ILLINOIS POLLUTION CONTROL BOARD
August 31, 1989

IN THE MATTER OF:	)	
	)	
PROPOSED AMENDMENTS TO TITLE 35, SUBTITLE C (TOXICS CONTROL)	)	R88-21
	)	

PROPOSED REGULATIONS FIRST NOTICE

OPINION OF THE BOARD (by R. C. Flemal)

This matter comes before the Board upon a regulatory proposal filed August 5, 1988 by the Illinois Environmental Protection Agency ("Agency"). The purpose of the proposal is to make additions to and to amend the Board's regulations for the control of toxic substances in surface waters.

The original proposal, filed August 5, 1988 has been amended by the Agency three times; the most recent amended proposal was filed August 9, 1989. The Agency has certified that adoption of such rules is federally required pursuant to the procedures of Section 28.2 of the Illinois Environmental Protection Act ("Act"), which became effective January 1, 1989. The Board has expedited this proceeding to allow for adoption of final rules by the certified deadline date of February 4, 1990.

The Board today, by separate Order, adopts a modified version of the Agency's August 9, 1989 proposal for First Notice.

OVERVIEW OF PROPOSAL

The instant proposal both adds to and amends the Board's existing water quality regulations (35 Ill. Adm. Code 302.101 et seq.) reflecting the mandate of the Federal Clean Water Act ("CWA") as well as advances in the sciences of toxicology and chemical detection. The underlying policy of both the existing regulations and the proposed regulations is that the waters of Illinois must not be impacted by toxic substances in toxic amounts. This section will briefly summarize the major elements of the current proposal.

The Standard for Toxics in Waters of the State

The standard that we propose today is very simple. Moreover, it is the standard required by federal law and is hardly different from the standard which already exists in our regulations. Simply put, the standard is: "There shall be no toxic substances present in toxic amounts". We are not thereby proposing that all toxic substances be eliminated from the environment. However, we are requiring that those toxic

substances which may be present occur at such concentrations or in such load as to cause no toxic effects. Homely put, we are requiring adherence by the potential polluter to an apt adage for civilized society: "Your right to swing your fists ends where the other guy's nose begins".

There is in fact no apparent disagreement over this fundamental standard. Rather, the disagreement that exists is over the definition of what constitutes a "toxic amount". For many substances, particularly the common toxic substances, we do know to very good levels of approximation what constitutes a toxic amount. This level of certainty is exemplified by the substances for which we now propose, or have previously adopted, specific numeric standards (see Section 302.208).

If this were the end of story, the instant proposal would constitute a straightforward exercise. This is not the case. The problem is that there are many substances for which we cannot identify with much precision what constitutes a "toxic amount". In fact, the down-side is that we cannot do this for the great majority of toxic substances; the many necessary studies simply have not yet been done, and in many cases the toxic nature of substances themselves may not have been identified. The up-side is that these substances tend to be rare and hence the chance of encountering them in the environment is small.

Defining the "Toxic Amount"

The Agency has proposed, and we accept, what we believe to be an innovative and constructive approach to defining what constitutes a "toxic amount" for those substances for which we cannot yet realistically specify a numeric standard. The approach consists of setting up a tight series of procedures by which the best currently-available toxicity information is used to approximate that numeric criteria which might eventually evolve into a standard as more and better data accumulate.

This approach has several advantages. Among these are that it is not necessary to propose numbers for substances which may not be encountered in Illinois waters, thus warding off a substantial unproductive effort.

Additionally, the narrative standard approach allows for rapid reaction against a substance not previously existent or not previously recognized as being toxic. Environmental control history is replete with examples of new needs and new technologies causing the development of, and entry into, the environment of new substances. Moreover, the toxicity of some of these substances has not been recognized until long after their appearance in the environment. It is one of the major shortcomings of environmental control that it has been sluggish in responding to the appearance of new toxic substances. Today's

proposal will not eliminate the sluggishness, but it can substantially reduce it. Under the instant proposal, whenever it is recognized that a new substance offers a threat, the Agency would have the ability to immediately react to whatever sources may be responsible and to work with that source in eliminating the threat.

These advantages notwithstanding, the principal advantage of the instant proposal is that it greatly reduces the potential for lending unwarranted credence to unreasonable numeric standards. The history of environmental control clearly tells us that determination of the appropriate standard for most substances does not come easily. Rather, large amounts of data must be accumulated and extensive study must be undertaken before the obvious numeric standard, if ever, is revealed. This condition, however, cannot be an excuse for the environmental decisionmaker to defer action until certainty reaches its never-achievable limit. The art of the environmental decisionmaker is, in fact and in no small measure, knowing when and how to act in the face of less than complete certainty. This is not to say that even the most artful of the environmental decisionmakers is always correct. To the contrary, it is quite common that later research shows that numeric standards have been incorrectly set, thus requiring that standards be continuously reassessed in light of the most recent scientific information. But the reassessment process is also slow; work loads are heavy and crises consume attention. Moreover, once graced with a numeric limit, a standard takes on a distinct life of its own, and the most difficult stumbling block to rectifying an existing numeric standard tends to be the very prior existence of the standard. It is certain that there are many standards on today's books which are outmoded, outdated, and not justifiable under knowledge presently in existence.

The approach proposed here reduces the likelihood of outdated and outmoded standards by deferring formulation of the numeric standard until more of the pertinent information is available. At the same time, today's proposal allows the Agency to utilize the best currently-available information to interpret the fundamental policy of "no toxic substance in toxic amounts".

This policy, to be sure, is not without its disadvantages, and these must be understood. Among them is that the regulated community may find some discomfiture with the prospect of not always being able to identify beforehand what specific numeric level of a toxic substance is likely to constitute a violation of the prohibition against toxicity. We note, however, that this is also true for most toxic substances under current prohibitions against toxicity. We do believe that today's approach can go a long way toward easing any discomfiture by spelling out in great detail the procedures by which criteria which define a "toxic amount" can be determined by anyone. Thus, any person may

determine what constitutes a "toxic amount", even for substances not yet considered by the Agency as regulator. Moreover, the regulated community need not be reminded that it has due process rights, plus several routes of appeal to the Board, should it find disagreement with the manner in which the procedures proposed herein are interpreted or applied.

A second disadvantage is that which accompanies any pioneering effort. No other state has chosen the innovative route we propose here today. Thus, we can rely on no-one's track record for guidance in ironing out those glitches, small or otherwise, which innovation inevitably carries. This disadvantage, however, certainly must not be viewed as fatal, less we make no progress.

Allowed Mixing

Today's proposal affirms a long-standing tenet of both Illinois and federal environmental law. That tenet is that a discharger, given certain limits imposed by the receiving water body and requirements to meet treatment standards, is allowed a mixing zone in which the otherwise applicable ambient water quality standards do not apply. Specifics of how this policy would apply are discussed within a later section of this Opinion.

Acute and Chronic Standards

A salient feature of the instant proposal is a"two-number standard system" to replace the existing "single-number approach" for certain chemical constituents. This "two-number standard system" utilizes an acute standard ("AS") and a chronic standard ("CS"). This approach is desirable because it addresses both acute effects caused by a short-term "dose" of a pollutant and chronic effects produced by long-term constant exposure. Under the proposal, where no mixing zone has been established, the AS may not be exceeded in a single sample and the CS may not be exceeded by the average of no fewer than four samples collected over a period of at least four days. Where a mixing zone has been established the AS may not be exceeded in the mixing zone except within a small, special part of the mixing zone, the Zone of Initial Dilution ("ZID"), and the CS may not be exceeded outside of the mixing zone.

PROCEDURAL HISTORY

This rulemaking was initiated by the Agency's filing of its proposal on August 5, 1988 (Ex. 27). Hearing Officer Orders of August 29, 1988 and October 24, 1988 set deadlines for the filing of pre-submitted testimony and exhibits. Upon motion by the Agency and the Illinois Environmental Regulatory Group ("IERG") another pre-hearing conference was held on September 28, 1988

pursuant to the procedures of Section 27(e) of the Act. On October 6, 1988, the Board entered an order directing the Hearing Officer to schedule a pre-hearing conference to address drafting issues and conformance with the requirements of the Administrative Procedure Act ("APA"). A second pre-hearing conference was accordingly held October 14, 1988. As a result of discussions concerning modifications necessary to meet the technical drafting requirements of the APA, on October 28, 1989, Board staff issued and served upon the notice list, an edited draft of the Agency's proposal "solely intended to aid the Agency in drafting the proposal", accompanied by an explanatory memorandum[1]. The memorandum noted incorporation by reference and vagueness problems as being of particular concern to the Board.

