ILLINOIS POLLUTION CONTROL BOARD
October 17, 1996

IN THE MATTER OF:	)	
	)	R95-17
SAFE DRINKING WATER ACT	)	(Identical-in-Substance Rules)
UPDATE, USEPA Amendments	)	(Public Water Supplies)
(January 1 through June, 30, 1995)	)	

Adopted Rule. Final Order.

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

The Board voted on September 5, 1996 to adopt amendments to the Illinois drinking water regulations that are identical in substance to U.S. Environmental Protection Agency (USEPA) regulations implementing the Safe Drinking Water Act (SDWA). The Board took that action pursuant to Section 17.5 of the Environmental Protection Act (Act). In the opinion and order adopting those amendments, the Board addressed an issue raised by comments of the Illinois Environmental Protection Agency (Agency) and stated that we would refrain from filing the amendments for 30 days to allow opportunity for the USEPA to comment on the issue. Although USEPA did not directly comment on the issue, the Agency did comment on October 1, 1996. The Board today adopts revisions to the amendments based on post-adoption comments submitted by the Agency.

Background and Procedural Summary

As described more fully in our September 5, 1996 opinion and order, the Agency (PC 2) highlighted an apparent error in the text of certain federal amendments of June 29, 1995 relating to analytical methods and requested that the Board make a correction in adopting these amendments. USEPA responded (PC 3) that there was no error.

USEPA made technical corrections to its December 5, 1994 (59 Fed. Reg. 62456) amendments to 40 CFR 141.74(a)(1) (corresponding with 35 Ill. Adm. Code 611.531(a)(2)) on June 29, 1995 (60 Fed. Reg. 34084). The December 5, 1994 amendments attached footnote 2 to the analytical method for heterotrophic bacteria. The original footnote 2 imposed a maximum eight hour transit time between obtaining the sample and the analysis. Among the June 29, 1995 corrections, USEPA added language that it had omitted from footnote 2 pertaining to sample storage temperatures. In making this correction, USEPA further attached footnote 2 to the analytical methods for total coliforms and fecal coliforms. Thus, USEPA revised the sample transit times for these parameters downwards from 30 hours to eight hours. The Board followed the federal lead and added the sample storage temperature and time restrictions in our proposal for public comment of April 18, 1996.

In submitting its comments on the proposal (PC 2), the Agency suggested that USEPA erred in adding footnote 2 to the entries for total coliforms and fecal coliforms. The Agency

requested that the Board correct the error in the text of the adopted amendments by deleting the eight-hour sample transit time from the notes appended to the total coliform and fecal coliform methods.

In our opinion and order of September 5, 1996, the Board determined that we could not remove the transit time notes. However, we invited comment from USEPA on the issue. The Board noted that USEPA's preamble discussion of the June 29, 1995 corrections was silent on the issue of sample transit time. Rather, the only discussion relating to correction of footnote 2 dealt with sample storage temperatures. The Board further noted that USEPA mentioned sample transit times in its preamble discussion of its December 5, 1994 amendments, but it declined to shorten the sample transit time to from 30 hours to 24 hours because public comments raised hardship issues on such a reduction. USEPA stated in the December 5 preamble discussion that it would work with states to minimize any such hardships if it should decide to reduce the transit time from 30 hours to 24 hours. Thus, USEPA expressly declined to amend the sample transit time, and it never discussed an eight-hour transit time.

The Board agreed with the Agency in our September 5, 1996 opinion and order that USEPA erred in reducing the sample transit time to eight hours. We found that USEPA had deferred action on the issue of a 24-hour transit time, that a set of technical corrections was the improper context for such a revision--especially in the absence of discussion, and that USEPA had failed to submit the issue of an eight-hour time for notice and comment. The Board noted that section 4 of the federal Administrative Procedure Act (5 U.S.C. § 553) requires public notice for comment on amendments to federal regulations.

