging rules contained in Rule 401(c).

CONSTITUENT	STORET NUMBER	CONCENTRATION (mg/l)
Arsenic <del>(total)</del>	01002	0.25
Barium <del>(total)</del>	01007	2.0
Cadmium <del>(total)</del>	01027	0.15
Chromium (total hexavalent)	01032	0.3
<del>Chromium-(total-trivalent)</del>	<del>01033</del>	<del>1.0</del>
Chromium (total)	01034	1.0
Copper <del>(total)</del>	01042	1.0
Cyanide <del>(total)</del>	00720	0.10***
Fluoride <del>(total)</del>	00951	15.0
Iron (total)	01045	2.0
<del>Iron-(dissolved)</del>	<del>01046</del>	<del>0.5</del>
Lead <del>(total)</del>	01051	0.1
Manganese <del>(total)</del>	01055	1.0
<del>Mercury-(total)</del>	<del>71900</del>	<del>0.0005</del>
Nickel <del>(total)</del>	01067	1.0
Oils, fats-and-greases (hexane soluble or equivalent)	00550, 00556, or 00560	15.0**1
pH	00400	range-5-10*
Phenols	32730	0.3
<del>Selenium-(total)</del>	<del>01147</del>	<del>1.0</del>
Silver	01077	0.1
Zinc <del>(total)</del>	01092	1.0
Total Suspended Solids (from sources other than those covered by Rule 404)	00530	15.0

\* The pH limitation is not subject to averaging and must be met at all times.

- \*\*1** Oil may be analytically separated into polar and nonpolar components. If such separation is done, neither of the components may exceed 15 mg/l (i.e. 15 mg/l polar materials and 15 mg/l non-polar materials). ~~Compliance with this numerical standard shall be determined on the basis of 24-hour composite samples, averaged over any monthly period, provided, however, that no single 24-hour composite shall be greater than 2 times the numerical standard and no grab sample shall be greater than 5 times the numerical standard.~~
- \*\*\*** ~~Except for discharges from the Calumet Treatment Plant of the Metropolitan Sanitary District of Greater Chicago, which shall not exceed 0.15 mg/l. Compliance with cyanide effluent limitations shall be determined by 24-hour composite samples averaged over any monthly period, no single 24-hour composite sample shall exceed twice the numerical standard and no instantaneous (grab) sample shall exceed five times the numerical standard.~~
- b) ~~Total Dissolved Solids (STOREF number ---70300) shall not be increased more than 750 mg/l above background concentration levels unless caused by recycling or other pollution abatement practices, and in no event shall exceed 3500 mg/l at any time; provided, however, this Rule shall not apply to any effluent discharging to the Mississippi River, which after mixing as set forth in Rule 201, meets the applicable water quality standards for Total Dissolved Solids.~~
- b) Unless otherwise indicated, concentrations refer to the total amount of the constituent present in all phases, whether solid, suspended or dissolved, elemental or combined, including all oxidation states. Where constituents are commonly measured as other than total, the word "total" is inserted for clarity.
- c) The following table is provided for cross-referencing purposes:

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CONSTITUENT	RULE (S)
<u>Ammonia nitrogen</u>	<u>402.1 and 406</u>
<u>Bacteria</u>	<u>405</u>
<u>Biochemical Oxygen Demand</u>	<u>404</u>
<u>Deoxygenating Wastes</u>	<u>404</u>
<u>Mercury</u>	<u>411</u>
<u>Nitrogen, ammonia</u>	<u>402.1 and 406</u>
<u>pH</u>	<u>413</u>
<u>Phosphorus</u>	<u>407</u>

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Rule 411 Mercury

- a) Except as provided below, no person shall cause or allow the concentration of mercury in any effluent to exceed the following level, subject to the averaging rule contained in Rule 401(c).

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CONSTITUENT	STORET Number	CONCENTRATION (mg/l)
<u>Mercury</u>	<u>71900</u>	<u>0.0005</u>

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- b) It shall be an exception to paragraph a) if all of the following conditions are met:
- 1) Mercury is not used by the discharger, or mercury is used and its use cannot be eliminated; and
  - 2) The effluent mercury concentration is less than 0.003 mg/l, as determined by application of the averaging rules of Rule 401(c); and
  - 3) The discharger is providing the best degree of treatment consistent with technological feasibility, economic reasonableness and sound engineering judgment. This may include no treatment for mercury; and
  - 4) The discharger has an inspection and maintenance program likely to reduce the level of mercury discharges.
- c) It shall be an exception to paragraph a) if all of the following conditions are met:
- 1) The discharger is a publicly owned or publicly regulated sewage treatment works; and
  - 2) Mercury is not used by the discharger; and
  - 3) The effluent mercury concentration is less than 0.003 mg/l, as determined by application of the averaging rules of Rule 401(c), at least 70% of the time; and
  - 4) The discharger has enforceable ordinances or contract provisions whereby it limits use of mercury by dischargers and discharge of mercury into its sewage system; and
  - 5) The discharger's limitations on use and discharge of mercury to its sewage system are at least as stringent as those provided in Rule 702; and

