BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:

PROPOSED 35 Ill. Adm. Code 304.123(g), 304.123(h), 304.123(i), 304.123(j), and 304.123(k)	))	R04- 26 (Rulemaking - Water)

NOTICE OF FILING

Dorothy Gunn, Clerk
Pollution Control Board
100 West Randolph Street
Suite 11-500
Chicago, Illinois 60601

Legal Service
Illinois Department of Natural Resources
One Natural Resources Way
Springfield, Illinois 62702-1271

Mathew Dunn
Illinois Attorney General's Office
Environmental Control Division
James R. Thompson Center
100 West Randolph Street
Chicago, Illinois 60601

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Pollution Control Board the **AGENCY REGULATORY PROPOSAL, MOTION FOR ACCEPTANCE, AND APPEARANCE** of the Illinois Environmental Protection Agency, a copy of which is herewith served upon you.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

By: _____
Sanjay K Sofat
Assistant Counsel
Division of Legal Counsel

Dated: May 12, 2004
Illinois Environmental Protection Agency
1021 North Grand Avenue East
Springfield, Illinois 62794-9276
(217) 782-5544

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:

PROPOSED 35 Ill. Adm. Code 304.123(g), 304.123(h), 304.123(i), 304.123(j), and 304.123(k)	))	R04- 26 (Rulemaking - Water)

APPEARANCE

The undersigned, as one of its attorneys, hereby enters his **APPERANCE** on behalf of Respondent, Illinois Environmental Protection Agency.

ILLINOIS ENVIRONMENTALPROTECTION AGENCY

By:_____

Sanjay K Sofat
Assistant Counsel
Division of Legal Counsel

DATED: May 7, 2004

Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276
(217) 782-5544

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:

PROPOSED 35 Ill. Adm. Code 304.123(g), 304.123(h), 304.123(i), 304.123(j), and 304.123(k)	))	R04- 26 (Rulemaking - Water)

MOTION FOR ACCEPTANCE

NOW COMES the Illinois Environmental Protection Agency ("Illinois EPA"), by and through its attorney, Sanjay K. Sofat, and pursuant to 35 Ill. Adm. Code 102.106, 102.200, and 102.202, moves that the Illinois Pollution Control Board ("Board") accept for hearing the Illinois EPA's proposal for amendments to 35 Ill. Adm. Code Part 304. This regulatory proposal includes:

1. Notice of Filing;
2. Appearance of Attorney for the Illinois Environmental Protection Agency;
3. Director Cipriano's Statement of Submittal;
4. Certification of Origination;
5. Statement of Reasons and Exhibits;
6. Agency Analysis of Economic and Budgetary Effects of Proposed Rulemaking;
7. Notice of Proposal and Proposed Amendments;
8. Computer disc containing Notice of Proposal and Proposed Amendments; and
9. Proof of Service.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

By:_____

Sanjay K Sofat
Assistant Counsel
Division of Legal Counsel

DATED: May 7, 2004

Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276
(217) 782-5544

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:

PROPOSED 35 Ill. Adm. Code 304.123(g),	)	R04- 26
304.123(h), 304.123(i), 304.123(j), and 304.123(k)	)	(Rulemaking - Water)

AGENCY PROPOSAL OF REGULATIONS

Pursuant to Section 27 of the Illinois Environmental Protection Act (415 ILCS 5/27), the Illinois Environmental Protection Agency hereby moves the Illinois Pollution Control Board to adopt the attached proposed regulations.

Respectfully Submitted,

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

By: _____

Renee Cipriano
Director

DATED: May 7, 2004

Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276
(217) 782-5544

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:

PROPOSED 35 Ill. Adm. Code 304.123(g), 304.123(h), 304.123(i), 304.123(j), and 304.123(k)	))	R04- 26 (Rulemaking - Water)

CERTIFICATION OF ORIGINATION

NOW COMES the Illinois Environmental Protection Agency to certify in accordance with 35 Ill. Adm. Code 102.202(h) that this proposal amends the most recent version of the Table of Contents of the Part 304 as published on the Pollution Control Board's web site.

Respectfully Submitted,

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

By:_____

Sanjay K. Sofat
Assistant Counsel
Division of Legal Counsel

DATED: May 7, 2004

Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276
(217) 782-5544

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:

PROPOSED 35 Ill. Adm. Code 304.123(g), 304.123(h), 304.123(i), 304.123(j), and 304.123(k)	))	R04- 26 (Rulemaking - Water)

STATEMENT OF REASONS

The Illinois Environmental Protection Agency ("Illinois EPA") hereby submits its Statement of Reasons for the above captioned proceeding to the Illinois Pollution Control Board ("Board") pursuant to Section 27 of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/27 (2002), and 35 Ill. Adm. Code 102.106, 102.200, and 102.202.

