

ILLINOIS POLLUTION CONTROL BOARD  
February 4, 1993

IN THE MATTER OF: )  
 )  
SAFE DRINKING WATER ACT ) R92-3  
UPDATE, PHASE IIB AND LEAD AND ) (Identical in Substance Rules)  
COPPER RULES )  
(6/1/91 - 12/31/91) )

Proposal for Public Comment.

Proposed Opinion of the Board (by J. Anderson):

SUMMARY OF TODAY'S ACTION

Pursuant to Section 17.5 of the Environmental Protection Act (Act), the Board today proposes to update its regulations that are identical in substance to USEPA regulations implementing the Safe Drinking Water Act (SDWA). The Board rules are contained in 35 Ill. Adm. Code 611. The text of the proposed rules appears in a separate order, adopted this same day.

Section 17.5 of the Act provides for quick adoption of regulations that are "identical in substance" to federal regulations; Section 17.5 provides that Title VII of the Act and Section 5 of the Illinois Administrative Procedure Act (APA) shall not apply. Because this rulemaking is not subject to Section 5 of the APA (Ill. Rev. Stat. 1991 ch. 127, par. 1005-1 et seq. [5 ILCS 100/5-1 et seq.]), it is not subject to first notice or to second notice review by the Joint Committee on Administrative Rules (JCAR).

As discussed more fully below, this rulemaking involves revisions and major additions to the Illinois SDWA rules, as originally adopted August 9, 1990, in docket R88-26 (effective September 20, 1990), and amended November 19, 1992, in docket R91-3 and R92-9 (consolidated) (effective December 1, 1992). It includes the federal Phase IIB amendments to the chemical contaminant rules, as adopted by USEPA July 1, 1991, and the lead and copper rules of June 7, 1991, July 15, 1991, and June 29, 1992.

The result of these proposed amendments will be to add MCLs and monitoring and notice requirements for one inorganic chemical contaminant (barium) and four synthetic organic chemical contaminants (aldicarb, aldicarb sulfone, aldicarb sulfoxide, and pentachlorophenol), although the MCLs for the three aldicarbs is concurrently administratively stayed pending future action. These proposed amendments further add significant new requirements relating to lead and copper in drinking water as drawn from consumer taps. The discussions that follow consider and discuss these amendments in detail.

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**REASONS FOR DELAY ORDERS AND SUBSEQUENT DELAY**

Section 7.2(b) of the Act requires that identical in substance rulemakings be completed within one year after the first USEPA action in the batch period. If the Board is unable to do so, it must find that an "extension of time" is necessary, give the reasons why the one year period is insufficient, publish the finding and reasons in the Illinois Register and specify a date when the Board anticipates completion of the rulemaking.

This rulemaking docket is delayed. The Board entered a reasons for delay and extension of time order on December 3, 1992. The Notice of Public Information on Proposed Rules appeared in the Illinois Register on January 22, 1993 (17 Ill. Reg. 872). As explained in the December 3, 1992 order:

The Board hereby [finds] that necessary delays in adopting the amendments involved in R91-3 have resulted in unavoidable delay in proceeding with the amendments of dockets R91-15 and R92-3. The amendments involved in both dockets interrelate with those of docket R91-3 in such a way that it was impossible to proceed with the R92-3 amendments until the R91-3 amendments were adopted. Many of the same Sections are involved in both proceedings, and, in fact, docket R91-3 included many amendments nominally within the present time-frame of docket R92-3. It was even impossible until completion of the R91-3 amendments to predict when the Board could complete the R92-3 amendments. Further, USEPA did not release the guidance documentation relating to Lead and Copper rules until November, 1992. We find this guidance information important to deciding how to approach various issues raised by the federal rules. Therefore, we find that an extension of time is warranted and necessary and enter this order at this time.

The Board projected in that order that it would adopt this proposal for public comment on or before February 25, 1993 and adopt a final rule on or before June 3, 1993.

**FEDERAL ACTIONS COVERED BY THIS RULEMAKING**

The SDWA program was drawn from 40 CFR 141 (national primary drinking water regulations or NPDWRs), 40 CFR 142 (NPDWRs implementation), and 40 CFR 143 (national secondary drinking water regulations or NSDWRs). The nominal update period of this docket was originally from July 1, 1991 through December 31, 1991. The Board order of December 3, 1992 expanded the time-frame to include federal amendments of June 7, 1991 (the federal lead and copper rules).

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In addition to the June 7, 1991 lead and copper rules, this docket includes a few other federal actions. On July 1, 1991, USEPA made certain corrections to the Phase II rules (dealt with in the November 19, 1992 opinion and order in R91-3) and promulgated the Phase IIB rules. On May 27, 1992, USEPA issued an administrative stay as to certain of the Phase IIB rules. Finally, on July 15, 1991 and June 29, 1992, USEPA corrected certain of the lead and copper rules.

The Board includes certain federal action outside the nominal time-frame of this docket. Rather than adopt rules with the knowledge that USEPA has since revisited the issues involved in a way that will require further Board action, the Board has included those later federal actions due to their intimate association with the June and July, 1991 actions.

Therefore, for this extended update period and including subsequent federal actions affecting the same matter, the principal amendments to the federal regulations occurred as follows:

56 Fed. Reg. 26547	June 7, 1991	(lead and copper rules)
56 Fed. Reg. 30266	July 1, 1991	(Phase IIB rules)
56 Fed. Reg. 32113	July 15, 1991	(lead and copper corrections)
57 Fed. Reg. 22178	May 27, 1992	(Phase IIB partial stay)
57 Fed. Reg. 28787	June 29, 1992	(lead and copper corrective amendments)

(Significant portions of the June 7 action that related directly to corrections to the Phase II rules, and that portion of the June 7, 1991 action that related to the definition of "maximum contaminant level" were the subject of docket R91-3.)