- 6) The discharger has a surveillance program with a reasonable likelihood of determining sources of mercury discharged to the sewage system; and
  - 7) The discharger takes all lawful steps to eliminate known mercury discharges to the sewage system which contribute levels in excess of those allowed by Rule 702; and
  - 8) The discharger reports all known violations of Rule 702 to the Agency.
- d) As used in paragraphs b) and c), use of mercury does not include analytical use or use in laboratory or other equipment where reasonable care is taken to avoid contamination of wastewater.
  - e) For purposes of permit issuance the Agency may consider application of the exceptions of this rule to determine compliance with this rule. The Agency may impose permit conditions necessary or required to assure continued application of an exception. When paragraph b) applies, the Agency may impose an effluent limitation in the permit which allows discharge of a concentration of mercury greater than 0.0005 mg/l but not more than 0.003 mg/l.

Rule 412 New Source Performance Standards

The numerical effluent standards of this Part do not apply under the following circumstances:

- a) The discharge is authorized by an NPDES permit;
- b) The facility from which the discharge results is subject to new source performance standards promulgated by USEPA pursuant to the Clean Water Act; and
- c) The NPDES permit contains a numerical effluent limitation based upon USEPA effluent guidelines and standards representing best available demonstrated control technology for the constituent in question.

Rule 413 pH

- a) Except as provided below no person shall cause or allow the negative logarithm of the hydrogen ion concentration (pH) in any effluent to be more or less respectively than the maximum and minimum values for pH range indicated in the following table:

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CONSTITUENT	STORET Number	RANGE
<u>pH</u>	<u>00400</u>	<u>6-9</u>
<u>b) The pH limitation is not subject to the averaging rule contained in Rule 401(c).</u>		
<u>c) Effluents which are monitored so as to provide a permanent, continuous pH record may be outside of the listed range for not more than a total of fifteen minutes in any day provided the excursion is accidental and less than one pH unit above or below the listed range.</u>		
<u>d) pH limitation does not apply if the excursion is attributable entirely to natural causes.</u>		
<u>e) The burden of proving that paragraph c) or d) applies is upon the discharger.</u>		

Subpart B: Site Specific Effluent Standards and Exceptions

Rule 450 Calumet Treatment Plant Cyanide Discharges

The general effluent standard of Rule 408 does not apply to cyanide discharged from the Calumet Treatment Plant of the Metropolitan Sanitary District of Greater Chicago. Instead it must meet the following effluent standard:

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CONSTITUENT	STORET NUMBER	CONCENTRATION (mg/l)
<u>Cyanide</u>	<u>00720</u>	<u>0.15</u>

Rule 451 Chlor-alkali Mercury Discharges in St. Clair County

The mercury discharge standards of Rules 411 and 702(a) shall not apply to any manufacturing facility which operates chlor-alkali cells, is located in St. Clair County and discharges directly, or indirectly into the Mississippi River; or to any publicly owned treatment works which receives such a manufacturing facility's wastewater. The amount of mercury discharged by any such manufacturing facility shall not exceed an average of 114 g/day (0.25 pounds per day) during any calendar month and a maximum of 227 g

(0.5 pounds) during any one day. Any publicly owned treatment works which, directly or indirectly, receives such a manufacturing facility's wastewater shall be entitled to discharge mercury in excess of the levels provided in Rule 408(a) to the extent that said discharge exceeds those levels because of such a manufacturing facility's discharge.

(filed October 23, 1978, effective November 2, 1978)

Rule 702 Mercury ~~(STORET-number---71900)~~ Discharges to Sewers

~~a) No effluent to any public sewer system shall include mercury or any of its compounds in excess of 0.005 mg/l as Hg at any time.~~

a) Except as provided below, no person shall cause or allow the concentration of mercury in any discharge to a publicly owned or publicly regulated sewer system to exceed the following level, subject to the averaging rule contained in Rule 401(c):

CONSTITUENT	STORET NUMBER	CONCENTRATION (mg/l)
<u>Mercury</u>	<u>71900</u>	<u>0.0005</u>

b) It shall be an exception to paragraph a) if all the following conditions are met:

- 1) Mercury is not used by the discharger, or mercury is used and its use cannot be eliminated; and
- 2) The discharge mercury concentration is less than 0.003 mg/l, as determined by application of the averaging rules of Rule 401(c); and
- 3) The discharger is providing the best degree of treatment consistent with technological feasibility, economic reasonableness and sound engineering judgment. This may include no treatment for mercury; and
- 4) The discharger has an inspection and maintenance program likely to reduce the level of mercury discharges.