I. Statutory Basis

Pursuant to the Federal Water Pollution Control Act, 33 U.S.C. §§1251-1387 (1987), also known as the Clean Water Act ("CWA") §§101-607, states are required to revise and update their water quality standards to ensure that standards are protective of public health and welfare, enhance the quality of water and promote the purposes of the CWA. 33 U.S.C. §1313(c)(2)(A). In establishing new and revised standards, the State must consider the waters use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and navigational purposes. 33 U.S.C. §1313(c)(2)(A). The process of reviewing a state's standards is commonly know as a "triennial water quality standards" review. 33 U.S.C. §1313(c)(1).

The Illinois EPA is in the process of developing the State numeric nutrient standards based upon scientifically defensible cause-effect relationships. Early in the process, the Illinois EPA realized that there was a shortage of sound scientific information available to examine relationships

between nutrient concentrations, biological parameters, and dissolved oxygen in the receiving waters. To understand the scientific relationship among these various variables, the Illinois EPA is currently progressing through a comprehensive multi-year nutrient standards development effort in cooperation with other State agencies, USEPA, stakeholder groups, and individual citizens. (*Illinois EPA's Numeric Nutrient Water Quality Standard Development Approach*) (*See Exhibit A*). To establish these relationships, the Illinois EPA along with other State entities funded four research studies through the Illinois Council on Food and Agricultural Research (C-FAR) program. These studies began in 2003 and will proved the scientific information that will become the basis of the Illinois' nutrient standards. The Illinois EPA expects to file a nutrient standards petition to the Illinois Pollution Control Board early in 2007.

In the interim, however, the Illinois EPA is proposing an effluent standard for phosphorus to limit higher concentrations of phosphorus that may result in detrimental levels of plant and algae growth. The Board has the authority under the Act to adopt such regulations. According to Section 27(a) of the Act, the Board "may make different provisions as required by circumstances for different contaminant sources." 415 ILCS 5/27(a) (2002). In promulgating the regulations under this section, the Board is required to consider, "the existing physical conditions ... the nature of the existing air quality, or receiving body of water, as the case may be, and the technical feasibility and economic reasonableness of measuring or reducing the particular type of pollution." *Id.*

II. Introduction

This proposal contains the Illinois EPA's interim effluent standard for phosphorus. The Illinois EPA purposes the effluent limit sunset with the Board's adoption of a numeric phosphorus water quality standard.

A. Problem Statement

The macronutrients nitrogen, phosphorus, and potassium are necessary fundamental building blocks of all plant life on earth, both terrestrial and aquatic. All three are critically necessary for both economical agricultural production and urban landscape management. Each of these nutrients are found naturally; potassium and phosphorus are present in rocks, minerals, sediments, and biota, while nitrogen comprises 78 percent of the earth's atmosphere and is a critical biological component. These three nutrients are applied to the land surface as inorganic fertilizers and are present in domestic and industrial wastewaters. However, only nitrogen and phosphorus have been found to be present in problematic levels in aquatic water bodies. The natural and anthropogenically modified cycling of nitrogen and phosphorus in the environment is quite complex because the concentrations of these elements, which promote adverse conditions, vary temporally and spatially and are not consistent among water bodies.

Nitrogen exists in many forms in the environment and is present in the atmosphere, hydrosphere, and plant and animal tissues. The movement of nitrogen within and among these varied environments results in nitrogen existing in numerous compounds and oxidation states and in forms having various degrees of mobility within the environment. Nitrogen and phosphorus are typically the two key targets for the control of eutrophication problems in water bodies. (United States Environmental Protection Agency, 1993, *Nitrogen Control Manual*, EPA 625-R-93-010) (USEPA 1993) (*See Exhibit B*). Nitrogen is typically present in concentrations sufficient to support aquatic algal and plant growth, but may be a limiting nutrient, the nutrient in shortest supply, in certain circumstances, such as low flow periods.