To date, seven hearings have been held in this proceeding, 77 exhibits have been admitted, and 13 Public Comments ("PC") have been filed. Public Comments have been received by the following entities: Pfizer Pigments, Inc. (PC #1); Sanitary District of Rockford (PC #2-4); Metropolitan Waste Reclamation District of Greater Chicago (PC #5); National Wildlife Federation (PC #6); Amerock Corporation (PC #7); the Agency (PC #8, #9); Illinois Steel Group ("ISG") (PC #10); Village of Sauget (PC #11); and IERG (PC #12). These comments have provided information useful to the Board in formulating the instant proposal. The comments will not be synopsized here, but will be referenced throughout this opinion where relevant. Agency has revised its proposal three times (see, Ex. 29, 43 and PC #8).

The Agency filed its most recent proposal, which supersedes all others, on August 9, 1989. As a result of these revisions, the relevancy of portions of the testimony and exhibits has been mooted. Given the federally-imposed time constraints for adopting the instant regulations, the testimony elicited at hearing will be reviewed summarily with emphasis being given to testimony of particular current relevance and interest. However, the Board will reference that testimony and documentary evidence which it considers relevant to the following discussion of the Board's proposed regulations.

The first hearing, held November 18, 1988, was devoted to testimony from the USEPA concerning its reaction to the Agency's proposal and to the Agency's explanation of the proposal. Charles Sutfin, Director of the Water Division for USEPA Region V, testified that, although the USEPA proposed some minor

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[1] Although the memorandum indicated the Board's intention to enter the memorandum and marked-up version of the Agency proposal as an exhibit, due to oversight this has not previously been done. The memorandum and marked-up proposal are hereby entered as Exhibit 77.

changes, it supported the proposal as written as being consistent with federal law (R. 9/18/88 at 25-38, 41, 76-77).

Toby Frevert, manager of the Planning Section for the Agency's Division of Water Pollution Control, Robert Mosher, an Agency environmental protection specialist, and Clark Olson, provided the primary testimony explaining the Agency's proposal at the initial hearing (R. 9/18/88 at 107-51). Because the Agency's proposal has undergone substantial revisions since this initial hearing was held, the Agency's opening testimony will not be reiterated in full here. However, the testimony provides a good overview of primary concepts of the proposal. In particular, the Agency emphasized the distinction between a criterion and a standard (Id. at 127-28). This distinction is an essential element of the narrative standard.

At the second hearing, held December 6, 1988, the Agency introduced revisions to its proposal (Ex. 29). These revisions were made in response to concerns expressed by participants that use of the narrative standard constituted an improper delegation of the Board's rulemaking authority to the Agency (R. 12/6/88 at 239, 414). The Agency also testified that the proposed regulations were federally required under the CWA (Id. at 250-63). The bulk of the Agency's testimony is its response to questions pre-submitted by various participants. Of particular note was the Agency's explanation of how the proposed regulations would operate in a "real-life" situation (Id. at 292-97). The Agency testified that it views the regulations as being applicable to both permitted and non-permitted dischargers (Id.). The Agency explained that under the provisions of the narrative standards, the Agency (or Illinois Attorney General or any other person) would bring an enforcement action for violation of the toxicity standard or for violation of a permit condition rather than bringing suit for a violation of the narrative criteria (Id. at 796-97). The Agency also made clear that, under the terms of the proposal, the narrative standard would not be applied where a substance is regulated by a specific numeric limit pursuant to Section 302.208 (Id. at 320).

At the December 7, 1988 hearing, the Agency continued to respond to pre-submitted questions posed by participants. The Agency addressed the "limits of detectability" for chemical constituents listed in Section 208 (R. 12/7/88 at 446-56). The testimony elicited at this hearing will not be synopsized here, but will be addressed where appropriate under the Board's discussion of its proposed modification to the Agency's proposal.

On January 5, 1989, the Board adopted RES 89-1, In the Matter of: Application of Procedural Amendments of P.A. 85-1048 to Newly Filed and Pending Regulatory Proceedings. (This Resolution will be discussed in more detail later in this Opinion). On January 13, the Hearing Officer entered an Order

implementing RES 89-1 in this proceeding, directing the Agency to file a Section 28.2 formal certification, along with any contemplated revised proposal, on or before February 9, 1989. A certification was received on February 10, 1989. The resulting deadline date for submission of the EcIS pursuant to Section 28.2(d) is therefore calculated to be August 9, 1989.

Also on February 9, 1989, the Agency submitted an amended proposal containing significant changes from the December revised proposal (Ex. 43). The Agency explained these changes at hearing on February 16, 1989. The Agency amended the narrative standard provisions by including, as part of the proposed regulations, the procedures used for deriving criteria under that standard (R. 2/16/89 at 627-40). Previously, these procedures remained Agency policy rather than proposed regulations. The Agency reiterated that "no toxic substances in toxic amounts" was the water quality standard (Id. at 646). The proposed narrative standard procedure, according to the Agency, allows for the "derivation of a criterion to accomplish the intent of the toxicity standard, and that criteria [sic] is designed to protect instream value, which is another step yet removed from what would be a permit limitation" (Id. at 646-47). In response to the Agency's February 9, 1989 amended proposal the Illinois Environmental Regulatory Group ("IERG") stated its position that the narrative standard procedures were inappropriate as Board regulations and should remain Agency procedure (Id. at 668).

At the February 17, 1989 hearing, the ISG expressed concern over the lack of notice of criteria derived pursuant to the narrative standard. (R. 2/17/89 at 915-16). The participants seemed to agree that notice was not a problem for permitted dischargers (Id.). Regarding non-permitted sources, the Agency stated that criteria developed under the narrative standard would be entered on a list and published in the Agency's annual program plan and possibly in the Environmental Register (Id. at 916-17). The Board notes that it has attempted to address this concern of lack of notice of criteria developed under the narrative standard in the Board's proposed regulations. Public comment in response to these proposed requirements of publication is invited.

The Agency also explained its rationale for proposing a ZID (R. 2/17/89 at 939-40). The existence of a ZID recognizes the mixing capabilities of the receiving body and allows a small portion of that receiving body to be used to accomplish dilution. (Id.) The Agency concluded its presentation of, and answered inquiries to, its proposal at the February 17, 1989 hearing.

The June 13, 1989 hearing opened with the testimony of Dr. Philippe Ross, sponsored by the Scientific and Technical Section of the Pollution Control Board (R. 6/13/89 at 7-31; see also, Ex. 52-55.). While Dr. Ross expressed concern over the lack of

reference to sediment contamination in the Agency's proposal (Id. at 30), this concern was not shared by any other participants (Id. at 142, 146-47). Sidney Marder, Executive Director of IERG, testified concerning IERG's points of agreement and disagreement with the Agency's proposal (Id. at 64-86). Specifically, IERG opined that adoption of the proposed narrative standard constituted an improper delegation of the Board's rulemaking authority to the Agency (Id. at 67; Ex. 56). IERG, therefore, proposed that "toxicity criterion" be defined as a "permit-specific mathematically derived number which results in an effluent limitation in an NPDES permit" (Id. at 69). IERG then proposed that the NPDES permit procedures be dove-tailed with the Board's provisions for adjusted standards (Ill. Rev. Stat. 1987, ch. 111½, par. 1028.1). According to IERG, criteria derived pursuant to the narrative standard must be adopted by the Board (R. 6/13/89 at 74). IERG suggested that, where the parties agree upon a toxicity criterion, the Board could adopt such criterion pursuant to its adjusted standard procedures and this criteria would then be the subject of an NPDES permit (Id. at 74-75). IERG's proposed changes would effectively limit the proposed regulations to permitted dischargers (Id. at 108-16).

Concerns were expressed by the Agency that IERG's suggested changes would impermissibly involve the Board in the Agency's decision to grant or deny a permit (R. 6/13/89 at 94-96). The hearing officer posed questions to IERG concerning the practicality of IERG's assumption that the Board could act upon a Petition for Adjusted Standard within the requisite time-period for acting on the permit application (Id. at 87-92).