#### PUBLIC COMMENTS

The Board received some public comments in advance of the formal proposal in this Docket. They are summarized as follows:

PC 1      Illinois Environmental Protection Agency (Agency)  
               (Connie L. Tonsor, Assistant Counsel), February 2,  
               1993.

PC 1 is a preliminary comment by the Agency, which the Board received in the course of developing the Proposal. In summary, PC 1 requests that the Board repeal two Sections in Part 605 that are now superseded by Section 611.521. It further requests that the Board delete certain segments of Section 611.521(b) because it represents the repeal of a more stringent state standard in R88-26, on August 9, 1990. Finally, the Agency requests that the Board repeal the state-only copper MCL of Section 611.300(b) because its retention would render the Illinois program less

stringent than the federal program. Basically, PC 1 memorializes the Agency's position enunciated during the January 27, 1993 meeting of the Regulatory Work Group formed to discuss issues raised by USEPA SDWA rules adoptions.

The Board requests public comments on this proposal for public comment. A number of issues are specifically noted to elicit comments. The Board will receive comments for 45 days after a Notice of Proposed Amendments appears in the Illinois Register. The Board will then act promptly to adopt amendments based on the federal amendments involved in this docket.

Interested persons should address their comments to the Clerk of the Board. They should provide one original and nine copies and reference docket number R92-3 on the front of each copy.

#### SDWA REGULATORY HISTORICAL SUMMARY

The Board adopted the initial round of USEPA drinking water regulations, including the "Phase I" rules, adopted by USEPA prior to June 30, 1989, as follows:

R88-26      114 PCB 149, August 9, 1990 (14 Ill. Reg. 16517, effective September 20, 1990).

Subsequent dockets updated the regulations to include federal amendments since that time:

R90-4      112 PCB 317, June 21, 1990 (dismissal; no USEPA amendments July 1 through December 31, 1989)

R90-13      117 PCB 687, December 20, 1990 (15 Ill. Reg. 1562, effective January 22, 1991) (January 1, 1990 through June 30, 1990)

R90-21      116 PCB 365, November 29, 1990 (14 Ill. Reg. 20448, effective December 11, 1990) (Corrections to R88-26)

R91-3      -- PCB --, November 19, 1992 (16 Ill. Reg. 19010, December 11, 1992, effective December 1, 1992) (USEPA Phase II and Coliforms--consolidated with R92-9; July 1, 1990 through January 31, 1991)

R91-15      -- PCB --, dismissed December 3, 1992 (February 1, 1991 through May 31, 1991)

R92-3      This proceeding (USEPA Phase IIB and lead and copper; June 1, 1991 through December 31, 1991)

R92-9      -- PCB --, November 19, 1992 (16 Ill. Reg. 19010,

December 11, 1992, effective December 1, 1992)  
(Corrections to Phase I rules, R88-26)

R92-12 -- PCB --, dismissed December 3, 1992 (June 1, 1992 through June 30, 1991)

R93-1 Reserved docket (USEPA Phase V; July 1, 1992 through December 31, 1992)

#### GENERAL DISCUSSION OF PRESENT ISSUES

This Update concerns the USEPA "lead and copper" rules and the "Phase IIB" rules. The lead and copper rules involve instituting a new scheme for monitoring drinking water, as sampled from the consumers' taps, for the appearance of lead and copper. Rather than traditional MCLs, this monitoring scheme uses "action levels" for these two contaminants. If the frequency and magnitude of contaminant occurrence so warrants, this regulatory scheme could require a water supplier to engage in further monitoring investigation, disseminate warning notices and engage in public education on the hazards of lead, treat the source water, optimize the corrosion control in its distribution system, and replace lead service lines. The Phase IIB rules involve the adoption of "revised MCLs" for one inorganic chemical contaminant (IOC) and four synthetic organic chemical contaminants (SOCs). Accompanying these revised MCLs are additions to the monitoring and reporting requirements relating to them. The following discussions consider the federal actions in greater detail.

#### June 7, 1991 Federal Action--Lead and Copper

On June 7, 1991, at 56 Fed. Reg. 26547, USEPA amended the definitions section and added an entire new subpart relating to control of lead and copper at consumer taps. All the new definitions, except the amendments to the definition of maximum contaminant level, related to implementation of new 40 CFR 141, Subpart I--Control of Lead and Copper. The amendments caused the former MCL for lead to expire on November 9, 1992, the effective date of the lead and copper rules. In its place, new Subpart I instituted a complex scheme for control of the appearance of lead (and copper) at consumers' taps.

USEPA divided the universe of suppliers into large, medium-sized, and small, depending on the number of persons they serve. The effective date and effect of the substantive regulations depends on the size of the supplier's system. Large suppliers (serving more than 50,000) were to have begun monitoring for lead and copper at consumer taps beginning on January 1, 1992. Medium-sized suppliers (serving more than 3,300 and up to 50,000) were to have begun on July 1, 1992, and small suppliers (serving 3,300 or fewer persons) will begin on July 1, 1993.