The presence and behavior of phosphorus in the environment, both terrestrial and aquatic, is complex and variable. Phosphorus can be present in organic and inorganic forms, in plant and animal matter, bound to particulate material, sequestered in benthic sediments, or in the water

column in particulate or dissolved forms. Typically point sources of phosphorus are attributable to municipal wastewater (sanitary sewage) although certain types of industrial waste (food processing) may also contain significant phosphorus levels. Large quantities of phosphorus are introduced into the environment through the application of agricultural and residential fertilizer to crops and turf grass. Phosphorus is continually being transformed and cycled through the processes of decomposition and synthesis between organically bound forms and oxidized inorganic forms. Phosphorus occurs in natural water and wastewaters primarily as phosphates. (American Public Health Association, 1998, *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, Washington, D.C.) (American Public Health Association, 1998) (*See Exhibit C*). There are multiple phosphate forms; the most prevalent in fresh waters of normal pH are $H_2PO_4^-$ and HPO_4^{2-}. (Hem, J.D., 1985, *Study and Interpretation of the Chemical Characteristics of Natural Water*, U.S. Geological Survey Water-Supply Paper 2254, 263 p.) (Hem, 1985) (*See Exhibit D*). Ortho-phosphorus is the form most readily available for incorporation by organic life forms. However, because of the continual transformation of phosphorus and the important inorganic and organic components of phosphorus in the aquatic ecosystem, analysis of only the ortho-phosphorus form would not provide an accurate and complete assessment of phosphorus in a particular aquatic environment. An analysis of total phosphorus provides a more comprehensive assessment of the potential effects from phosphorus as it incorporates phosphorus present in the water column in the dissolved, particulate, and biological forms.

Phosphorus is typically thought to be the primary limiting nutrient in most fresh water environments. When nitrogen is present in sufficient amounts, an elevated level of phosphorus can result in excessive and problematic plant and algal growth, a condition known as eutrophication. Eutrophic conditions can limit the use and appeal of a water body for swimming, boating, and water supply uses. Excessive algal growth can change the composition of the aquatic biota, generally

resulting in the reduction of more sensitive and often more desirable organisms. The most concerning effect of eutrophication may be the alteration and depression of dissolved oxygen levels in the water body. Through photosynthesis and respiration, aquatic plants produce and consume oxygen from the water column, respectively. Oxygen is produced during the daylight hours and consumed during night. Increase in the amounts of algae and other plant life will increase the magnitude of oxygen production and consumption. This could sometimes make it difficult for fish, insects, and other aquatic biota to adjust to availability of oxygen in the waters. The most detrimental impact to the water body is when the abundant plant life dies and the subsequent decomposition of the organic matter consumes oxygen from the water. This process can depress dissolved oxygen levels to harmful and even fatal levels for fish and other aquatic organisms. Some research has indicated that phosphorus concentrations above 0.1 mg/l can result in excessive algal growth affecting municipal, industrial, recreational uses in North American fresh water environments. (McNeely, R.N., Neimanis, V.P., and Dwyer, L., 1979, *Water Quality Sourcebook, A Guide to Water Quality Parameters*, Environment Canada, Ottawa, 88 p.) (McNeely et. al, 1979) (*See Exhibit E*).

Prevention of detrimental responses to an overly fertile aquatic environment is a basic goal of Illinois' water quality program. The fundamental objective to phosphorus management in streams and lakes is the allowance of phosphorus concentrations necessary to ensure desirable biological activity, but limitation of higher concentrations that result in detrimental levels of plant and algae growth. The classic approach to reach this goal is the determination of the upper limit of beneficial nutrient concentrations upon which source permitting and other water quality management programs can be implemented.

B. Current Regulatory Framework

Currently, Illinois nutrient water quality standards are limited to a phosphorus numeric

concentration applicable to lakes and reservoirs of 20 acres or greater in size, 35 Ill. Adm. Code 302.205, and a narrative standard, 35 Ill. Adm. Code 302.203, applicable to all general use waters. This narrative standard prohibits "plant or algal growth, color or turbidity of other than natural origin". The narrative standard obviously recognizes the inherent presence of plant and algal growth in Illinois surface waters and furthermore recognizes that such growth can exceed natural (or healthy) conditions and concentrations. This was and to a great extent remains the norm for state water quality standards throughout the country. Historically USEPA water quality standards criteria and guidance has required this type of narrative standard. Illinois' dissolved oxygen ("DO") standard requires that it "shall not be less than 6.0 mg/l during at least 16 hours of any 24 hour period, nor less than 5.0 mg/l at any time." 35 Ill. Adm. Code 302.206.