IERG also sponsored the testimony of Dr. Roy Ball and Gerald Erjavic. Dr. Ball's testimony focused on the concepts of a mixing zone and ZID and the advantages of computer modeling in determining their proper size (R. 6/13/89 at 125-83). Dr. Ball opined that the Agency's proposal should be changed to recognize that a mixing zone and ZID exist for every discharger (Id. at 127-28). Dr. Ball agreed that setting a maximum size for a mixing zone is reasonable (Id. at 128-29).

Gerald Erjavic, a chemist employed by the Water Quality Staff of the Environmental Affairs Department of Commonwealth Edison, primarily testified as to proposed revisions to the residual chlorine limitation set forth in Section 208 (R. 6/13/89 at 187-96).

The final hearing before closing the record for purposes of proceeding to First Notice was held June 14, 1989. The Agency noted that issues raised at the prior hearing concerning residual chlorine, mixing zone size and the procedures utilized for deriving a criteria under the narrative standard might result in modification of the proposal (R. 6/14/89 at 261-63).

Larry Hughes, Director of Waste Treatment Facilities of the Greater Peoria Sanitary District, testified on behalf of the Illinois Association of Sanitary Districts ("IASD") (R. 6/14/89 at 264-271; see also, Ex. 62). The IASD expressed concerns regarding the detection limit for residual chlorine (Id. at 266-67), certain proposed numeric limits, the size of a ZID (Id. at 268-69), the "not-to-be-exceeded at anytime" standard (Id. at 269), and the lack of certified biomonitoring labs in Illinois (Id. at 269-70).

Dr. Carroll Missimer, a scientist for the Environmental Assessment and Biomonitoring Group at EA Engineering, Science and Technology, Inc., testified on behalf of the Village of Sauget (R. 6/14/89 at 300 et seq.). Dr. Missimer opined that setting a maximum size limit on mixing zones was arbitrary and that mixing zones and ZIDs should be determined on a site-specific basis (Id. at 301-04, 337). Dr. Missimer testified that, to his knowledge, no other state in USEPA Region V put a maximum size limit on mixing zones and ZIDs (Id. at 304-05). Sauget also suggested that consideration be given to providing for the implementation of the "acid-soluble method" of metal detection in place of the "total recoverable method" in light of the USEPA's imminent approval of the former technique (Id. at 309-11). Lastly, Sauget suggested some definitional changes to the Agency's proposal (Id. at 306-07, 311-12).

Mr. Frank Bender testified on behalf of the Illinois Wildlife Federation ("IWF") (R. 6/14/89 at 365-71; see also, Ex. 68). The IWF suggested the use of more stringent human threshold and non-threshold criteria (Id. at 367-68) and suggested changes to the procedures used to derive such criteria (Id. at 368-69). The Foundation opposes the use of mixing zones and ZIDs (Id. at 370).

Mr. Carl Cannon and Mr. William West testified on behalf of the Illinois Steel Group. Mr. Cannon, Manager of Environmental Control for the Granite City Division ("GCD") of National Steel Corporation, focused on the possible effects of the proposed regulations on Horseshoe Lake, a receiving water for GCD's discharge (R. 6/14/89 at 376-81). ISG suggested that the proposed regulation providing that mixing zones and ZIDs are not applicable to lakes be stricken (Id. at 380-81).

Mr. West, Director of Environmental Control for LTV Steel Company, testified as to the costs incurred by LTV in complying with Ohio's biomonitoring requirements (R. 6/14/89 at 390-94, see also, Ex. 70). At the time of this hearing, ISG had not developed a final position on the Agency's proposal (Id. at 394).

By Hearing Officer Order of July 12, 1989, the Board's projected timetable was set forth, and an August 9, 1989 date set for submission of any written comments which participants wished

to have fully considered by the Board prior to adoption of a proposal for first notice. Assuming the applicability of a February 4, 1990 adoption deadline, the Order noted that to allow time for the running of each of the APA's 45-day first notice and 45-day second notice periods, Board action on a first notice proposal was necessary in the last week in August or the first week in September, and on a second notice proposal in the last week in November or the first week in December to allow for final adoption of a proposal on or before January 25, 1990.

Comments were timely filed on or before August 9 by Amerock, ISG, Sauget and IERG; on August 17, IERG filed a motion for leave to file corrected comments which is hereby granted. On August 9, the Agency filed an amended proposal as well as comments by USEPA. On the same day, DENR filed what it stated was the first of two installments of economic information on the Agency's proposal, stating its intent to file the second installment in mid-November. (This filing will be discussed in more detail later in this Opinion.)

LEGAL ISSUES

This proceeding has involved several legal issues of first impression, relative to implementation of various amendments to Section 27 and new Section 28.2 of the Act which took effect after the filing of this proposal.

SB 1834 and RESOLUTION 89-1

On January 5, 1989, the Board adopted RES 89-1, In the Matter of: Application of Procedural Amendments of P.A. 85-1048 to Newly Filed and Pending Regulatory Proceedings. In that Resolution, the Board addressed the significant procedural changes in the Act enacted in SB 1834, P.A. 85-1048, effective January 1, 1989. The Board determined that SB 1834 would in some measure, apply to proceedings filed before its effective date, citing McQueen v. Conner, 385 Ill. 455, 459 N.E. 2d 435, 437 (1943) and Nelson v. Miller, 11 Ill. 2d 378, 143 N.E. 2d 673 (1977). The Board noted that Section 27(a) of the Act, as amended by SB 1834, allows and requires the Board, rather than the Illinois Department of Energy and Natural Resources ("DENR") to determine whether an economic impact study is to be performed. For pre-1989 filings, the Board construed SB 1834 "as providing that any final conclusion reached by DENR prior to December 31, 1989 regarding the need for an EcIS is conclusive in that proceeding " (p.2). As DENR had notified the Board of its decision to conduct an EcIS by letter filed December 21, 1988, the Board has made no EcIS determination in this proceeding.

SB 1834 also added a new Section 28.2 which establishes expedited requirements for federally required rules. Among other things, Section 28.2 establishes a procedure for Agency certification that rules are in fact federally required, and sets a six-month deadline for preparation of an EcIS. In proceedings filed prior to 1989, such as this, the Board determined that where "DENR has already determined to perform an EcIS, the Board will construe the date upon which any Agency certification is received as triggering the six-month deadline for preparation of the EcIS" (p. 5). The Board also determined that receipt of the Agency's formal certification would also trigger the 6 month deadline for publication of a first notice proposal in the Illinois Register specified in Section 28.2(e).

It has been clear since the beginning of this proceeding that some amendments to the existing toxics control regulations are federally required, leaving for resolution issues of what amendments are required when. Decisions about the timetable for rulemaking are intertwined with issues relative to the content of rules and raise considerations relative to EcIS presentation. These are all discussed below.

The Mandate of the CWA

Section 101(a)(3) of the CWA states as a national policy objective that the discharge of toxic pollutants in toxic amounts shall be prohibited. Section 303(c)(2)(B) of the Water Quality Act of 1987 provides that states "shall adopt criteria for all toxic pollutants listed pursuant to Section 307(a)(1) ... as necessary to support such designated uses. ... Such criteria shall be specific numerical criteria for such toxic pollutants. Where such numerical criteria are not available ... such states shall adopt criteria based on biological monitoring or assessment methods consistent with information published pursuant to section 304(a)(8)." (33 U.S.C. §303(c)(2)(B).).

In conjunction with the above-quoted provisions, the United States Environmental Protection Agency ("USEPA") published a guidance document (Ex. 46) to aid states in adopting regulations consistent with the requirements of federal law. This document sets forth the following three options by which states may meet the requirements of Section 303(c)(2)(B):

1) Adopt statewide numeric water quality standards for all EPA criteria for section 307(a) toxic pollutants regardless of whether the pollutants are known to be present;

2) Adopt specific numeric water quality standards for section 307(a) toxic pollutants as necessary to support designated uses where such pollutants are discharged or are present in the affected

waters and could reasonably be expected to interfere with designated uses;

3) Adopt a procedure to be applied to a narrative water quality criterion. This procedure shall be used by the State in calculating derived numeric criteria, which criteria shall be used for all purposes under section 303(c) of the CWA. Such criteria need to be developed for section 307(a) toxic pollutants, as necessary to support designated uses, where these pollutants are discharges or present in the affected waters and could reasonably be expected to interfere with designated uses.