Before the applicable monitoring effective date, each supplier must have completed a materials assessment of its distribution system. The purpose is to select a set of targeted sampling locations. The greater the number of persons served by the supplier, the greater the number of sites the supplier must sample. For example, for lead and copper, under standard monitoring, a supplier serving 100,000 or more persons must sample 100 sites, one serving 3,300 to 10,000 must sample 40, and one serving 100 or fewer must sample 5. The pool of possible sampling sites includes "tier 1 sampling sites" (those single-family residential buildings that have copper pipe with lead solder installed after 1982, which have lead pipes, or which are served by a lead service line), "tier 2 sampling sites" (those multiple-family residential buildings that otherwise fulfill the criteria of tier 1 sampling sites), and "tier 3 sampling sites" (those single-family residential buildings that have copper pipes with lead solder installed before 1983.<sup>1</sup>

A community water system (CWS) supplier is required to use tier 1 sampling sites exclusively for monitoring unless multiple-family residential buildings comprise at least 20 percent of its overall sampling pool or it has an insufficient number of tier 1 sites on its distribution system. If a CWS supplier has an insufficient number of tier 1 and tier 2 sites, it may make up the deficiency in its sampling pool with tier 3 sites. Transient, non-community water system (NTNCWS) suppliers must use tier 1 sampling sites. If the NTNCWS has insufficient tier 1 sites, it must use the alternative sites. If the supplier's system has lead service lines, half of its sampling pool must have lead service lines and half copper pipe with lead solder.

During the initial phases of monitoring, the supplier must sample each site every six months, using the same sites in subsequent six-month monitoring periods unless there is some appropriate reason for not using the same sites. The supplier is to ascertain the "ninetieth-percentile level" for lead and copper in its system based on the monitoring data (by rank-ordering the data and selecting that result that corresponds to the ninetieth percentile of all the data). Large suppliers must monitor for two consecutive six-month monitoring periods and medium-sized and

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<sup>1</sup> The scheme actually differs for CWSs and NTNCWSs. Although otherwise identical, tier 1 sampling sites for CWSs includes only "single-family structures" at 40 CFR 141.86(a)(3). It is "buildings" for NTNCWSs at 40 CFR 141.86(a)(6). There are no "tier 2" or "tier 3" sites for NTNCWSs at section 141.86(a)(7). Rather, that federal paragraph describes alternative sites for NTNCWSs if there are not enough tier 1 sites. The Board has rendered this scheme as described on page 16 of this opinion.

small suppliers must monitor for each successive six-month monitoring period until it either exceeds the "action level" (0.015 mg/l for lead and 1.3 mg/l for copper) or it has met the action levels for two consecutive monitoring periods (when it can go to reduced monitoring).

Sampling locations will vary with the type of monitoring. The tap water sampling for lead and copper occurs at consumers' taps. Source water sampling occurs at entry points to the distribution system (a sampling location established in the Phase II rules in docket R91-3). Corrosion control sampling occurs at both consumers' taps and at entry points (on a biweekly basis).

Suppliers must "optimize corrosion control" in their distribution systems or undertake "corrosion control treatment steps". The state may deem a supplier as having optimized corrosion control if the supplier provides certain information that demonstrates that it has engaged in steps equivalent to the applicable corrosion control steps. Alternatively, a small or medium-sized supplier that has met the lead and copper action levels for two consecutive six-month monitoring periods is deemed to have optimized corrosion control (and may even cease further corrosion control steps it has already undertaken immediately after it has done so, but it must begin again where it left off if it subsequently exceeds either action level). Finally, a supplier that can demonstrate, based on two monitoring periods' data, that the difference between its source water lead level and its ninetieth-percentile lead level is less than the "practical quantitation level" for lead (0.005 mg/l) is deemed to have optimized corrosion control.

The deadlines for undertaking the various corrosion control treatment steps varies with the size of the supplier's system. Large system suppliers must adhere to the following schedule:

Step 1: complete two periods of monitoring by January 1, 1993;

Step 2: complete corrosion control studies and recommend optimal corrosion control to the state by July 1, 1993;

Step 3: the state must designate optimal corrosion control for the supplier by January 1, 1994;

Step 4: the supplier must install optimal corrosion control by January 1, 1997;

Step 5: the supplier must complete follow-up sampling by January 1, 1998;

Step 6: the state must review the installation and designate "optimal water quality control parameters" by

July 1, 1998; and

Step 7: the supplier must continue to operate in compliance with the state-specified water quality control parameters and continue tap-water sampling.

Medium-sized and small system suppliers must adhere to the following schedule:

Step 1: conduct initial sampling in successive monitoring periods until it either exceeds either the lead or copper action level (in which case it must undertake corrosion control studies and recommend optimal corrosion control to the state within six months of the exceedance) or becomes eligible for reduced monitoring (without undertaking further steps until it exceeds either action level);

Step 2: the state may either require the supplier to perform corrosion control studies and make a recommendation within 12 months of an exceedance of either action level, or the state must specify optimal corrosion control within 18 months for medium-sized system or 24 months for small system suppliers;

Step 3: the system must complete corrosion control studies and make a recommendation to the state within 18 months of when the state requires it to do so;

Step 4: the state must designate optimal corrosion control for the supplier within six months after the supplier makes its recommendation;

Step 5: the supplier must install corrosion control treatment within 24 months of when the state designates optimal corrosion control;

Step 6: the supplier must complete follow-up monitoring within 36 months of when the state designates optimal corrosion control;

Step 7: the state must review the supplier's installation of optimal corrosion control and designate water quality control parameters within six months of completion of the follow-up sampling; and

Step 8: the supplier must continue to operate in compliance with the state-specified water quality control parameters and continue tap-water sampling.

