

ILLINOIS POLLUTION CONTROL BOARD  
August 18, 1988

IN THE MATTER OF: )  
 )  
AMENDMENT TO 35 ILL. ADM. CODE ) R88-22  
SECTION 304.301, EXCEPTION FOR )  
AMMONIA NITROGEN WATER QUALITY )  
STANDARDS )

PROPOSED RULE.                      FIRST NOTICE.

ORDER OF THE BOARD (by R. C. Flemal):

On July 11, 1988 the Illinois Environmental Protection Agency ("Agency") filed a public comment in a separate proceeding, R88-1. Therein the Agency proposed that 35 Ill. Adm. Code Section 304.301(d) be amended to extend the exemption termination date from July 1, 1988 to July 1, 1991. In the belief that the subject matter of the Agency's proposal is more properly considered in a dedicated docket, the Board today docketed the Agency's proposal<sup>1</sup> within the instant proceeding and sends the proposal to first notice. In so doing, the Board notes that it takes no position on the substantive merits of the Agency's proposal.

BASIS FOR PROPOSED AMENDMENT

The Agency provides the following argument for adoption of the proposed amendment:

Paragraph (b) provides an exemption for winter (November thru March) water quality violations. In adopting this rule in PCB R77-6, the Board noted that "biologic treatment of domestic wastewater is virtually universally practiced..." (Final Order dated June 22, 1978, page 9). The Board continued as follows (page 10):

"The process of nitrification, however, is temperature dependent; the rate of nitrification decreases as the temperature decreases. It is not cost-effective to design biological processes capable of removing ammonia nitrogen to 1.5 mg/l from very cold

<sup>1</sup> The document wherein the Agency's proposal is presented, Public Comment #3 of Board Docket R88-1, is hereby incorporated into the instant docket as the Agency's Proposal.

domestic wastewater. In Illinois, facilities treating domestic wastewater utilizing the types of biologic processes which yield effluent concentrations of 1.5 mg/l during the warm months are usually incapable of consistently reducing ammonia nitrogen concentrations below 4.0 mg/l during cold weather."

Since adoption, it has been evident that these same technological limitations remain relevant. Biological processes are still the only cost-effective and environmentally acceptable means of ammonia nitrogen reduction; and the efficiency of these processes is still greatly affected by cold temperatures. Attachment A<sup>2</sup> provides an analysis of the performance of 74 municipal wastewater treatment facilities designed for nitrification in Illinois. Each facility represents "state-of-the art" nitrification and has a record of good operation. The overall performance of these facilities falls within the expected range. It is clear that application of the most stringent effluent standard, 1.5 mg/l, during the winter months would result in unacceptably high violation rates on a monthly basis for these facilities. Water quality based permit limits, however, are established as daily maxima, rather than monthly averages. The violation rate for the facilities in Attachment A would be significantly higher if calculated on a daily maximum basis. In addition, nearly 300 other municipal sources are regulated for ammonia discharges. Many of these sources perform significantly worse with regard to ammonia removal. Typically this is due to organic or hydraulic overloading or operational problems. As indicated in Attachment B, many of those 300 facilities are currently designing or constructing nitrification equipment. Each of these facilities is designed in accordance with the same stringent design standards as the facilities in Attachment A. The Agency believes that the prudent course of action would be to extend the exception for winter months (Paragraph b) an additional 3 years. This will allow time for completion and performance

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<sup>2</sup> Board note: Attachments A and B, as referenced in this quote, refer to attachments to the Agency's Proposal in the instant docket (see footnote 1). Attachment A consists of a two-page tabulation of ammonia effluent concentrations for various sewage treatment plants in Illinois. Attachment B consists of a one-page list of sewage treatment facilities in Illinois which are currently proposing nitrification of effluents.

evaluation of most of these facilities. At that time, the Agency will be in a better position to assess the need for a permanent rule change.

ORDER

The Board hereby proposes the following amendment for First Notice:

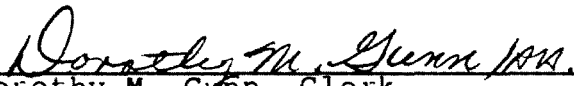
SUBPART C: TEMPORARY EFFLUENT STANDARDS

Section 304.301 Exception for Ammonia Nitrogen Water Quality Violations

- a) Section 304.105 shall not apply to ~~Section~~ 35 Ill. Adm. Code 302.212 for any effluent from a source in existence on April 1, 1977, having an untreated ammonia influent loading not exceeding 60 pounds per day and not otherwise needing upgrading to meet the requirements of this chapter.
- b) Section 304.105 shall not apply to ~~Section~~ 35 Ill. Adm. Code 302.212 for any source during the months of November through March; except that during the months of November through March no source not exempt under paragraph subsection (a) shall discharge an effluent containing a concentration of ammonia nitrogen greater than 4.0 mg/l if the discharge, alone or in combination with other discharges, causes or contributes to a violation of that portion of ~~Section~~ 35 Ill. Adm. Code 302.212.
- c) Compliance with the provisions of paragraph subsection (b) shall be achieved by March 31, 1979, or such other date as required by NPDES permit, or as ordered by the Board under Title VIII or Title IX of the Environmental Protection Act.
- d) After July 1, ~~1988~~1991, the exemption provided in this ~~Section~~ shall terminate.

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 18<sup>th</sup> day of August, 1988, by a vote of 6-0.

  
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Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board