Pursuant to the second and third options quoted above, the Agency's proposal contains both numeric water quality standards and a narrative standard. In pre-submitted testimony and in response to questions posed at hearing, the USEPA suggested minor changes to the Agency's proposal but also expressed its opinion that the proposal as written complied with federal law (see, Ex. 23; R. 11/18/88 at 25-38, 41-42, 76-77.)

Required Date of Regulations

The Agency interprets that federal law mandates adoption of the instant regulations (or at least an equivalent regulation pursuant to Section 303(c)(2)(B) of the CWA) no later than February 4, 1990 (Ex. 44). The ISG has questioned the accuracy of the deadline and suggests that Illinois is not required to adopt water toxic regulations pursuant to the CWA until October of 1990 (R. 6/14/89 at 432; PC #10). According to ISG, the 1972 amendments to the CWA require each state's water pollution agency to review water quality standards once every three years beginning with the effective date of the 1972 amendments on October 18, 1972. Consequently, Illinois would have conducted its most recent review in October of 1987. Therefore, ISG argues that the proposed regulations need not be adopted until October 18, 1990.

By Hearing Officer Order of July 21, 1989, a letter dated July 13, 1989 to the Agency from USEPA was entered as Exhibit 75. This letter reasserts the position of USEPA stated at earlier hearings that the deadline date for adoption of water toxic regulations is February 4, 1990 (Ex. 75). The USEPA's position as to the deadline imposed under federal law is entitled to deference. Therefore, the Board views February 4, 1990 as the deadline for adoption of the instant regulations. However, public comment on this issue is invited.

Federal Requirements

The next issue is whether the Agency's proposed regulations are federally required by the provisions of the CWA. The Agency has certified that both the specific numeric standards of Section 302.208 and the narrative standard of Section 302.210 are federally required (Ex. 44). The Agency asserts that Section 303(c)(2)(b) of the Water Quality Act of 1987 coupled with the stated policy objective set forth in Section 101(a)(3) of the CWA prohibiting "the discharge of toxic pollutants in toxic amounts" support its certification of the proposal as being federally required.

ISG has responded in detail to the Agency's position on this issue (PC #10 at 10-19). ISG asserts that the proposed narrative standard is not federally required and that the requirements of the CWA may be satisfied by adopting specific numeric criteria for priority pollutants of concern to Illinois pursuant to option two of the USEPA guidance document (Ex 46). ISG notes that, according to the guidance document, the narrative standard may be used as a supplement to options one and two but it is not required. Moreover, ISG argues that even when a narrative standard is used it is limited to "toxic pollutants 'the discharge or presence of which in affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated use', 33 U.S.C. §1313(c)(2)(B)" (PC #10 at 11). ISG contends that the Agency's proposal goes beyond this federal requirement by regulating non-priority pollutants. Lastly, ISG disputes the Agency's reliance upon the policy objective of Section 101(a)(3) of the CWA as a basis for asserting that the proposed regulations are federally required.

Consistent with its position that the narrative standard portion of the Agency's proposal is not federally required, ISG suggests that the Board split the docket in this matter. ISG proposes that the Board proceed only with adoption of the specific numeric standards set forth in Section 302.208 and postpone action on the narrative standard.

The Board disagrees with ISG's contention that the regulations proposed by the Agency are not federally required. ISG's interpretation of the USEPA guidance document is inconsistent with USEPA's stated position on whether it views the Agency's proposed regulations as being required by federal law.

Section 303(c)(2)(B) of the Water Quality Act of 1987 requires that states adopt specific numeric criteria for all "priority pollutants" and where numeric standards are not available states "shall adopt criteria based on biological monitoring or assessment methods consistent with information published pursuant to Section 304(a)(8)." (33 U.S.C.

§1313(c)(1)(B).) Only where a state expects that a pollutant will not interfere with the designated use is the state excused from deriving a numeric standard for that pollutant (Ex. 46 at 3). However, nothing in the Act restricts the right of a state to adopt numeric criteria for any pollutant not listed in Section 307(a)(1) (Ex. 46 at 5).

The USEPA specifically opines that "an effective State water quality standards program should include both the chemical specific ... and narrative approaches (Ex. 46 at 2). By supplementing option two with option three, "a State would have formally adopted numeric criteria for those toxic pollutants of frequent occurrence ... and would also have a sound and predictable method to develop additional numeric criteria as needed. This combination of options provides a complete regulatory scheme" (Ex. 46 at 10).

Where option two is supplemented with option 3, states must provide an opportunity for public participation (Ex. 46 at 10). Additionally, states must adopt a "specific procedure to be applied to narrative water quality criteria" (Id).

Furthermore, USEPA reiterated this position in a correspondence dated July 3, 1989 from Kenneth A. Fenner, Chief of the Water Quality Branch, USEPA Region V, to James B. Park, Manager of the Agency's Division of Water Pollution Control (Ex. 75). This letter provides that "the statutory commitments for toxic provisions in State rules go beyond simply adopting numeric criteria" (Ex. 75). Rather, a complete regulatory scheme includes both formally adopted numeric criteria for toxic pollutants of frequent occurrence and sound and predictable methods to develop additional criteria as needed (Ex. 75). Furthermore, the "adoption of numeric criteria does not subrogate the necessity of a narrative policy: [S]uch a policy is needed to insure waters of the State are protected from toxicity when numeric criteria may not be sufficient to provide such protection" (Ex. 75).

Section 28.2(b) of the Act provides that "[w]henever a required rule is needed, the Board shall adopt a rule which fully meets the applicable federal law." The USEPA has made clear that it interprets the CWA as mandating that Illinois adopt water toxic regulations no later than February 4, 1990 (Ex. 75). The only regulations received by the Board propose both the adoption of specific numeric standards for known toxic pollutants and a narrative standard for newly discovered toxic substances. Based upon the foregoing analysis of the CWA and USEPA guidance document (Ex. 46), we conclude that the regulations as proposed by the Agency and modified herein are federally required.

A matter correlative to the above-discussed issue should be dispensed with at this time. On May 12, 1989, ISG filed a Motion

for Sanctions. ISG requested that the Board impose sanctions upon the Agency for its failure to identify those portions of the proposed rule which are federally required as directed by the Hearing Officer in an Order of January 13, 1989. ISG asserted that the Agency's "Certification and Brief in Support of the Certification of Proposed Revisions" did not adequately respond to this inquiry.

The Agency's certification provides that both the specific numeric standards and the narrative standard are required by Section 303(c)(2)(B) of the Water Quality Act of 1987 and Sections 101(a)(3), 303(c)(1) and 303(c)(2)(A) of the CWA (Ex. 44). Above, we noted our agreement that the proposed regulations are federally required. We also find that the Agency's certification adequately responded to the Hearing Officer Order of January 13, 1989. Therefore, ISG's Motion for Sanctions is denied.

Alleged Unlawful Delegation of Rulemaking Authority

Concerns have been raised that the Subpart F procedures proposed by the Agency for deriving narrative criteria constitute an improper subdelegation of the Board's rulemaking authority to the Agency. (see: R. 11/18/88 at 224; 12/6/89 at 296-97; 12/7/89 at 539, 554-59; 2/17/89 at 933; 6/13/89 at 66-67, 74, 94-101, 110, 115-16; PC #11 at 3-9; PC #10 at 21-24). Pursuant to Subpart F, the Agency calculates various "water quality criteria" based upon a detailed series of procedures for those new substances which are not limited by a specific numeric standard. Objectors to the narrative standard assert that it constitutes an improper delegation of the Board's rulemaking authority because the Agency rather than the Board derives the numeric criteria. Such objections ignore the essential distinction between a standard and a criterion. The standard proposed here is "no toxic substances in toxic amounts." Criteria derived by the Agency under the narrative standard procedure merely operate as a means of defining the standard of "no toxicity" for a given substances or combination of substances.

The Board recognizes its sole authority under the Illinois Environmental Protection Act to promulgate regulations (Ill. Rev. Stat. 1987, ch. 111½, pars. 1005 and 1027). As proposed by the Agency and modified by the Board, criteria derived under the narrative standard procedures do not rise to the level of standards. The Board does not view the Subpart F procedures as constituting an improper delegation of its rule-making authority to the Agency.