Each supplier required to undertake corrosion control studies must evaluate the effectiveness of certain treatment

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processes in its system (alkalinity and pH adjustment, calcium hardness adjustment, and addition of phosphate- or silicate-based corrosion inhibitors) in bench-scaled testing or by documentation of tests in similar systems. The supplier must report certain analytical results for water quality control parameters from its testing to the state (lead, copper, pH, alkalinity, calcium, conductivity, temperature, and any inhibitor residual), as well as any chemical or physical constraints on using a treatment method. In designating optimal corrosion control treatment, the state must consider the effects of treatment on the water quality control parameters and other of the supplier's treatment processes. The federal regulations similarly specify how the state is to specify the supplier's water quality control parameters.

After the state has specified the water quality control parameters, a large system supplier must commence monitoring the parameters every six-month monitoring period. A medium-sized or small system supplier must monitor during each six-month monitoring period in which it exceeds the lead or copper action level in tap water sampling. The number of water quality control parameter samples a supplier must collect varies with the size of its distribution system. For example a supplier serving 100,000 or more persons must sample 25 sites, one serving 3,301 to 10,000 must sample 3, and one serving 100 or fewer must sample 1. In addition to the semi-annual tap water samples, the supplier must sample each entry point to the distribution system on a biweekly basis. A state must review its determination and modify it when it determines (on its own initiative or on request) that such is necessary to ensure optimal corrosion control. USEPA has reserved the prerogative of reviewing state determinations.

In addition to applying optimal corrosion control, a supplier that exceeds either the lead or copper action level must fulfill certain source water monitoring and treatment requirements. A source that exceeds either the lead or the copper action level must undertake the following steps within the times indicated:

Step 1: the supplier must complete source water lead and copper monitoring and make a treatment recommendation to the state within six months of exceeding the action level;

Step 2: the state must make a source water treatment determination within six months of when the supplier submits its recommendation;

Step 3: the supplier must install any source water treatment within 24 months of when the state submits its determination;

Step 4: the supplier must complete followup tap water and source water monitoring within 36 months of when the state makes its determination;

Step 5: the state must review the supplier's installation and operation of source water treatment and specify maximum permissible lead and copper concentrations for the source water within six months of when the supplier completes its followup monitoring; and

Step 6: the supplier must continue source water monitoring and adhere to the source water lead and copper limitations on an ongoing basis.

A state must review its determination and modify it when it determines (on its own initiative or on request) that such is necessary to ensure that the supplier minimizes the copper and lead intake from its source water. USEPA has reserved the prerogative of reviewing state determinations.

Another activity required of suppliers relates to the replacement of lead service lines. A supplier that has implemented optimal corrosion control or source water treatment, and which still exceeds the lead or copper action level, must undertake a program of replacing the lead service lines in its distribution system. The system must annually replace at least seven percent of the original number of lead service lines in its distribution system. The state may also require a supplier that fails to install optimal corrosion control or source water treatment when required to do so to begin lead service line replacement. The first year of service line replacement begins on the date the supplier exceeds the lead or copper action level. After performing a distribution system materials evaluation and identifying to the state all of the lead service lines in the system, the supplier must begin with the seven-percent-per-year replacement program. The state may stipulate a shorter replacement schedule than seven percent per year if it determines that this is feasible for the supplier.

Certain limitations apply to service line replacement, however, and the supplier need not replace all lead lines under limited circumstances. The supplier does not need to replace any individual service line for which it can show that all tap water samples are taken were less than or equal to 0.015 mg/l lead. Further, although the supplier is presumed to control the entire service line and must replace the entire thing, the supplier is not required to replace only service lines and portions of service lines under its control. The supplier can demonstrate that a service line or a portion of a service line is beyond its control. Where the supplier need only replace a portion of the service line, the rules provide that it can notify the consumer that it will replace that portion and tell the consumer that it

will replace the consumer's portion of the service line at the consumer's expense. The supplier who removes only a portion of the service line must also conduct sampling after the replacement and report the results to the consumer if the consumer responds affirmatively to a required notice of the partial replacement and offer to sample. Finally, a supplier may cease its service line replacement program if the results from two consecutive monitoring periods indicate lead level is below the action level. However, the supplier must recommence replacement at the original rate if it later exceeds the lead action level.

Finally, a supplier that exceeds the lead action level in tap water samples must begin a public education program. The federal rules specify the content of the printed and broadcast notices that the supplier must disseminate as part of this program. The notices set forth information on the health effects of lead, instruct the consumer how to obtain help in reducing the amount of lead in their homes' plumbing systems and the amount consumed, how to reduce corrosion in their plumbing systems, how to obtain laboratory analyses for lead in their water, and how to have children tested for lead accumulation.

The supplier is to begin its public education program within 60 days of when it fails to meet the lead action level in tap water samples. The supplier must insert the specified information into customers' water bills; submit the information to the major local newspapers; and deliver the information to local schools, health departments, to certain local childrens' and womens' programs, to local hospitals and clinics, to local pediatricians, to local family planning clinics, and to local welfare agencies. The supplier must submit the information to at least five local radio and television stations serving the area. the supplier must periodically repeat this dissemination--every 12 months for the dissemination to all but television and radio stations, to whom the supplier must disseminate every six months (a NTNCWS need only disseminate to consumers, newspapers, and television and radio stations once a year). A supplier can discontinue public education if it met the lead action level in the most recent monitoring period. If, as a result of this public education effort, a consumer requests an analysis for lead in its tap water, the supplier must collect the sample, but it is not required to pay for the sampling and testing.