C. Proposed Interim Approach Pending Development of Illinois Nutrient Standards

Unfortunately there is no clear line of demarcation between natural and excessive levels of algal or plant activity that could result in a dissolved oxygen violation or an overall decline in the integrity of the aquatic ecosystem. While the narrative standard regarding offensive condition and the numeric dissolved oxygen standard are adequate to address eutrophic degradation, they provide little or no practical guidance to the Agency in establishing preventive or protective permit limits. Further, as the existing Board regulations at 35 Ill. Adm. Code 302.203, 304.105, and 309.141 require permit limits that are sufficient to avoid stream degradation, the Illinois EPA needs an interim approach that assures point sources do not cause detrimental trophic conditions or exacerbate already problematic conditions. Until the science is further understood and numeric nutrient water quality standards are adopted and federally approved, the Agency is proposing an interim effluent phosphorus standard of 1 mg/l for major sources. The Agency believes that the proposed standard meets "technical feasibility, economic

reasonableness and fairness" concepts of Section 304.105 for point source discharges of phosphorus.

III. Implications to NPDES Permitting Practices

Currently, there are 10 to 12 NPDES permits for new or expanded wastewater treatment facilities that are affected by phosphorus limit uncertainty. On an annual basis it is projected that about 20 permits will be impacted. Most of these are in areas of the State undergoing rapid urbanization, e.g., Lake, McHenry and northern Will Counties. The environmental advocacy community has consistently requested information hearings on draft permits for these facilities. One permit, New Lennox, is in the midst of a third party appeal before the Board that is at least partially due to the lack of permit limits for nutrients.

This situation places a strain on an already overburdened NPDES permitting process. Agency attendance at numerous public hearings drains resources from other permitting and standards activities. Essentially the same debate emerges in each of these permitting instances: whether phosphorus limits may be placed in the NPDES permit for the new or expanded discharge prior to an adopted numeric water quality standard for phosphorus.

IV. Water Treatment Technology

Reducing levels of phosphorus in wastewater treatment plant effluent can be accomplished either by reducing influent loading or achieving greater phosphorus removal during the treatment process. Reducing levels of phosphorus in domestic wastewater influent is generally not practical. In fact, there is increasing usage of polyphosphates and orthophosphates to prevent corrosion and control levels of metals in water treatment and distribution systems, and this practice might result in increased phosphorus loadings to wastewater treatment plants. (Ohio Environmental Protection Agency, *Phosphorus Control Strategies, Point Source Component*, 12/13/2000 Draft) (Ohio EPA Draft

Phosphorus Control Strategy) (*See Exhibit F*).

Phosphorus reduction in wastewater is typically achieved using biological removal, chemical removal, or a combination of the two techniques. Other types of processes including ammonia stripping, ion exchange, and reverse osmosis have been tried, but have been found to be costly and unreliable. (Zenz, David R., *Technical Feasibility and Cost to Meet Nutrient Standards in the State of Illinois*, 2003, Report commissioned by the Illinois Association of Wastewater Agencies) (Zenz, 2003) (*See Exhibit G*). Biological removal entails the incorporation of phosphorus into microorganisms through biomass synthesis. Chemical removal involves addition of metal salts or lime, precipitation, and settling. Resultant particulate removal, biosolids or flocculants, is generally required with either method, and filtration is often, but not always, needed to achieve phosphorus levels below 1.0 mg/l. (United States Environmental Protection Agency, 1987, *Phosphorus Removal Design Manual*, EPA 625-1-87-001) (EPA 625-1-87-001) (*See Exhibit H*). Chemical treatment using metal salt or lime can increase sludge production significantly, typically 20-40 percent or more. Land application or disposal of the resultant increased quantities of biosolids may present additional environmental concerns. Biological removal technologies are often preferred over chemical procedures because of lower long-term costs and less sludge production.

Several investigations regarding the practicality, feasibility, and economics of treating municipal wastewaters to low levels of phosphorus have been or are being conducted, including studies by the Illinois Association of Wastewater Agencies ("IAWA") and the Water Environment Research Foundation ("WERF"). A report commissioned by the IAWA, "*Technical Feasibility and Cost to Meet Nutrient Standards in the State of Illinois*"(Zenz 2003) (*See Exhibit G*), states that most existing treatment facilities in Illinois could be retrofitted or augmented with biological or biological and chemical processes to achieve monthly average effluent total phosphorus concentrations of 0.5 mg/l on a reliable and consistent basis. Most existing wastewater treatment facilities would need to construct

additional tanks to incorporate anaerobic and anoxic systems into the treatment process for the purpose of increasing phosphorus removal. *Zenz* concludes that two processes would generally be used in a treatment plant to achieve low phosphorus concentrations, including; 1) filtration to remove insoluble phosphorus, and 2) chemical addition to enhance phosphorus removal. In addition, a suspended growth system would likely be retrofitted with an anaerobic/anoxic selector with chemical precipitation, while an existing fixed film system would likely need to be retrofitted with chemical phosphorus removal.