Opponents of the narrative criteria generally seem to agree that its application is permissible in the permit setting. Where a criterion is included as, or is used to derive, a condition of

an NPDES permit, the regulations proposed today provide that a person may challenge the general validity and correctness of application of such criterion (see, Section 302.210(f)). The Agency bears the burden of going forward with proof and persuading the Board that the criterion is valid and applies to that person.

When viewing the application of the narrative criteria as a general water standard concerns of improper delegation of authority and lack of notice arise. However, the narrative criteria proposed by the Agency, and as modified in the instant proposal, has a special limited role. Exceeding a criterion does not in and of itself constitute a violation of the "no toxicity standard". Viewed in terms of a possible enforcement action for violation of a general water quality standard, the Agency would be required to prove that a respondent violated the standard of no toxicity. Where alleged violation of the toxicity standard is based upon an alleged excursion of a criterion, the person bringing the enforcement action has the burden of going forward with proof and of persuading the Board of the general validity and correctness of application of the criterion (Id).

Based upon the foregoing, it is clear that exceeding a criterion would not necessarily result in an automatic finding of violation. Respondent may defend against the application of such a criterion by challenging whether the Agency properly followed the procedures of Subpart F, as well as challenging the data relied upon by the Agency in calculating the numeric criterion. The Agency would be required to justify its procedures, particularly in those instances where unusual species or extreme exposure times were relied upon.

Based upon its assertion that the narrative standard constitutes an improper delegation of the Board's rulemaking authority, IERG has suggested that the Board adopt regulations dove-tailing the adjusted standard provisions and NPDES permit process (R. 64-86; PC #12). Given the above-stated rejection of this "improper delegation argument", the Board finds no need to implement IERG's suggested approach.

Participants have also expressed concern over the lack of notice of criteria derived under the narrative standard procedures. As we noted previously, some of the anticipated discomfort stemming from use of a narrative criteria should be eased by the enumeration of the detailed procedures to which the Agency must adhere in deriving the criteria. This procedure allows interested person to anticipate what constitutes a "toxic amount" of a substance not listed in Section 302.208. When viewed in the context of an enforcement action, the "compliance inquiry letter" (Ill. Rev. Stat. 1987, ch. 111½, par. 1031(d)) which requires the Agency to inform a person of the charges alleged prior to issuing a complaint, may serve as a form of

notice by identifying the criterion allegedly exceeded. The opportunity for public participation is provided at the enforcement hearing. Moreover, the proposed regulations provide that no enforcement action may be brought for violation of the toxicity standard based upon an excursion of a criterion if that criterion has not either been applied in the alleged violator's NPDES permit or been published in accordance with Section 302.669 (see, Section 302.210(f)).

Admittedly, the narrative standard approach suffers from an inherent element of uncertainty. However, the advantages far outweigh the disadvantages. The instant proposal attempts to deal with another "lack of notice problem" by requiring that the Agency publish a list of toxicity criteria derived pursuant to Subpart F (see Section 302.669).

EcIS Submittal

Section 28.2(d) of the Act provides in pertinent part that

> if the [EcIS] is not submitted to the Board with [a] six month period, the Board may proceed to adopt a required rule without an [EcIS]. If the Board notifies the Department that it will proceed to adopt a required rule without an [EcIS], [DENR] need not complete the [EcIS]. To the extent possible...the Board shall conduct a hearing on the economic impact of the proposed required rule.

DENR's enabling statute, in a provision codified at Ill. Rev. Stat. ch. 96½, par. 7404, goes on to provide that if a rule is required pursuant to Section 28.2,

> if the [EcIS] is not completed within six months...[DENR] shall submit to the Board information concerning the status of the study, economic data that has been compiled during the six month period, and a full rationale for why the study has not been submitted.

As aforementioned, DENR timely filed some economic information, and announced its intention to file additional information in mid-November. In its transmittal letter, DENR included an explanation of the EcIS status and rationale for why a complete study had not been submitted.

As to the EcIS status, DENR explained that,

> "this installment highlights the key methodological distinctions, identifies the

> universe of affected facilities, and analyzes discharger compliance under existing and proposed rules governing toxic releases to receiving waters of the State. A subsequent installment will translate the ability of subject point sources to comply under either control regime into economic and environmental costs and benefits".

DENR notes that a contract has been let for completion of this work, scheduled for completion in mid-November. DENR suggests that this and other economic information could be considered during November hearing days previously reserved by the Hearing Officer.

DENR asserts that difficulty in completion of an EcIS in this proceeding flow from the fact that RES 89-1 did not implement one of SB 1834's amendments to Section 27(a), that which specifies,

> "To aid the Board in determining whether an economic impact study is needed and to assist the public in determining which facilities will be impacted, the person filing a proposal shall describe, to the extent reasonably practicable, the universe of affected sources and facilities and the economic impact of the proposed rule."

DENR asserts that,

> In the instant docket, no information on either affected sources or economic impacts was submitted with the proposal for rulemaking. Under such circumstances, it is virtually impossible to complete an EcIS in the abbreviated period specified by SB 1834. It is worth noting that when SB 1834 was crafted, the Department's support for the six-month deadline was predicated on an elaboration of the filing requirements to include economic information. Yet, in this case, the Department is required to expedite the completion of its analysis, without a correlative obligation imposed on the proponent to buttress its suggested regulation. Since the EcIS was initiated, the ENR staff have met several times with Agency personnel to obtain critical data. While the Department has made significant progress in assimilating the information provided, it is not possible at this juncture to finally

estimate the costs and benefits of the proposed regulations.

The Board appreciates the difficulty which DENR has experienced relative to the tightness of the deadline here involved and the contents of the Agency's proposal, as the Board has been laboring under similar constraints. However, questions concerning the identity of impacted facilities were raised early on in this proceeding, and the Board has no reason to believe that since that time the Agency has not provided information "to the extent reasonably practicable." The entire thrust of Section 28.2's exceptions to the general rulemaking requirements of the Act is to require that rulemaking proceed on the basis of what information can be gathered within the time constraints of applicable federal deadlines. While it could be argued that the Agency should have been aware of the desireability prior to the filing of its proposal, this record contains no information detailing any practical difficulties the Agency may have encountered during the period in which it was crafting the proposal following adoption of the CWA amendments mandating the instant proceeding, and the Board will not engage in speculation that the Agency has been other than diligent in this matter.

DENR's proposed timetable for the completion of its second EcIS installment poses real practical difficulties to timely completion of this rulemaking. As outlined in the July 12 Hearing Officer Order, given the APA 45 day second notice period, the Board must adopt a second notice Order no later than December 6, but preferably in late November, if rules are to be in effect by February 4, 1990. The days which have been reserved for hearing, November 6, 7,8, were chosen as the latest days on which hearing could be held which did not involve multiple schedule conflicts among agency personnel and major participants and which would allow for expedited receipt of transcripts and a very brief post-hearing comment period. Any information which cannot be presented to the Board on or before November 17, 1989 cannot practically be considered by the Board in this proceeding; information which is not presented at the November 6, 7, and 8 hearings and which is therefore not subject to cross questioning must be afforded lesser weight than that which is.

Given these constraints, DENR may wish to consider this Opinion a formal notification pursuant to Section 28.2(d) that the Board will proceed to adopt these rules without the second installment of the EcIS if it cannot be presented on or before November 17, for the purposes of determining whether it wishes to complete the second installment.

Publication of First Notice

Section 28.2(f) of the Act by its terms requires first notice publication of proposed federally required rules in the

Illinois Register no later than six months after Board determination whether an EcIS should be conducted; as the Board has sixty days in which to make its EcIS determination after accepting a proposal for hearing, this publication must be made within 8 months of a proposal's acceptance. This requirement could not be literally met in this proceeding, as it assumes that an Agency certification would be filed contemporaneously with a proposal, and that the Board would be making the determination made by DENR here, in RES 89-1 the Board stated that it would construe the Section as requiring publication within six months of the Agency certification; this would have been August 9.

However, as the Board was led to anticipate the filing of a fourth amended Agency proposal on or about that date, and further anticipated adoption of its own first notice proposal reasonably soon thereafter, we deferred first notice publication. The proposal contained in the Board's Order today encompasses close to fifty pages of text. As explained in some detail below, the Agency's proposal even as amended August 9 contains much material which does not comport with substantive and technical requirements of the APA, and clearly would not have been accepted by the Administrative Code Unit for publication due to the deficiencies. Today's proposal will appear in the Illinois Register approximately seven months following the Agency's certification, one month in advance of the required publication of a proposal filed after the effective date of Section 28.2. Thus, while there is arguably a technical violation of Section 28.2(e), the Board believes this action is consistent with the intent of the Section during this "phase in" of its requirements, and results in publication of the proposal the Board actually contemplates adopting.