Thus far, this discussion has primarily focused on the supplier's actions if it exceeds the lead or copper action levels, requiring it to undertake certain mitigating actions. There are provisions for reduced monitoring (aside from those already cited that allow the cessation of corrective measures already begun). If a medium-sized or small system supplier meets the lead and copper action levels for each of two consecutive monitoring periods, it may reduce the number of tap water samples it collects and reduce the frequency to annual. The state may

allow any supplier that maintains the range of values for its water quality control parameters for each of two consecutive monitoring periods to reduce its tap water monitoring frequency and the number of samples it takes. Further, a medium-sized or small system supplier that meets the lead and copper action levels and any supplier that meets its water quality control parameters (with state permission) for each of three annual (reduced frequency) monitoring periods may further reduce its tap water monitoring frequency to once every three years. As with standard monitoring, the number of required reduced-frequency samples a supplier must take varies with the size of its distribution system. Following the standard-frequency example given above, for reduced monitoring the minimum number of tap water samples for lead and copper for a supplier serving 100,000 or more persons is 50 sites, one serving 3,301 to 10,000 must sample 20, and one serving 100 or fewer must sample 5. (Systems must conduct reduced-frequency monitoring during June, July, August, or September.) Of course, the state may revise its determinations upon receipt of new monitoring or treatment information.

Similarly, there are provisions for reduced monitoring for water quality parameters. A system that maintains the range of values for its water quality control parameters that reflects optimal corrosion control during each of two consecutive monitoring periods may collect samples every six months from a reduced number of sites. For example a supplier serving 100,000 or more persons must sample 10 sites, one serving 3,301 to 10,000 must sample 3, and one serving 100 or fewer must sample 1. After three consecutive years of monitoring (six consecutive six-month monitoring periods) that demonstrates that the supplier has maintained optimal corrosion control, the supplier may reduce its frequency to annual, collecting the samples evenly throughout the year to reflect seasonal variations. After another three consecutive years (three annual rounds) of maintaining the range of values for optimal corrosion control, a supplier may reduce its monitoring frequency to triennial (annual in the original, since corrected). If the supplier on reduced water quality control parameter monitoring fails to maintain optimal corrosion control, it must resume standard semi-annual monitoring in the next-subsequent six-month monitoring period.

The lead and copper rules amend the analytical procedures for lead and institute procedures for copper, pH, conductivity, calcium, alkalinity, orthophosphate, silica, and temperature. They also impose recordskeeping and reporting requirements. Another important aspect of the federal amendments is the imposition of limitations on the state's discretion in granting variances or exemptions (adjusted standards) from the general lead and copper rules. These include restrictions on the requirement for the use of bottled water or point-of-use devices as a condition to relief. Essentially, these amendments restrict

the state's discretion as to when the use of bottled water or point-of-use devices is possible, and they impose quality control requirements on the use of bottled water.

#### July 1, 1991 Federal Action--Phase IIB

On July 1, 1991, at 56 Fed. Reg. 30274, USEPA promulgated the federal Phase IIB rules. Since these amendments were interspersed with corrections to the Phase II rules, the Board dealt with many of them in the November 19, 1992 order in docket R91-3. Those amendments are discussed in the accompanying opinion of that date. The still outstanding federal amendments related to the establishment of one revised and four new MCLs for chemical contaminants. USEPA established a revised MCL for one inorganic chemical contaminant, barium, and for four SOCs, aldicarb, aldicarb sulfone, aldicarb sulfoxide, and pentachlorophenol. This includes the standard public notices for each of these contaminants.

#### July 15, 1991 Federal Action--Lead and Copper

On July 15, 1991, at 56 Fed. Reg. 32113, USEPA made certain corrections to the lead and copper rules. These corrections changed the effective date for the lead and copper rules to December 7, 1992 for the corrosion control treatment, source water treatment, lead service line replacement, and public education requirements and the expiration of the old MCL for lead (from November 9, 1992, leaving the effective date for monitoring at July 7, 1991.) The corrections also modified a provision for consumer sampling that obviated the consumer handling nitric acid to preserve the samples.

#### May 27, 1992 Federal Action--Phase IIB

On May 27, 1992, at 57 Fed. Reg. 22178, USEPA imposed a partial stay of certain of the July 1, 1991 Phase IIB regulations. USEPA stayed the new MCLs for three of the SOCs: aldicarb, aldicarb sulfoxide, and aldicarb sulfone. In staying the substantive limitations for these contaminants, USEPA left the monitoring and certain of the public notice requirements for these contaminants intact. This action did not affect the MCLs for barium and pentachlorophenol.

#### June 29, 1992 Federal Action--Lead and Copper

Finally, on June 29, 1992, at 57 Fed. Reg. 28787, USEPA made corrective amendments to the lead and copper rules. These amendments change the effective date statement so that section 141.80, the federal general provisions section, became effective on December 7, 1992. It corrects a cross-reference and sample names in one section, cross-references in two others, a reference to a threshold level in another section, spelling in a fifth, a

system size reference in a sixth, and a reference to an analytical method in a seventh. More substantively, the amendments imposed a limitation on analysis of consumer-obtained samples until at least 28 hours after acidification. They also provide that a supplier required to resume standard tap monitoring for lead and copper is also required to resume standard water quality parameter monitoring. Finally, the corrective amendments changed the reduced frequency for water quality parameter monitoring after three consecutive years of annual testing from annual to triennial.

#### DETAILED SECTION-BY-SECTION-ANALYSIS

The Board proposes amendments in response to these federal actions. In codifying the lead and copper rules, we created a new Subpart G to contain them. We have attempted to make the correlation of state to federal rules as linear as possible--which is easier in this proceeding than the Board has found it with previous federal SDWA rules because the new federal sections are smaller, each with a narrower focus than in the past rules. Thus, federal Subpart I, sections 141.80 through 141.91 appear in the Illinois rules as Subpart G, Sections 611.350 through 611.361. Generally, it has even been possible to linearly correlate subsection designations with the federal rules. The following detailed discussions indicate those areas where the Board has found it necessary to deviate from the federal structure.