Despite this, the Board felt constrained to retain the eight-hour sample transit time incorporated into the proposal for public comment. We interpreted our mandate under Sections 7.2 and 17.5 as requiring adoption of regulations that are "identical-in-substance" to the federal SDWA regulations. Since the federal rules now require a maximum eight-hour transit time for fecal coliform and total coliform samples, and because nothing in the record clearly indicated that USEPA did not intend this change, the Board retained the eight-hour maximum sample retention time. Nevertheless, the Board clearly stated our belief that USEPA erred in applying the eight-hour time, and we withheld filing the amendments to allow additional time for USEPA to directly comment on this issue

Agency-Suggested Alternatives for Correction

In response to our September 5, 1996 opinion and order, USEPA did not comment. Rather, the Agency submitted post adoption comments. In those comments, the Agency stated its agreement with the Board's belief that USEPA did not follow the federal APA in imposing the eight-hour time, and it expressed its uncertainty as to the purpose for the federal revision. The Agency commented that the federal regulations have a potential to confuse the regulated community. The Agency reads the eight-hour sample transit time requirements as applicable only to unfiltered supplies, and stated that it has not allowed unfiltered supplies that use surface water (SW) or ground water under the influence of surface water (GW/ISW). The

Agency asserts that it urged against the original Board adoption of rules applicable to unfiltered supplies, in docket R88-26, because a more stringent state requirement for filtration of all SWs and GW/ISWs existed. The Agency cites one of its own rules, 35 Ill. Adm. Code 654.101, as the core of this requirement. The Agency perceives the adoption of the R88-26 provisions relating to unfiltered supplies as a relaxation of its own regulation requiring filtration.

Therefore, the Agency requests in its post-adoption comments that the Board undertake one of two alternative actions to resolve the issue of the 8-hour transit time:

1. Repeal Sections 611.241 (Unfiltered PWSs) and 611.261 (Unfiltered PWSs: Reporting and Recordkeeping) to allow a return to its former rule and end the potential for confusion over sample transit time, or

2. Add language to the eight-hour provision that clarifies that the eight-hour time applies only to raw water samples taken pursuant to Sections 611.532(a) and 611.521(e), which apply only to a SW or GW/ISW that does not practice filtration.

To address the alternative Agency requests, the Board must analyze Illinois and federal law.

Repeal of Sections 611.241 and 611.261 (Agency Alternative One)

Section 300g-2 (42 U.S.C. § 1413) allows for a state to act as the primary enforcement authority (state primacy) in the SDWA program if the state has adopted regulations that are no less stringent than those adopted by USEPA and the state continues to meet certain conditions relating to program maintenance. For the purposes of obtaining and maintaining state primacy in the SDWA program, Section 17.5 of the Act requires the Board to adopt regulations that are identical-in-substance to the federal rules. Section 17 provides for additional state-only regulations, but those would be subject to the rulemaking procedure of Sections 27 and 28 of the Act and the Illinois APA. The Board has interpreted Illinois law as requiring us to engage in the Section 27 rulemaking procedure to remove an Illinois regulation that is more stringent than the federal rules. (E.g., proposed opinion and order of April 18, 1996 in this docket, at pp. 3-11.)

When confronted with a legitimate, pre-existing, and more stringent state-wide requirement, the Board is not free in the context of an identical-in-substance proceeding to nullify that requirement through the adoption of a less stringent federal requirement.[1] The federal regulations, at 40 CFR 141.71, allow some SW and GW/ISW supplies to provide drinking water without filtration under certain conditions. This is certainly less stringent than

[1] One limitation on this statement, which does not apply here, is that the Board may repeal a more stringent state requirement that is inconsistent with the federal requirements.

a blanket requirement that all SW and GW/ISW supplies apply filtration. Under our interpretation of Illinois law, we believe that had we removed an Illinois regulation that required filtration of all SW and GW/ISW supplies in the context of an identical-in-substance proceeding, we would have done so improperly. Had we thus acted improperly in the initial phase of the federally-derived SDWA requirements in 1990, under docket R88-26, we would now be compelled to repeal Sections 611.241 and 611.261 under our Section 17.5 identical-in-substance mandate, as requested by the Agency.