COMPARISON OF CURRENT VERSUS PROPOSED REGULATIONS

DENR has prepared a report titled "Analysis of Proposed Revisions to Subtitle C Toxics Control Program: Pollution Control Board Docket R88-21. Hearing Copy" ("DENR report"), filed with the Board on August 9, 1989. Chapter 2 of this report includes comparisons of existing regulations for control of water toxics with the February 9, 1989 version of the Agency's proposal. These comparisons appear to be valid in all regards, excluding only minor changes made by the Agency within its August 9, 1989 version or made by the Board as discussed herein (see "Modifications to Agency Proposal", below). Accordingly, the interested person is directed to the DENR report for a general overview of this subject.

One comparison warrants repeating here, however. That is the comparison between the numeric General Use Standards found at existing and proposed Section 302.208. The proposed General Use Standards fall into one of five categories.

The first category consists of chemical constituents for which the current standard is replaced by standards for both acute and chronic toxicity, and which are based on the ambient hardness of the water. The chemical constituents are cadmium, trivalent chromium, copper, and lead. For each of these chemical constituents toxicity has been demonstrated to be dependent on hardness (Ex. 5, 7, 9 and 11), and accordingly the standard is defined as a function of the ambient hardness.

In order to compare the current versus proposed standards for chemical constituents in this first category, it is necessary to specify ranges of hardness. In the following table the range of hardnesses used to show the possible range of values assumed by the standards is 27 mg/l to 2500 mg/l. This apparently represents the extremes of hardnesses ever recorded in Illinois streams (DENR report at 2-11). In the following comparison, all standards are expressed in micrograms per liter (ug/l).

	Cd	Cr(+3)	Cu	Pb
Existing Standard	50	1000	20	100
Proposed Standard				
Acute (range)	2.2-50	594-24,640	5.2-375	15-100
Chronic (range)	0.4-14	71-2937	3.9-188	n.a.

The second category consists of chemical constituents for which the current single-valued standard is replaced by standards for acute and/or chronic toxicity. These consist of arsenic, hexavalent chromium, cyanide, and mercury. The comparative standards, expressed in micrograms per liter (ug/l), are as follows:

	As	Cr(+6)	CN	Hg
Existing Standard	1000	50	25	0.5
Proposed Standard				
Acute	360	16	22	0.5
Chronic	190	11	5.2	n.a.

It is to be noted that the cyanide standard is also proposed to be changed with respect to analytical method, as reflected in a change in STORET number. The existing cyanide standard is for total cyanide (STORET 00720), whereas the proposed cyanide standards for for weak acid dissociable cyanide (STORET number 00718). The acceptance of this change is based upon recommendations from both the Agency (PC #8 at pars. 27-25) and Sauget (R. 6/14/89 at 309-11).

The third category consists of a single chemical constituent, total residual chlorine, for which a toxicity standard is today specified for the first time. The proposed limits are 19 ug/l as an acute standard and 11 ug/l as a chronic

standard.

The fourth category consists of those chemical constitutents for which no change in the existing standard is proposed. These chemical constitutents are:

Barium	Phenols
Boron	Selenium
Chloride	Silver
Fluoride	Sulfate
Manganese	Total Dissolved Solids
Nickel	Zinc

The final category contains only the parameter iron. The Board has been requested to delete the iron standard by IERG and Commonwealth Edison (R. 6/13/89 at 196-201). Although the Board finds some merit in the arguments presented, it does not believe that this matter has been sufficiently explored to fully support deletion of this standard. The Board will, however, propose such deletion for the purposes of first notice. The Board anticipates that the proponent of the deletion will further address the matter at hearing.

MODIFICATIONS TO AGENCY PROPOSAL

Today's proposal includes numerous modifications of the Agency's proposal. Most, but not all, of these are intended to be nonsubstantive. The modifications are based upon recommendations from various interested persons and upon the Board's perspective. Discussion of the modifications is presented in this section in the general order in which they may be found in today's proposal. Unless otherwise specifically noted, all modifications referenced are with respect to the Agency's proposal filed August 9, 1989 (PC #8).

The Board also notes that there are likely some instances in which deletions have been made from the Agency's proposal which have not been metioned or explained.

General Formatting Changes

Although the Agency's proposal of August 9, 1989 forms the basis of the proposal offered today, extensive edits have had to be made to the Agency's proposal in an attempt to conform the text to drafting and formatting requirements of the APA and the Illinois Administrative Code (1 Ill. Adm. Code 100.Subpart C). The strictly drafting and editing changes fall into the following general areas:

1) "Proofreader edits" such as form of tables, indentation levels, and Administrative Code

citation forms;

2) Revision of existing language which the Agency has not sought to amend but is "antiquated" by today's APA standards and which accordingly needs to be considered;

3) Problems of incorporation by reference, particularly of test methodologies and procedures which are to be found in documents which are not federal regulations, guidelines, or standards, or guidelines of national organizations;

4) Vagueness problems caused by:

   a) Use of the passive voice, so that, for instance, it is unclear whether the Agency or some other person must "demonstrate x";

   b) Lack of definition of terms such as "current methods" and "acceptable methodologies;

   c) Lack of specificity as to how a person goes about seeking Agency approval for deviation from general requirements;

   d) Lack of specificity as to whether an Agency determination is conclusive; and/or

   e) Variant use of commanding verbs, such as "shall", "must", "may", etc.

Most of these deficiencies were recognized by the Board and communicated to the Agency relatively early in this proceeding. As noted in the Procedural History discussion above, a prehearing conference was held on September 28, 1988 at the request of the Agency and IERG. In response thereto the Board noted by Order of October 6:

> The Board is advised that there was inadequate time to discuss various staff concerns about the drafting of the rules and conformance with requirements of the Administrative Procedure Act ("APA") and Illinois administrative law. These concerns include, but are not limited to, whether the proposed delegation to the Agency of authority to define and establish limits for various "criteria" by Agency rule, is an impermissible subdelegation of the Board's rulemaking authority, uncertainty concerning procedural steps and appeal provisions, and potential APA problems such as formatting, vagueness, improper incorporations by reference and the like.

The Board accordingly authorized the scheduling of another prehearing conference "to deal with [these] drafting issues". The conference was held on October 14, 1988. General drafting comments, as well as a copy of the Agency's proposal with suggested editorial and format corrections, were prepared in memorandum form by Board staff and served upon the Agency and all persons on the notice list on October 28, 1989 (Ex. 77). Although some of the recommendations made in the memorandum have been incorporated by the Agency in later versions of the Agency's proposal, many of them, including some of the most critical, have not been addressed by the Agency.

Failure to correct deficiencies of these types can be fatal to a proposal during its review by the Board, Illinois Adminstrative Code Unit, or Joint Committee on Administrative Rules, or during appellate review. The Board has done its best to correct as many of these problems as possible during the limited time the most recent Agency proposal has been available. However, given the number of changes necessary, the Board is wary as to whether the proposal is yet capable of passing drafting and formatting muster. Nevertheless, given the exigencies of moving a proposal to first notice, the Board must decline to reject the proposal and trust that remaining deficiencies can yet be corrected.

The number of drafting and formatting changes which the Board has introduced herein are too many to allow individual exposition. However, in the following sections of this Opinion the Board discusses those which it believes to be most salient, and particularly those which it believes may also go to the substance of the proposal.

Section 301.106 Incorporations by Reference

A new Section has been added at Section 301.106 for incorporations by reference used within Subtitle C. The reference inclusions in today's proposal are directed solely to the subject matter of the instant proposal. However, Section 301.106 is set up such that it can also accommodate incoporations by reference for any future amendments to Subtitle C.