With the above general discussion of the federal actions involved in this proceeding, the Board discusses the amendments on a more detailed, section-by-section basis. This discussion focuses on the details of the actions taken, not on the generalities of the federal actions discussed above. This discussion will not repeat that discussion.

#### Routine, General Amendments--All Sections

As a routine matter, the Board updates the references to the Code of Federal Regulations throughout the text of the rules to the 1992 version. This volume is now available from the Government Printing Office. The General Assembly has derived a new codification scheme for the statutes, the Illinois Compiled Statutes, revamping the entire method for citation. For the present, citations in the Illinois Administrative Code will appear in the old format with the addition of the new cite in brackets. To implement this scheme, the Board will amend all statutory references to "Ill. Rev. Stat. 1991 ch. 111 $\frac{1}{2}$ , par. 10--" to read as follows: "Ill. Rev. Stat. 1991 ch. 111 $\frac{1}{2}$ , par. 10-- [415 ILCS 5/--]".

The Board is wary of the overuse of acronyms where such use could lead to confusion or delete from the readability of

regulations. An exception to this is that we will use commonly-used acronyms if their meaning is clear in context. In assembling this proposal for public comment, we use "NTNCWS" to describe non-transient, non-community water supplies. The Board believes this use is commonly understood, and it will not detract from the readability of the rules.

The Board has also performed a number of standard deviations from the text of the federal rules. The rationale behind many of these is discussed in the August 9, 1990 opinion and order in docket R88-26 (Phase I rules), and we will not repeat those discussions here. Others are so minor as to warrant no explanation. The standard changes are as follows:

1. We use the special exception permit where the federal rules allow the state to make a determination based on specified criteria that allows a supplier to deviate from the standard monitoring scheme. We assign to the "Agency" all decisionmaking authority delegated to the "state" in the federal rules that is in the nature of a permit decision, and we retain to the "Board" all that is in the nature of a variance or adjusted standard determination. Thus, deviations from the general rule by determinations based on specified criteria and state designations of optimal corrosion control, water quality criteria, source water control, etc. are rendered by SEP.
2. We substitute "supplier", to refer to a person who owns or operates a water supply, in place of the words "water supply", as used in the federal rules.
3. Where the federal rules require an action "by" a certain date, the Board renders that as "on or before" that date.
4. Where USEPA uses ">", "≥", "<", and "≤" in narrative text, the Board has substituted the narrative language.
5. The Board adds several subsection headings to aid use of the rules, and where appropriate, we break longer federal provisions into several subsections for this same purpose.
6. We have changed various of the subsections to the active voice, rather than following the federal use of the passive voice.
7. Whereas USEPA rules provide that the state "designates" water quality parameters, optimal corrosion control, and source water treatment, the Board construction differs. We believe that Agency designation of these items could put the Agency in the position of a consulting engineer, or it could require the Agency to retain a consulting engineer, if the Agency is confronted with a supplier that fails to make

appropriate recommendations. This would be unacceptable. Rather, the Board changes the rules so the Agency "approves" the appropriate course. We request comment on this issue.

8. In 40 CFR 141.86(a) and 141.90(a), USEPA uses the phrase "tier 1 sampling sites" in relation to both CWS and NTNCWS suppliers, "tier 2 sampling sites" and "tier 3 sampling sites" with regard to CWS suppliers, describes an alternative set of sites a NTNCWS supplier may use, and describes an alternative set of sites a CWS supplier can use that fits within the definition of CWS tier 2 sampling sites. The tier 1 sampling sites are differently described for CWS and NTNCWS suppliers. We have defined "CWS tier 1 sampling sites", "NTNCWS tier 1 sampling sites", "CWS tier 2 sampling sites", "CWS tier 3 sampling sites", and "alternative NTNCWS sampling sites" in Section 611.356(a)(3) based on the USEPA descriptions of each group. The Board has further included the CWS alternative sites that fit within the definition of "CWS tier 2 sampling sites" within that group. We do not believe any additional definition of these terms is necessary for Section 611.360(a)(2) (corresponding with 40 CFR 141.90(a)(2)) because the reporting requirement of that Section specifically references those portions of Section 611.356(a)(4) under which the supplier made the determination that triggers the reporting.
9. In several places, the USEPA rules provide that the state may undertake an action if it "concludes" something. Where this construction appears, the Board keeps with our standard construction and use "determines".

One problem in adapting the federal lead and copper rules relates to several general exceptions built into the general rules. These provisions state that the state may make a determination that essentially exempts a supplier from certain requirements. We have provided in these provisions for a state determination as "the Agency shall grant a SEP that exempts the supplier . . . if it determines . . .". That has been the Board's general approach to the drinking water rules since the Phase I rules of docket R88-26. However, in the lead and copper rules, USEPA includes three provisions that essentially state that "a supplier is deemed . . . if . . .". We have interpreted this as "deemed by rule", so we have not provided for an Agency grant of a SEP under these circumstances. The exemption flows automatically from the supplier having met the regulatory criteria, and no Agency determination is necessary in these instances. These "deemed-by-rule" provisions are the following:

Section 611.350(d)(2): Any supplier that complies with Agency-approved corrosion control treatment requirements is deemed in compliance with optimal corrosion control



requirements.