To determine whether pre-existing Illinois regulations required filtration of all GW/ISW supplies, the Board examined the rules as they existed prior to the advent of the federally-derived regulations in 1990 under docket number R88-26. In all of former Parts 601 through 606, there was no Board regulation that required filtration of any sources.[2]

As noted by the Agency, however, the Agency established Section 654.101(d) and 654.102(a), which require full treatment, including filtration, for all SW and GW/ISW supplies, prior to the federally-derived requirements. Those Agency rules are the only regulations pertaining to filtration that the Board has been able to locate. If these were legitimate state-wide requirements at the time the Board adopted the initial R88-26 SDWA requirements, we would now repeal Sections 611.241 and 611.261.

The Board and the Agency each derive their respective functions and specific authorities through the Illinois Environmental Protection Act. Under Illinois law, as held by the Illinois Supreme Court in Granite City Division of National Steel Co. v. PCB (Apr. 15, 1993), 155 Ill. 2d 149, 172-74, 613 N.E.2d 719, 729-30, although the Agency may establish criteria by fixed procedures that apply to particular facilities based on site-specific factors, the authority to adopt regulatory standards of general applicability is reserved to the Board. In Granite City Steel, the Court upheld challenged Board regulations against a contention that the Board had redelegated its rulemaking authority to the Agency. It was key to the Court that the Agency was to make the challenged decisions according to specified criteria, and that any person aggrieved by an Agency decision would have recourse to the Board to challenge that decision. The Board is inclined to read the Act and the Granite City Steel decision to mean that we could safely repeal Sections 611.241 and 611.261 only if there were a general requirement in either the Act or Board regulations that required filtration of all SW and GW/ISW supplies. We do not believe that we could legitimately do so on the basis of Agency rules 654.101 and 654.102.

For the foregoing reasons, the Board believes that we cannot repeal Sections 611.241 and 611.261 on the basis of Agency rules 654.101 and 654.102. The analysis, however, does not end with this conclusion. Section 611.211 (derived from 40 CFR 141.71) provides that

[2] Rather than establish general physical standards for treatment, prior to the advent of the Part 611 federally-derived standards the Board only provided in Section 602.115 that the Agency may adopt technical criteria for treatment system design, operation, and maintenance.

the Agency may determine that a supply must engage in water filtration based on enumerated factors. Thus, the Agency may make these determinations on a case-by-case basis with respect to individual SW and GW/ISW supplies. The fact that the Agency may make such case-by-case determinations based on particular factors undermines any conclusion that there could be no supply in Illinois that does not apply filtration. This means that if the Board were to repeal Sections 611.241 and 611.261 in the absence of a regulatory or statutory requirement for all SW and GW/ISW supplies to apply filtration, there would be no unfiltered supply requirements applicable to any possible unfiltered supply. Theoretically, this could render the Illinois SDWA regulations and program less stringent than the federal requirements. This would violate section 300g-2 of the federal SDWA and Section 17.5 of the Illinois Act.

For the foregoing reasons, the Board believes that any repeal of Sections 611.241 and 611.261 would have to be accompanied by the adoption of a state-wide requirement that all SW and GW/ISW supplies apply filtration. Although it is possible that no unfiltered supply presently exists in Illinois, it is equally possible that an unfiltered supply could arise if one were to fulfill the federally-derived criteria for not applying filtration. We believe that the absence of either requirements for unfiltered supplies or a state-wide prohibition against such supplies would render the Illinois program less stringent than its federal counterpart and would violate the federal primacy requirements. The Board further believes that the proper context for establishing a more stringent state-wide requirement, such as that which would be prerequisite to granting the Agency's request, is in the context of a procedure under Sections 27 and 28 of the Act and the APA. We note that such a proceeding is presently pending before the Board in docket R96-18. It may be possible for the Agency to add this subject matter to that proceeding.