The Board futher notes that this Section does not contain references to all of the various materials which the Agency has referred to in its August 9 proposal, such as annual reports and monographs (Section 302.100) and journal articles (Section 302.654(b)(2)). Section 6.02 of the APA allows for incorporation by reference without publishing the incorporated material in full only "rules, regulations standards and guidelines" of "an agency of the United States" or "a nationally recognized organization or association." Further requirements are that the entity originally issuing the material make copies of the material

readily available to the public and that the agency incorporating the material identify the material by location and date, incorporate no future amendments or editions, and maintain copies of all such material for inspection. Additionally, if incorporation is sought of guidelines or standards of an agency of the United States government, such incorporation must be approved in writing by the Joint Committee on Administrative Rules.

The Board has included in this Section all material which it believes meets these requirements, and has deleted from the proposal references to documents which do not. Any materials which do not meet these requirements may be referenced only if they are set out in full as an appendix to the rules and filed with the Secretary of State. The Agency is invited to provide comment as to whether any such deleted references should be so treated, and to provide necessary copies.

There is a difference in the method of incorporating Standard Methods and the ASTM standards. Standard Methods is a book which is completely revised every few years. The most recent edition, the 1985, 16th Edition is cited. The 1989, 17th Edition will soon become available. On the other hand, ASTM standards are published as pamphlets as they are revised throughout the year, and the entire collection of current standards are published in an annual book. The Board has cited to the individual ASTM standards, rather than the entire collection. This avoids citing to extraneous material, and allows individual updating of standards. The alternative would require the perodic repurchase of the entire ASTM yearbook, a very expensive proposition.

Section 301.107 Severability

A general severability clause applicable to the whole of Subtitle C has been added at Section 301.107. This addition is made by the Board to conform Subtitle C with general regulatory drafting practice.

Section 302.100 Definitions

Several alternations to the definitions Section at 302.100 have been made. The general purpose of these is to conform the Section with Illinois Administrative Code formatting and incorporations-by-reference requirements. Among the changes are:

1) ASTM and Standard Methods citations to measurement procedures have been added to the definition of hardness.

2) The definition of total residual chlorine ("TRC") as proposed by the Agency and proposed to be modified by

IERG (PC #12 at 1-2) has been modified to identify specific methods by which TRC is measured. This change is made to conform the definition to Illinois Administrative Code standards for incorporation by reference.

3) The federal laws and publications listed in the Agency's definition of "toxic substance" have been replaced by a single reference to 40 CFR 302.4. 40 CFR 302.4 is a consolidated USEPA listing of substances listed pursuant to most of the federal statutes cited in the Agency's proposal. The Board believes that the single reference therefore covers most, if not all, of the substances possibly of interest under the instant proposal.

   This change is made because the Illinois Administrative Code does not authorize the incorporation by reference of federal laws. Furthermore, a member of the public could not easily get from the statutory references to the listing, or discover that 40 CFR 302.4 is a consolidated listing. Moreover, the Agency proposal appears to contemplate incorporation of future listings, which is also prohibited under the Illinois Administrative Code.

   The Agency also proposed to reference two private listings, the National Toxicology Program listing and International Association for Research on Cancer listing, in the definition of "toxic substance". The Illinois Administrative Code limits incorporation by reference to nationally recognized organizations and federal agencies. In the absence of a demonstration that the organizations are "nationally recognized", the Board has not proposed to rely on them. Presumably, USEPA will take action on the listing of these organizations, and include the listings in 40 CFR 302.4.

4) The definition of ZID contains an explanation of the terms "immediate" and "rapid" based on the Agency's discussion in its August 29 Justification (p. 2-3). The Board believes such further definition is needed to avoid JCAR objection. Comment on the appropriateness of the language choice is requested.

External References in Section 302.101

Corrected citations to the Parts external to Part 302 have been added in subsections (b) through (e).

Section 302.102 Mixing Zones and ZIDs

Section 302.102 has been broadly reorganized and altered.

Organizational changes include referencing ZIDs in the Section title and aggregating the various restrictions which apply to mixing zones within subsection (b). The organizational changes have been made to enhance clarity of the proposed amendments without altering their content.

The first sentence of subsection (a) contains a substantive modification. As Sauget points out (PC #11 at 10), the phrase "an opportunity shall be allowed for mixture", as used in both the existing rule and the Agency's proposal, is unnecessarily vague. The Board also believes that it may not be acceptable under APA standards. The sentence has been reworded to make clear that ZIDs and mixing zones are to be granted by the Agency as NPDES permit conditions pursuant to the limitations prescribed in subsection (b). Interested persons should also be aware that the restrictions of subsection (b) could, in special circumstances, limit a mixing zone to such a small size that its existence becomes academic. An example would be where a discharge is directly in an endangered species habitat (see Section 302.102(b)(4)).

The Board notes that there are three sentences of a general philosophical nature in existing Section 302.102(a) which are today being recommended for deletion. These are the sentences:

> "The size of the mixing zone cannot be uniformily prescribed."
>
> "The governing principle is that the proportion of any body of water or segment thereof within mixing zones must be quite small if the water quality standards are to have any meaning."
>
> "This principle shall be applied on a case-by-case basis to ensure that neither any individual source nor the aggregate of sources cause excessive zones to exceed the standards."

In supporting the deletion of these sentences, the Board in no way is intending to imply repudiation of the ideas they express. To the contrary, the Board believes that the ideas contained therein remain fundamental underpinnings for applying and allowing mixing zones. Nevertheless, the sentences are being recommended for deletion because, although acceptable under prior adminstrative law standards, they are not likely acceptable today. Additionally, the Board believes that the essence of these sentences has been retained within the general prescriptions of Section 302.102(b).

The various portions of subsection (b) have been drawn from the following sources:

Section 302.102(b)(1)	Agency Proposal, Modified
" (b)(2)	Agency Proposal, Modified
" (b)(3)	Agency Proposal
" (b)(4)	Agency Proposal
" (b)(5)	Agency Proposal
" (b)(6)	Existing 302.102(c)
" (b)(7)	Existing 302.102(c), Modified
" (b)(8)	Existing 302.102(c), Modified
" (b)(9)	Existing 302.102(a)
" (b)(10)	Existing 302.102(a)
" (b)(11)	Agency Proposal, Modified

Subsection (b)(1) is built on the premise advanced by the Agency, with which the Board concurs, that a mixing zone should be no larger than would be required to accomodate an optimally-designed outfall structure. The burden of providing the most efficient mixing should be on the discharger. If the discharger chooses to provide for less than the optimum mixing, the discharger should not be able to claim a larger mixing zone as a result. Accordingly, subsection (b)(1) limits the mixing zone to a size equivalent to that which would be needed to accomodate an optimally-designed outfall.

Subsection (b)(2) is substantially the Agency's recommendation regarding tributary mouths, except that it focuses on restriction of movement of aquatic life between tributary and main stream rather than the narrower "migrating" of aquatic life.

Subsections (b)(7) and (b)(8) are substantially the second and third sentences of existing subsection (c). However, they have been modified to clarify that the strictures apply to combinations of mixing zones as well as to single mixing zones. This provision is consistent with the general philosophy of mixing zones (see above).

Subsection (b)(11) contains the provision that no mixing zone may encompass a surface area greater than 26 acres. The Board is well aware of the controversy which has surrounded this issue. The Board nevertheless believes that there must be some upper limit to the size of mixing zones. A mixing zone is, afterall, a portion of a water body where less than optimum water quality is allowed to exist based upon striking of a balance between the costs of environmental control and the quality of the environment. Accordingly, there must be some upper limit to the size of mixing zones where the balance runs so contrary to the interests of the environment that a line has to be drawn. The Board believes that the Agency's proposal of a 26-acre upper limit is an appropriate place to draw the line. The vast majority of discharges in Illinois should be readily able to accomodate to this limit. The few who may believe that a larger limit is necessary and justified for their particular circumstances are, as always, free to plead their case before the

Board in an adjusted standard or site-specific proceeding.

Subsection (c), which deals with ZIDs, is proposed herein essentially as proposed by the Agency. However, the phrase "If circumstances warrant" has been deleted, consistent with deletion of the similar language in subsection (a) (see above), and it is made clear that ZIDs are granted as NPDES perit conditions.

Section 302.101(d) makes clear that procedures for application, review, and appeal of ZIDs and mixing zones are the same as those for NPDES permits generally.

The Board lastly notes that question has been raised as to whether the Agency would intend ever to allow mixing zones or ZIDs in envrionments where the effluent constituted most or all of the stream flow (i.e., 7Q10 of zero). The Agency is requested to comment on this matter.