Section 611.351(b)(1): Small and medium-sized systems meeting lead and copper action levels are not required to complete corrosion control steps.

Section 611.351(b)(3): Any system is deemed to have optimized corrosion control if tap water and source water monitoring results for two consecutive six-month monitoring periods indicate that the difference between the 90th percentile lead level and the highest source water lead level is less than the PQL.

Similarly, 40 CFR 141.86(a)(8) and (a)(9) (corresponding with Section 611.356(a)(4)(C) and (a)(4)(D)) has suppliers make a set of sampling site selections based on criteria set forth. If a supplier cannot select all "tier 1 sampling sites", or if it cannot identify a sufficient number of lead service lines, it must submit justifications to the Agency pursuant to sections 141.86(a)(8) and 141.90(a)(2) (corresponding with Section 611.356(a)(C)(i) and (a)(C)(iii)) or 141.90(a)(4) (corresponding with Section 611.360(a)(4)). Despite the informational submissions required of suppliers, USEPA does not require the state to authorize the selection of sampling sites before the suppliers commence sampling. Similarly, the 40 CFR 141.88(e)(1) and (e)(2) (corresponding with Section 611.388(e)(1) and (e)(2)) provisions for reduced source water monitoring include this "demonstrates" construction without expressly requiring state approval of the reduction. The Board has therefore not imposed a prior SEP approval under any of these provisions. Such a requirement could unduly burden the Agency and the suppliers needing to make these alternative selections, and the Board is aware that this segment of the lead and copper program is already well underway. On the other hand, USEPA uses "demonstrate", which could imply that an Agency determination (i.e., a SEP) is intended. We request comments on these issues.

Corrections to Existing Microbiological Rules--Sections 605.101, 605.102, and 611.521

During the course of discussions with the Agency and regulated community over assembly of the Phase IIB and lead and copper rules proposal, errors to existing microbiological rules were cited to the Board. These revisit Sections 605.101, 605.102, and 611.521, each of which was involved in docket R88-28.

The Agency stated by PC 1 that the addition of a sunset provision to Sections 605.101 and 605.102 was an error. These provisions pertain to microbiological monitoring (Subpart L) and the language as amended in R88-26 causes them to expire when a supplier becomes subject to the filtration and disinfection

requirements 611.Subpart B. The Agency goes further in noting that Section 611.521 has now fully superseded these older provisions. We agree and propose to repeal both Sections. However, we note that if there is any supplier to whom these older provisions might still apply, a possible alternative to repeal is to amend the preamble language of both Sections by replacing the reference to Subpart B with a reference to the Subpart L microbiological requirements. The Board specifically requests additional comment on this issue.

The Agency further noted problems with Section 611.521. Subsection (b) includes language that would require the Agency to reduce the routine coliform monitoring frequency of certain small groundwater-supplied CWS and non-CWS suppliers. The Agency felt that it was inappropriate to do so. The Agency notes that prior to the August 9, 1990 adoption of R88-26, Section 605.101 stated the minimum sampling frequency was monthly, which the Agency regards as adequate for the protection of public health. Thus, the pre-existing monthly-minimum sampling requirement represents a more stringent state standard that the Board should not have totally repealed in that docket. The Agency urges the Board to correct the error and restore the more stringent state standard by deleting the quarterly reduction language used by USEPA.

For the reasons stated by the Agency, the Board proposes restoring the more stringent state monitoring frequency reduction provision by deleting the federal quarterly language. In doing so, we note further that subsections (c)(1) and (c)(2) include similar quarterly-minimum language that the Agency attacked in the discussions that led to the submission of PC 1. Therefore, we propose the deletion of that similar language, requesting that the Agency clarify its position as to those two subsections.

If indeed the Agency desires that the Board not delete those segments of subsections (c)(1) and (c)(2), those provisions further include certain language imposing a mandate on the Department of Public Health. At the very least, the Board would replace these Section 611.521 references with references to "the Agency". It has come to our attention that the Department of Public Health (DPH) is in the process of incorporating the provisions of 35 Ill. Adm. Code 611 in order to comply with its segment of the federal SDWA program. We understand that DPH will render all references to the Agency as meaning DPH. We request comment on these issues.

Definitions--Sections 611.101, 611.350(a) & 611.640

The definitions section does not derive from any single provision of the USEPA drinking water regulations. Although the federal rules do have a definitions section (40 CFR 141.2), and significant portions of Section 611.101 derive from that section, many more of the definitions adopted by the Board derive from

terms and phrases as used and defined by USEPA elsewhere in its rules. Where definitions derive from a specific USEPA provision, a Board Note accompanying the definition so notes.

The Board adds several definitions in response to the federal amendments. However, those federal definitions are limited in applicability to the lead and copper rules. Therefore, the Board has proposed codifying these definitions of limited scope as local definitions at subsection (a) of Section 611.350, the introductory provision of new Subpart G, which contains the lead and copper rules. This will help to avoid potential confusion with the general definitions applicable throughout Part 611, and it will more clearly limit the applicability of the lead and copper definitions. Of course, the Board has attempted to use the federal terms as exactly as possible. However, the rules have required occasional changes in phraseology and the addition of a few additional definitions in order to avoid confusion.

The sole substantive amendment to Section 611.101, the general definitions Section, is the amendment of the existing definition of "maximum contaminant level" in response to the federal amendment of June 7, 1991, at 56 Fed. Reg. 26548. The definition formerly referenced Section 611.121 for the meaning. The proposed amendment retains the cross-reference but also includes the language of the federal definition as amended. The only deviation in text is the addition of the word "that".