V. Public Participation

On April 15, 2004, the Illinois EPA sent the draft proposal to several organizations for their comments and suggestions. The recipients included the Illinois Association of Wastewater Agencies, the Illinois Environmental Regulatory Group, the Chemical Industry Council, US Environmental Protection Agency, the Environmental Law & Policy, the Sierra Club, and the MWRDGC.

VI. Technical Feasibility and Economic Justification

Zenz (2003) estimated costs associated with upgrading 814 existing municipal treatment plants in Illinois to achieve nutrient removal. Cost estimates were calculated using a regression analysis technique developed by Reardon (1994) and data supplied by treatment facilities and the Illinois EPA. Regression equations were developed for five different treatment processes and included capital costs for construction as well as operational and maintenance costs for chemicals, labor, power, and other miscellaneous expenses. Costs were calculated for treatment facilities in seven different capacity categories. Zenz estimated the total costs of upgrading and operating the 814 existing municipal wastewater treatment plants in Illinois to remove nutrients to be $5.3 billion in capital construction or modification costs and $500 million annually for operation and

maintenance expenditures. These estimates are only for municipal treatment facilities and do not include costs for industrial treatment facilities or the nearly 400 small semi-private treatment plants in the State.

The Agency believes that proven and readily available technology to remove phosphorus can consistently and reliably reduce effluent phosphorus concentrations to 1.0 mg/l or less. The Agency is proposing 1.0 mg/l as the enforceable monthly average limit and a conservative measure of sustained performance. The Agency fully expects actual performance levels to be incrementally better and even in the 0.5 mg/l range for extended periods. A monthly average limit of 1.0 mg/l will not put properly operating treatment systems at undue risk of permit violations resulting from normal operational and performance variability.

VII. Synopsis of Testimony

During the Board's proceedings in this matter, the Illinois EPA will present three witnesses in support of the proposed rulemaking: Toby Frevert is the Manager of the Division of Water Pollution within the Bureau of Water of the Illinois Environmental Protection Agency. Mr. Frevert has been with the Illinois EPA in excess of 30 years.

Bob Mosher is the Supervisor of the Water Quality Standards Unit within the Division of Water Pollution Control. The duties include: the development of water quality standards and the implementation of these standards in the Agency programs including the NPDES permit process. Mr. Mosher has been with the Agency for nearly 16 years. He is an aquatic biologist by training.

Paul Terrio is the Water Quality Specialist for the Illinois District of the U.S. Geological Survey (USGS). Mr. Terrio is working with the Agency to develop numeric nutrient standards for the State through a 2-year intergovernmental cooperative agreement. Mr. Terrio has been a Hydrologist with the USGS for almost 20 years and has worked on various water quality research

and data collection projects throughout the State. He has a B.S. degree in Hydrology from the University of Arizona.

VIII. Supporting Documents

33 USC § 1313

Exhibit A: Illinois EPA's Nutrient Numeric Water Quality Standard Development Approach.

Exhibit B: United States Environmental Protection Agency, 1993, *Nitrogen Control Manual*, EPA 625-R-93-010.

Exhibit C: American Public Health Association, 1998, *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, Washington, D.C., variously paged.

Exhibit D: Hem, J.D., 1985, *Study and Interpretation of the Chemical Characteristics of Natural Water*, U.S. Geological Survey Water-Supply Paper 2254, 263 p.

Exhibit E: McNeely, R.N., Neimanis, V.P., and Dwyer, L., 1979, *Water Quality Sourcebook, A Guide to Water Quality Parameters*, Environment Canada, Ottawa, 88 p.

Exhibit F: Ohio Environmental Protection Agency, *Phosph*orus *Control Strategies, Point Source Component*, 12/13/2000 Draft.

Exhibit G: Zenz, David R., *Technical Feasibility and Cost to Meet Nutrient Standards in the State of Illinois*, 2003, Report commissioned by the Illinois Association of Wastewater Agencies.

Exhibit H: United States Environmental Protection Agency, 1987, *Phosphorus Removal Design Manual*, EPA 625-1-87-001.