Section 302.208 Chemical Constituents

1) Sufficiency of Four Samples in CS demonstration

The second sentence in Section 302.208(b) has been altered to read:

> The samples used to demonstrate compliance or lack of compliance with a CS must be collected in a manner which assures an average representative of the four day period.

The Agency's language read:

> A sampling schedule must be arranged to ensure that the average value achieved is representative of the entire monitoring period.

This change is intended solely to address drafting deficiencies in the Agency's version.

2) Applicability of AS and CS in Mixing Zones

The first part of Section 302.208(c) regarding mixing zones has been rewritten to read: "Where a mixing zone has been delineated pursuant to Section 302.102, the following apply:". Similarly, the phrase "where approved by the Agency" has been deleted from 302.208(c)(1). Both changes are necessary to conform Section 302.208 to Section 302.102 (see above).

3) Tables of General Use Standards

The format of the amendments to Section 302.208 has been

slightly altered. The format herein consists of the deletion of the entire existing Section 302.208 and its replacement by the text of the Agency proposal. It is believed that this formatting follows the accepted Administrative Code Unit style. It is to be emphasized that no substantive changes are intended to flow from this formatting change, other than those argued by the Agency. In particular, the Board intends no change in the standards for those constitutents found in subsection (e).

In addition to the overall formating change to this Section, some internal format changes have been made within the subsection (d) table. These are principally intended to conform the contents to Administrative Code Unit form and to allow fitting of the table beneath the textual portion of subsection (d). No substantive changes are intended to accompany the formatting changes.

The term "total residual chlorine" has also been replaced by its abbreviation, TRC, as defined in Section 302.100. The Board also notes that the "A" constant for the cadmium acute standard appears to differ from that in the guidance document. The Agency's comment is requested.

Subpart F: Procedures for Determining Water Quality Criteria

Subpart F has been extensively edited in an attempt to conform it to Illinois Administrative Code practice. Among changes which have been made are: (1) elimination of all superscripts and subscripts, (2) elimination of vague adjectives and adverbs, such as "appropriate", "reasonably", "adequately", etc., (3) revisions of capitalization and other punctuation, (4) elimination of passive-voice constructions were practical, and (5) elimination of improperly cited incorporations by reference. More specific alterations to Subpart F are discussed below.

Section 302.604 Mathematical Abbreviations

A new Section, 302.604, has been added for the purpose of specifying mathematical conventions and abbreviations used within Subpart F.

Section 302.606 Modification

The Agency's Section 302.606 has been rewritten. As proposed by the Agency, this Section was unacceptable under the Illinois Administrative Code. The Board has reworded it in an attempt to make it conform with the Illinois Administrative Code, but solicits comment.

Sections 302.612 and 302.627

The reference to "modified USEPA procedures" has been deleted because of lack of clarity. Reference has been made to the Sections where procedures are set forth.

Sections 302.615, 621, 630 Substitution of Species

Subsection 302.615(b) in the Agency's proposal contained language regarding substitution of species where data on non-resident species is unavailable, as follows:

> If data are not available for resident species, data for non-resident species, upon approval by the Agency, may be substituted species.

This language is unacceptable to the extent that it fails to specify the criteria upon which approval will or must be granted by the Agency. Accordingly, the sentence has been replaced by the following:

> If data are not available for resident or indigenous species, data for non-resident species which most closely resemble resident or indigenous species with respect to taxonomic level, habitat and environmental tolerance may be substituted.

Similar language difficulties occur in the Agency's proposal at both Section 302.621(b) and 302.630(b). In both places the following language:

> Three species must be tested initially, and these must represent species from ecologically diverse taxa to the extent possible. The exact species to be tested must be determined by the Agency on a case-by-case basis with the objective of using resident or representative species.

has been replaced with:

> Three species must be tested initially. These species must be resident or indigenous species and must exhibit ecological diversity. If data are not available for resident or indigenous species, data for non-resident species which most closely resemble resident or indigenous species with respect to taxonomic level, habitat and environmental tolerance may be substituted.

Section 302.615 Calculation of GMAVs

The phrase "The following procedure" has also been deleted

from Section 302.612(b) to remove the ambiguity of this reference. The Board assumes that the "following procedure" refers to the procedure of Section 302.615. Sections 302.615 (f) and (g) have been broadly rewritten in an attempt at clarification.

Section 302.627 Determining the Chronic Aquatic Toxicity Criterion for an Individual Substance - General Procedures

In the absence of specific acute/chronic ratios, Section 302.627(d) provides a default mechanism by which the CATC must be calculated by dividing the FAV by a factor of 25. However, Exhibit 55, which was a study of the Illinois Aquatic toxicity database, indicates that the factor by which the FAV must be divided is a value of 154 (after standardizing chronic data obtained from short-term embry-larval/early life tests) or a value of 116 (using raw data). Comments are requested on this issue and the Board asks for reason as to why the Board should not adopt a default value for the Acute/Chronic ratio of between 100 to 150 in Section 302.627(d).

Section 302.645 Deletion of ADI Method

The first "method" for determining ADI has been deleted, as it is simply a list of values published by USEPA. However, the method by which those values are calculated in embodied in the second and third method which uses the maximum contaminant or allowable levels.

Section 302.654 Journal Citation

The Agency proposal referenced a 1984 journal article by Crump at Section 302.654(b). The Illinois Administrative Code prohibits the use of journal articles in this manner. Furthermore, there is reason to believe that the method has evolved since 1984. The Board therefore proposes to reference to USEPA's "Mutagenicity and Carcinogenicity Assessment of 1,3-Butadiene" as a model for how to accomplish the low-dose carcinogenic risk assessment as used in the Crump article. The Board would prefer to cite a "how-to" manual, if one can be found in a format acceptable under the Illinois Administrative Code (i.e., published by a federal agency or nationally recognized standards organization).

The Agency proposal also cited a notice of availability of a water quality criteria document at 45 FR 79318, November 28, 1980. This is inadequate in that one would have to go to the notice to get the reference to the actual document. Moreover, the actual document is probably now out-of-date and out-of-print. The Board has therefore instead referenced to a more recent version, "Quality Criteria for Water 1986", which is currently available to the public. Hopefully, it includes the

information in the earlier document.

Section 302.633 Kow

The Board has referenced ASTM E 1147 as a standard method for measuring the n-octanol/water partition coefficient ("Kow") at Section 302.663.

Section 302.669 Listing of Derived Criteria

The Board has modified the Agency's proposal for listing of derived criteria to require updating at least quarterly, and also to require publication of such lists in the Illinois Register. The purpose of this requirement is enhancement of public access to and awareness of such criteria.

Section 303.362 Horseshoe Lake Discharges

The Board is incorporating a new Section 302.362 as recommended by the ISG (PC #10 at 4) for discharges from Granite City Division of National Steel Corporation ("GCD") to Horseshoe Lake (R. at 376-81; Exh. 69; PC #10, Attachment #3). This Section specifies that the GCD discharges are allowed a mixing zone and ZID of the maximum allowable size. Phrasing of the Section has also been tightened-up relative to the ISG proposal, but without change to the intent of the ISG proposal. The Board is including this Section for First Notice, but questions whether it should not be deleted since this could be handled through the permit system.

Section 305.102 Clean Water Act References

The existing language at Section 305.102(a) contains a large number of references to the Clean Water Act. These are essentially a restatement of the scope of the permit requirement under Part 310, as adopted by the Board in R86-44. The Clean Water Act references have been translated into State law in the definition of "industrial user" at 35 Ill. Adm. Code 310.110, and the 15% load requirements are the same. Rather than repeat this in Section 305.102(a), Part 310 is referenced.

The existing language at Section 309.152(a) also references standards "established under Section 307(a) of the CWA for a toxic pollutant". Because the instant proposal appears to be implementing Section 307(a) in the new Subpart F, the Board has referenced Subpart F instead, avoiding the possible complexities of federal references.

Part 309 External References

Subsections 309.103(b) and (c) have been amended to provide correct citation to rules outside of Part 309. Although these

amendments do appear in the Agency most recent proposal (PC #8 at proposal p. 28), they do not appear in the form required for amendments to existing language.

IT IS SO ORDERED.

J.D. Dumelle concurs.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion was adopted on the 31st day of August, 1989, by a vote of 6-0

Dorothy M. Gunn/DA.
Dorothy M. Gunn, Clerk
Illinois Pollution Control Board