~~The discharge of mercury shall be exempt from the limitations of paragraph (a) of this section if it meets all the following conditions:~~



- ~~(i) The total plant discharge totals less than five pounds as Hg in any year;~~
  - ~~(ii) The discharge is to a public sewer served by a sewage treatment facility handling no less than 25,000 population equivalents;~~
  - ~~(iii) The discharge does not alone, or in conjunction with other sources, cause the effluent from the sewage treatment plant to exceed 0.0005 mg/l as Hg; and~~
  - ~~(iv) At least 95% of the mercury that would be discharged in the absence of control is removed from the effluent by December 1, 1971;~~
  - ~~(v) After June 1, 1974 the exemptions provided in this subsection b) shall terminate;~~
- c) The discharge of wastes from medicinal or therapeutic use of mercury, exclusive of laboratory use, shall be exempt from the limitation of paragraphs a) and ~~(b)~~ of this section if all the following conditions are met:
- ~~(i)~~ 1) The total plant discharge is less than 227 g (one half pound) as Hg in any year;
  - ~~(ii)~~ 2) The discharge is to a public sewer system; and
  - ~~(iii)~~ 3) The discharge does not, alone or in conjunction with other sources, cause the effluent from the sewer system or treatment plant to exceed 0.0005 mg/l of Hg mercury.
- d) No discharge of mercury shall be permitted which, alone or in combination with other sources, causes a violation of the water quality standard of 0.0005 mg/l of Hg mercury.
- e) For purposes of permit issuance the Agency may consider application of the exception of paragraph b) to determine compliance with this Rule. The Agency may impose permit conditions necessary or required to assure continued application of the exception. When Rule 702(b) applies, the Agency may impose an effluent limitation in the permit which allows discharge of a concentration of mercury greater than 0.0005 mg/l but not more than 0.003 mg/l.
- ~~e) The discharge of mercury shall be exempt from the limitations of paragraph (a) of this section if it meets all the following conditions:~~

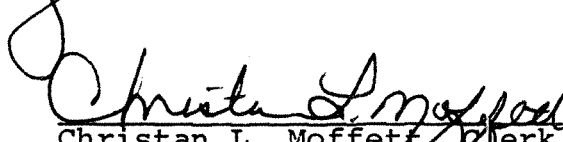
- (i) The discharger is a commercial laundry or cleaning service, as defined in classification No. 7217 (except 7212 and 7215), of the Standard Industrial Classification Manual issued by the United States Government, Executive Office of the President, Office of Management and Budget.
  - (ii) In the aggregate, the soaps, cleaning compounds, processing chemicals or other materials added or used by the discharger do not contribute mercury to its effluent in violation of paragraph (a) of this section.
  - (iii) This discharger engages or participates in a program of ongoing research to develop a technically feasible and economically reasonable method for the treatment of mercury-containing wastes originating from industries referred to in paragraph (e) (i) of this Section.
  - (iv) The exemption provided in this subsection (e) shall terminate after September 30, 1977.
- (f) The mercury discharge standards of Rule 408 (a) and 702 (a) shall not apply to any manufacturing facility which operates chlor-alkali cells, is located in St. Clair County and discharges directly, or indirectly into the Mississippi River, or to any publicly owned treatment works which receives such a manufacturing facility's wastewater. The amount of mercury discharged by any such manufacturing facility shall not exceed an average of 0.25 pounds per day during any calendar month and a maximum of 0.5 pounds during any one day. Any publicly owned treatment works which, directly or indirectly, receives such a manufacturing facility's wastewater shall be entitled to discharge mercury in excess of the levels provided in Rule 408 (a) to the extent that said discharge exceeds those levels because of such a manufacturing facility's discharge.

Rule 976 TDS Reporting and Monitoring

The Agency shall by permit condition require monitoring and reporting of levels of total dissolved solids in all effluents unless it finds that such reporting and monitoring is not required to accomplish the purposes of the Act. Monitoring of total dissolved solids levels shall be by any reasonably reliable method.

IT IS SO ORDERED.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Order was adopted on the 19<sup>th</sup> day of February, 1981 by a vote of 5-0.

  
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Christan L. Moffett, Clerk  
Illinois Pollution Control Board