STATE OF ILLINOIS)
) SS
COUNTY OF SANGAMON)

PROOF OF SERVICE

I, the undersigned, on oath state that I have served the attached **AGENCY REGULATORY PROPOSAL, MOTION FOR ACCEPTANCE, AND APPEARANCE** upon the person to whom it is directed, by placing a copy in an envelop addressed to:

Dorothy Gunn, Clerk
Pollution Control Board
100 West Randolph Street
Suite 11-500
Chicago, Illinois 60601
(First Class)

Legal Service
Illinois Department of Natural Resources
One Natural Resources Way
Springfield, Illinois 62702-1271

(First Class)

Mathew Dunn
Illinois Attorney General's Office
Environmental Control Division
James R. Thompson Center
100 West Randolph Street
Chicago, Illinois 60601
(First Class)

and mailing it from Springfield, Illinois on May 12, 2004, with sufficient postage affixed as indicated above.

Nancy J. Lamport

SUBSCRIBED AND SWORN TO BEFORE ME

this day of May 12, 2004.

OFFICIAL SEAL
CYNTHIA L. WOLFE
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 3-20-2007

Cynthia L. Wolfe
Notary Public

THIS FILING PRINTED ON RECYCLED PAPER

POLLUTION CONTROL BOARD

NOTICE OF PROPOSED AMENDMENTS

1) Heading of Part: Effluent Standards

2) Code Citation: 35 Ill. Adm. Code 304

3)

Section Number:	Proposed Action:
304.123(g)	New subsection
304.123(h)	New subsection
304.123(i)	New subsection
304.120(j)	New subsection
304.123(k)	New subsection

4) Statutory Authority 415 ILCS 5/13 and 27

5) A Complete Description of the Subjects and Issues Involved:

The proposed amendments provide the Illinois EPA's interim approach for regulating phosphorus in National Pollutant Discharge Elimination System ("NPDES") permits of certain categories of dischargers. Under this interim approach, certain discharges are required to meet phosphorus effluent limit of 1 mg/l. The proposal also outlines the discharges that are not subject to this requirement. Further, the compliance with the proposed requirement satisfies the requirements of Sections 304.105 and 302.203 of the Illinois Pollution Control Board's ("Board") regulations.

6) Will this proposed amendment replace an emergency amendment currently in effect?

____Yes _X_No

7) Does this rulemaking contain an automatic repeal date?

____Yes _X_No

8) Does this proposed amendment contain incorporations by reference?

____Yes _X_No

9) Are there any other proposed amendments pending on this part?

____Yes _X_No

10) Statement of State wide Policy Objectives:

POLLUTION CONTROL BOARD

NOTICE OF PROPOSED AMENDMENTS

This proposed amendments are consistent with the policy objectives set out in the Environmental Protection Act, 415 ILCS 5/1 *et seq.*

11) Time, Place and Manner in which interested persons may comment on this proposed rulemaking:

The Board will accept written public comment on this proposal for a period of 45 days after the date of this publication. Comments should reference Docket R04-___ and be addressed to:

Ms. Dorothy Gunn, Clerk
Illinois Pollution Control Board
James R. Thompson Center, Suite 11-500
100 West Randolph Street
Chicago, Illinois 60601

12) Initial Regulatory Flexibility Analysis:

A) Types of small business affected:

Anyone proposing to discharge phosphorus enriched effluent into waters of the State.

B) Reporting, book keeping or other procedures required for compliance:

No additional reporting and record keeping requirements are imposed beyond those necessary for compliance with the existing regulations.

C) Types of professional skills necessary for compliance:

No additional professional skills are required beyond those necessary for compliance with the existing regulations.

The full text of the Proposed Amendments begins on the next page:

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE C: WATER POLLUTION
CHAPTER I: POLLUTION CONTROL BOARD

PART 304
EFFLUENT STANDARDS

SUBPART A: GENERAL EFFLUENT STANDARDS

SUBPART B: SITE SPECIFIC RULES AND EXCEPTIONS NOT OF GENERAL APPLICABILITY

SUBPART C: TEMPORARY EFFLUENT STANDARDS

AUTHORITY: Implementing Section 13 and authorized by Section 27 of the Environmental Protection Act [415 ILCS 5/13 and 27].