Addition of Limiting Language (Agency Alternative Two)

The Agency's alternative request--i.e., that the Board add limiting language to the Board note that imposes the eight-hour limitation on fecal coliform and total coliform samples--requires analysis of the applicability of the federally-derived regulations. The Agency interprets the federal regulations as requiring the maximum eight-hour time only of raw water samples from unfiltered supplies. We believe that the Agency is correct in its assertion.

The methods of 40 CFR 141.74(a) (corresponding with 35 Ill. Adm. Code 611.531) are for use in demonstrating compliance with 40 CFR 141.71 through 141.73 (corresponding with 35 Ill. Adm. Code 611.211 through 611.213, 611.230 through 611.233, 611.240 through 611.242, and 611.250). 40 CFR 141.71(a)(1) (corresponding with 35 Ill. Adm. Code 611.231(a)) requires unfiltered supplies to monitor source water for total coliforms and/or fecal coliforms; 40 CFR 141.72(a)(4)(i) (corresponding with 35 Ill. Adm. Code 611.241(d)(1)) requires unfiltered supplies to monitor water in their distribution systems for heterotrophic plate count (HPC); 40 CFR 141.72(b)(3)(i) (corresponding with 35 Ill. Adm. Code 611.242(c)(1)) requires filtered supplies to monitor water in their distribution systems for heterotrophic plate count (HPC); and 40 CFR 141.73 (corresponding with 35 Ill. Adm. Code

611.250) does not require microbiological monitoring. Since the eight-hour limitation already applied to the HPC analyses at the time of the December 5, 1994 amendments, and the June 29, 1995 corrections newly imposed it on samples for total coliforms and fecal coliforms, it is very clear that the Agency is correct. The eight-hour sample transit time applies only to total coliform and fecal coliform samples of raw water from unfiltered supplies.

Apparent overlap of the federal requirements and discrepancies with the cited methods, however, may produce a potential for confusion. In addition to the monitoring of 40 CFR 141.71 and 141.72 for the purposes of the filtration and disinfection requirements, the federal regulations require microbiological monitoring for the purposes of the microbiological maximum contaminant level (MCL). 40 CFR 141.21(a) (corresponding with 35 Ill. Adm. Code 611.521) requires supplies to monitor total coliforms in the water in their distribution systems ("finished water"). Under 40 CFR 141.21(e) (corresponding with 35 Ill. Adm. Code 611.525), supplies are further required to test for fecal coliforms (and E. coli) under limited circumstances. The methods regulations for total coliforms and fecal coliforms in finished water set forth at 40 CFR 141.21(f) (corresponding with 35 Ill. Adm. Code 611.526) specify a 30-hour maximum total coliform sample transit time prior to analysis. The regulations specify no maximum transit time for fecal coliform (or E. coli) samples. Further, the methods required for total coliform at 40 CFR 141.21(a) are the same as those required at 40 CFR 141.74(a), and the sample handling procedures associated with the prescribed methods would impose a maximum 24 hour time between sampling and analysis, recommending a six-hour maximum between sampling and delivery to the laboratory. ("Standard Methods for the Examination of Water and Waste", 18th ed. (1992), Method 9060 C.)

The potential for confusion over the federal requirements is compounded by the structure of the Illinois regulations. As noted above, USEPA organized the microbiological MCL monitoring requirements and the filtration and disinfection requirements into separate sections in separate subparts of the federal rules. The Board organized the microbiological MCL provisions into a series of Sections in Subpart L, "Microbiological Monitoring and Analytical Requirements", and most of the filtration and disinfection requirements in Subpart B, "Filtration and Disinfection". The potential for confusion arises through the Board's codification of the filtration and disinfection analytical procedures provisions in a set of separate Sections in Subpart L, together with the federal microbiological MCL provisions. Despite the fact that the key procedures provision, Section 611.531, states that it applies to analyses for the purposes of the Subpart B filtration and disinfection, the structure could mislead.

Revision of Regulatory Text

For these reasons, the Board agrees with the Agency that some form of notation in the methods provisions of Section 611.531 is appropriate, but we choose a slightly different approach than that recommended by the Agency. We choose to state the purpose of the sampling and more broadly refer to "for source (raw) water samples required by Sections

611.521 and 611.532 and 611.Subpart B only". We further choose to revise the introductory language of Section 611.531 to read as follows:

> The analytical method(s) specified in this Section must be used to demonstrate compliance with the requirements of only 611.Subpart B; they do not apply to analyses performed for the purposes of Sections 611.521 through 611.527 of this Subpart.

The Board's intent in making these alterations to the text is to clarify the requirements of the federal requirements as codified into Illinois regulations. The intended consequences of these revisions is very limited; we limit the applicability of the eight-hour sample transit time (and the broader total coliform and fecal coliform analytical requirements of which it is a part) to raw water samples from unfiltered supplies.

We believe that these revisions, a variant of the Agency's option two, will reduce the possibility of confusion. However, the Board notes once again, that the removal of all regulations pertaining to unfiltered supplies (the Agency's option one) would have to be accompanied with the adoption of a state-wide requirement for filtration of all SW and GW/ISW supplies. Again, such matters are properly considered in the context of a Section 27 and 28 rulemaking proceeding, such as R96-18.

ORDER

The Board will submit the September 6, 1996 amendments to the Secretary of State for filing and publication in the Illinois Register with the following revisions:

Section 611.531 Analytical Requirements

~~Only t~~The analytical method(s) specified in this Section ~~may~~must be used to demonstrate compliance with the requirements of only 611.Subpart B; they do not apply to analyses performed for the purposes of Sections 611.521 through 611.527 of this Subpart. Measurements for pH, temperature, turbidity and RDCs must be conducted under the supervision of a certified operator. Measurements for total coliforms, fecal coliforms and HPC must be conducted by a laboratory certified by the Agency to do such analysis. The following procedures must be performed by the following methods, incorporated by reference in Section 611.102:

a) A supplier shall:

1) Conduct analysis of pH in accordance with one of the methods listed at Section 611.611; and

2) Conduct analyses ~~to~~of total coliforms, fecal coliforms, heterotrophic bacteria, and turbidity~~, and temperature~~ in accordance with one of the following methods, and by using analytical test procedures contained in U~~.~~S~~.~~ EPA Technical Notes, incorporated by reference in Section 611.102:

A) Total Coliforms:

BOARD NOTE: The time from sample collection to initiation of analysis for source (raw) water samples required by Sections 611.521 and 611.532 and 611.Subpart B only must not exceed 8 hours. The supplier is encouraged but not required to hold samples below 10° C during transit.

i) Total coliform fermentation technique: Standard Methods, 18th ed.: Method 9221 A, B, and C.

BOARD NOTE: Lactose broth, as commercially available, may be used in lieu of lauryl tryptose broth if the supplier conducts at least 25 parallel tests between this medium and lauryl tryptose broth using the water normally tested and this comparison demonstrates that the false-positive rate and false-negative rate for total coliforms, using lactose broth, is less than 10 percent. If inverted tubes are used to detect gas production, the media should cover these tubes at least one-half to two-thirds after the sample is added. No requirement exists to run the completed phase on 10 percent of all total coliform-positive confirmed tubes.

ii) Total coliform membrane filter technique: Standard Methods, 18th ed.: Method 9222 A, B, and C.

iii) ONPG-MUG test (also known as the autoanalysis colilert system): Standard Methods, 18th ed.: Method 9223.