SOURCE: Filed with the Secretary of State January 1, 1978; amended at 2 Ill. Reg. 30, p. 343, effective July 27, 1978; amended at 2 Ill. Reg. 44, p. 151, effective November 2, 1978; amended at 3 Ill. Reg. 20, p. 95, effective May 17, 1979; amended at 3 Ill. Reg. 25, p. 190, effective June 21, 1979; amended at 4 Ill. Reg. 20, p. 53 effective May 7, 1980; amended at 6 Ill. Reg. 563, effective December 24, 1981; codified at 6 Ill. Reg. 7818: amended at 6 Ill. Reg. 11161, effective September 7, 1982; amended at 6 Ill. Reg. 13750, effective October 26, 1982; amended at 7 Ill. Reg. 3020, effective March 4, 1983; amended at 7 Ill. Reg. 8111, effective June 23, 1983; amended at 7 Ill. Reg. 14515, effective October 14, 1983; amended at 7 Ill. Reg. 14910, effective November 14, 1983; amended at 8 Ill. Reg. 1600, effective January 18, 1984; amended at 8 Ill. Reg. 3687, effective March 14, 1984; amended at 8 Ill. Reg. 8237, effective June 8, 1984; amended at 9 Ill. Reg. 1379, effective January 21, 1985; amended at 9 Ill. Reg. 4510, effective March 22, 1985; peremptory amendment at 10 Ill. Reg. 456, effective December 23, 1985; amended at 11 Ill. Reg. 3117, effective January 28, 1987; amended in R84-13 at 11 Ill. Reg. 7291 effective April 3, 1987; amended in R86-17(A) at 11 Ill. Reg. 14748, effective August 24, 1987; amended in R84-16 at 12 Ill. Reg. 2445, effective January 15, 1988; amended in R83-23 at 12 Ill. Reg. 8658, effective May 10, 1988; amended in R87-27 at 12 Ill. Reg. 9905, effective May 27, 1988; amended in R82-7 at 12 Ill. Reg. 10712, effective June 9, 1988; amended in R85-29 at 12 Ill. Reg. 12064, effective July 12, 1988; amended in R87-22 at 12 Ill. Reg. 13966, effective August 23, 1988; amended in R86-3 at 12 Ill. Reg. 20126, effective November 16, 1988; amended in R84-20 at 13 Ill. Reg. 851, effective January 9, 1989; amended in R85-11 at 13 Ill. Reg. 2060, effective February 6, 1989; amended in R88-1 at 13 Ill. Reg. 5976, effective

April 18, 1989; amended in R86-17(B) at 13 Ill. Reg. 7754, effective May 4, 1989; amended in R88-22 at 13 Ill. Reg. 8880, effective May 26, 1989; amended in R87-6 at 14 Ill. Reg. 6777, effective April 24, 1990; amended in R87-36 at 14 Ill. Reg. 9437, effective May 31, 1990; amended in R88-21(B) at 14 Ill. Reg. 12538, effective July 18, 1990; amended in R84-44 at 14 Ill. Reg. 20719, effective December 11, 1990; amended in R86-14 at 15 Ill. Reg. 241, effective December 18, 1990; amended in R93-8 at 18 Ill. Reg. 267, effective December 23, 1993; amended in R87-33 at 18 Ill. Reg. 11574, effective July 7, 1994; amended in R95-14 at 20 Ill. Reg. 3528, effective February 8, 1996; amended in R94-1(B) at 21 Ill. Reg. 364, effective December 23, 1996; expedited correction in R94-1(B) at 21 Ill. Reg. 6269, effective December 23, 1996; amended in R97-25 at 22 Ill. Reg. 1351, effective December 24, 1997; amended in R97-28 at 23 Ill. Reg. 3512, effective February 3, 1998; amended in R98-14 at 23 Ill. Reg.687, effective December 31, 1998; amended in R02-19 at 26 Ill. Reg. 16948, effective November 8, 2002; amended in R02-11 at 27 Ill. Reg. 194, effective December 20, 2002, amended in _____ at _____ Ill. Reg. _____, effective _____, 2004).

SUBPART A: GENERAL EFFLUENT STANDARDS

Section 304.123 Phosphorus (STORET number 00665)

a) No effluent discharge within the Lake Michigan Basin shall contain more than 1.0 mg/l of phosphorus as P.

b) No effluent from any source which discharges to a lake or reservoir with a surface area of 8.1 hectares (20 acres) or more, or to any tributary of such a lake or reservoir whose untreated waste load is 2500 or more population equivalents, and which does not utilize a third-stage lagoon treatment system as specified in Section 304.120(a) and (c), shall exceed 1.0 mg/l of phosphorus as P; however, this subsection shall not apply where the lake or reservoir, including any side channel reservoir or other portion thereof, on an annual basis exhibits a mean hydraulic retention time of 0.05 years (18 days) or less.