BOARD NOTE: U.S. EPA included the P-A Coliform and Colisure Tests for testing finished water under the coliform rule, under Section 611.526, but did not include them for the purposes of the surface water treatment rule, under this Section, for which quantitation of total coliforms is necessary. For these reasons, U.S. EPA included Standard Methods: Method 9221 C for the surface water treatment rule, but did not include it for the purposes of the total coliform rule, under Section 611.526.

B) Fecal Coliforms:

BOARD NOTE: The time from sample collection to initiation of analysis for source (raw) water samples required by Sections 611.521 and 611.532 and 611.Subpart B only must not exceed 8 hours. The supplier is encouraged but not required to hold samples below 10° C during transit.

i) Fecal coliform ~~MPN~~ procedure: Standard Methods, 18th ed.: Method 9221 E.

BOARD NOTE: A-1 broth may be held up to three months in a tightly closed screwcap tube at 4° C (39° F).

ii) Fecal Coliform~~s~~ Membrane Filter Procedure: Standard Methods, 18th ed.: Method 9222 D.

C) Heterotrophic bacteria: Pour plate method: Standard Methods, 18th ed.: Method 9215 B.

BOARD NOTE: The time from sample collection to initiation of analysis must not exceed 8 hours. The supplier is encouraged but not required to hold samples below 10° C during transit.

D) Turbidity:

i) Nephelometric method: Standard Methods, 18th ed.: Method 2130 B.

ii) Nephelometric method: U.S. EPA Environmental Inorganic Methods: Method 180.1

ii) GLI Method 2.

E) Temperature: Standard Methods, 18th ed.: Method 2550.

b) A supplier shall measure residual disinfectant concentrations with one of the following analytical methods from Standard Methods, 18th ed., and by using analytical test procedures contained in U.S. EPA Technical Notes, incorporated by reference in Section 611.102:

1) Free chlorine:

A) Amperometric Titration: Method 4500-Cl D.

B) DPD Ferrous Titrimetric: Method 4500-Cl F.

C) DPD Colimetric: Method 4500-Cl G.

D) Syringaldazine (FACTS): Method 4500-Cl H.

2) Total chlorine:

A) Amperometric Titration: Method 4500-Cl D.

B) Amperometric Titration (low level measurement): Method 4500-Cl E.

C) DPD Ferrous Titrimetric: Method 4500-Cl F.

D) DPD Colimetric: Method 4500-Cl G.

E) Iodometric Electrode: Method 4500-Cl I.

3) Chlorine dioxide:

A) Amperometric Titration: Method 4500-ClO_2 C or E.

B) DPD Method: Method 4500-ClO_2 D.

4) Ozone: Indigo Method: Method 4500-O_3 B.

5) Alternative test methods: The Agency may grant a SEP pursuant to Section 611.110 that allows a supplier to use alternative chlorine test methods as follows:

A) DPD colorimetric test kits: Residual disinfectant concentrations for free chlorine and combined chlorine may also be measured by using DPD colorimetric test kits.

B) Continuous monitoring for free and total chlorine: Free and total chlorine residuals may be measured continuously by adapting a specified chlorine residual method for use with a continuous monitoring instrument, provided the chemistry, accuracy, and precision remain the same. Instruments used for continuous monitoring must be calibrated with a grab sample measurement at least every five days or as otherwise provided by the Agency.

BOARD NOTE: Suppliers may use a five-tube test or a ten-tube test.

BOARD NOTE: Derived from 40 CFR 141.74(a) (1994~~4~~5)~~, as amended at 59 Fed. Reg. 62470 (Dec. 5, 1994)~~.

(Source: Amended at 20 Ill. Reg. _____, effective _____)

IT IS SO ORDERED.

Board Member K. Hennessey abstained.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above proposed opinion and order was adopted on the _____ day of _____, 1996, by a vote of _____.

_____
Dorothy M. Gunn, Clerk
Illinois Pollution Control Board