c) Pursuant to Section 28.1 of the Act, the owner or operator of any source subject to subsection (b) may apply for an adjusted standard. In addition to the proofs specified in Section 28.1(c) of the Act, such application shall, at a minimum, contain adequate proof that the effluent resulting from grant of the adjusted standard will not contribute to cultural eutrophication, unnatural plant or algal growth or dissolved oxygen deficiencies in the receiving lake or reservoir. For purposes of this subsection, such effluent shall be deemed to contribute to such conditions if phosphorus is the

limiting nutrient for biological growth in the lake or reservoir, taking into account the lake or reservoir limnology, morphological, physical and chemical characteristics, and sediment transport. However, if the effluent discharge enters a tributary at least 40.25 kilometers (25 miles) upstream of the point at which the tributary enters the lake or reservoir at normal pool level, such effluent shall not be deemed to contribute to such conditions if the receiving lake or reservoir is eutrophic and phosphorus from internal regeneration is not a limiting nutrient.

d) For the purposes of this Section the term "lake or reservoir" shall not include low level pools constructed in free flowing streams or any body of water which is an integral part of an operation which includes the application of sludge on land.

e) Compliance with the limitations of subsection (b) shall be achieved by the following dates:

1) Sources with the present capability to comply shall do so on the effective date of this Section;

2) All other sources shall comply as required by NPDES permit.

f) For purposes of this Section, the following terms shall have the meanings specified:

1) "Dissolved oxygen deficiencies" means the occurrence of a violation of the dissolved oxygen standard applicable to a lake or reservoir.

(BOARD NOTE: Dissolved Oxygen standards for general use waters are set forth at 35 Ill. Adm. Code 302.206; Dissolved Oxygen standards for secondary contact or indigenous aquatic life waters are set forth at 35 Ill. Adm. Code 302.405.)

2) "Euphotic zone" means that region of a lake or reservoir extending from the water surface to a depth at which 99% of the surface light has disappeared or such lesser depth below which photosynthesis does not occur.

3) "Eutrophic" means a condition of a lake or reservoir in which there is an abundant supply of nutrients, including phosphorus, accounting for a high concentration of Biomass.

4) "Eutrophication" means the process of increasing or accumulating plant nutrients in the water of a lake or reservoir. Cultural eutrophication is eutrophication attributable to human activities.

5) "Internal regeneration" means the process of conversion of phosphorus or other nutrients in sediments of a lake or reservoir from the particulate to the dissolved form and the subsequent return of such dissolved forms to the euphotic zone.

6) "Limiting nutrient" means a substance which is limiting to biological growth in a lake or reservoir due to its short supply or unavailability with respect to other substances necessary for the growth of organisms.

7) "Unnatural plant or algal growth" means the occurrence of a violation of the unnatural sludge standard applicable to a lake or reservoir with respect to such growth.

(BOARD NOTE: Unnatural sludge standards for general use waters are set forth at 35 Ill. Adm. Code 302.203; unnatural sludge standards for secondary and indigenous aquatic life waters are set forth at 35 Ill. Adm. Code 302.403.)

g) Except as provided in Section 304.123(h) below, the following new or expanded discharges into General Use waters, not covered by subsections (b) through (f) of this Section, are subject to monthly average permit limits for total phosphorus of 1 mg/l:

1) Treatment works with a Design Average Flow of 1.0 million gallons per day or more receiving municipal or domestic wastewater; or

2) Any treatment works with a total phosphorus effluent load of 25 pounds per day or more.

h) Treatment works qualifying under subsections (g)(1) and (g)(2) may demonstrate that phosphorus from treatment works is not limiting nutrient in the receiving water or that alternative phosphorus effluent limits are warranted by the aquatic environment in the receiving water.

i) The following discharges are not subject to the requirements of Section 304.123(g):

1) Existing treatment works operating at or below existing permitted flowrates;

2) New or expanded treatment works with a Design Average Flow of less than 1.0 million gallons per day; or

3) New or expanded treatment works with a total phosphorus effluent load of less than 25 pounds per day.

j) Compliance with the provisions of Section 304.123 meets the applicable requirements of Sections 304.105 and 302.203.

k) The provisions of subsections(g), (h), (i), and (j) of this Section apply until such time as the Board adopts a numeric water quality standard for phosphorus.

(Source: Amended in R87-6 at 14 Ill. Reg. 6777, effective April 24, 1990, amended in _____ at _____ Ill. Reg. _____, effective _____, 2004).)