The federal amendments to 40 CFR 141.2, at 56 Fed. Reg. 26547 (June 7, 1991), requires the addition of an entire subsection (a) to the general lead and copper rules provision, Section 611.350. USEPA added definitions of "action level", "corrosion inhibitor", "effective corrosion inhibitor residual", "first draw sample", "large water system", "lead service line", "medium-size water system", "optimal corrosion control", "service line sample", "single family structure", and "small water system". The terms of the federal definitions of "effective corrosion inhibitor residual", "large water system", "medium-size water system", "optimal corrosion control", "single family structure", and "small water system" limit their applicability to federal Subpart I. The meanings of the rest of these definitions are such that their applicability is limited to the lead and copper rules. Therefore, we have made them all purely local definitions restricted to the purposes of state Subpart G and dropped all limiting language from the individual definitions (because such language already appears in the preamble to this subsection). However, the Board adds definitions to further clarify the lead and copper rules: "exceed", "meet", "method detection limit" ("MDL"), "monitoring period", "multiple-family structure", "90th percentile level", and "practical quantitation limit" ("PQL"). On a definition-by-definition basis, the Board proposes the following definitions for Section 611.350(a):

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**"Action level":** The Board's has found it necessary to deviate from the federal language in this definition. The federal definition references subsection (c) for the actual action levels. The proposed Illinois definition replaces a cross-reference with the actual numbers used by USEPA in 40 CFR 141.80(c)(1) and (c)(2). We accomplish other, minor changes for clarity.

**"Corrosion inhibitor":** The Board uses the federal language without deviation.

**"Effective corrosion inhibitor residual":** The Board adds a descriptive phrase for clarity.

**"Exceed":** The Board adds this definition, as well as a definition of "meet", because throughout the text of the lead and copper rules, USEPA refers to a supplier that "meets" or "exceeds" the lead or copper action level as decisive of the need for further action. Although the Board feels that the intended uses of these terms is close enough to their common English meanings, we believe that defining them enhances clarity and stresses their pointed use.

**"First draw sample":** The Board makes very minor changes from the federal language for clarity.

**"Large system":** The Board drops the word "water" from the phrase as redundant. This actually eases the usage in the text, "large system supplier". We also add the limitation "regularly provides water to" because we believe this limitation is intended by USEPA. The lead and copper rules apply to CWSs and NTNCWSs. The definitions of both of those terms include a "regularly serves" limitation. The Board does not believe that USEPA intended this definition to apply to such public facilities as an amusement park, restaurant, concert hall, or sports facility, that, although it serves the requisite number of persons, those persons' exposure to the water is transient.

**"Lead service line":** The Board makes only minor changes in wording for clarity.

**"Medium-sized system":** The Board renders this as "medium-sized" and drops "water". We add "regularly provides water to". See discussion of "large system".

**"Meet":** The Board adds this definition. See discussion of "exceed".

**"Method detection limit" ("MDL"):** The Board adds this definition, consistent with its addition to Section

611.646(a) in R91-3 (Nov. 19, 1992). This definition cross-references the Section 611.646(a) definition of this term, then proceeds to set forth the actual numbers from 40 CFR 141.89(a)(1)(iii). A Board Note references the source of this definition. We note, however, that USEPA may have erred in setting forth the detection limits for lead and copper. In 40 CFR 141.89(a)(1)(iii)(A) and (a)(1)(iii)(B), USEPA adds "(only if source water compositing is done under § 141.23(a)(4))." Initially, if no source water compositing is done, there is no MDL for lead and copper. We do not believe that this is what USEPA intended. Second, the Board did not adopt the 40 CFR 141.23(a)(4) compositing provision, and not having a MDL for lead and copper for failure to adopt an optional provision is not a result the Board desires. We request comment on this matter.

"Monitoring period": USEPA uses "monitoring period" in the text of its lead and copper rules and in its guidance documents. It is possible that use of "monitoring interval", rather than "monitoring period", would avoid confusion with the use of "compliance period", presently defined at Section 611.101; used throughout Subparts K, N, and O; and used in the Section 611.358 source water sampling provisions. Where some interval other than specifically six months is intended (e.g. for Section 611.358 source water monitoring or Section 611.360 reporting), we use "sampling period". The Board believes that this change in phraseology and the use of a definition and Board Note will avoid such confusion.

"Multiple-family residence": The Board added this definition to avoid possible confusion caused by the presence of a definition of "single-family structure". USEPA defined the latter term, but not "multiple-family residence". We infer from the wording used, "multiple-family residence", from the definition of "single-family structure" as including commercially-used structures, and from the lack of a definition that USEPA intends that that term include only structures actually used as residences. The definition makes this clear, as well as the fact that the focus is on the structure's present multiple-family residential use.

"90th percentile level": USEPA uses this phrase, without a formal "definition", in the context of a determination that has a significant substantive effect on a supplier's lead and copper compliance program. The Board believes that definition of the phrase will add clarity to the rules. The Board Note cites the source of this definition.

"Optimal corrosion control": The Board uses the federal language with minimal deviation. We use "ensuring" in place

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of "insuring".

"Practical quantitation limit" ("PQL"): USEPA uses "PQL" without definition. Rather, the Board used 40 CFR 141.89-(a)(3) and (a)(4) and the federal preamble, at 56 Fed. Reg. 26511-12 (June 7, 1991), to define these numbers by implication. The numbers themselves have sufficient substantive impact that the Board believes a definition is desirable. The Board Note gives the source of this definition.

"Service line sample": The Board uses the federal language without deviation.

"Single-family structure": The Board makes only minor modifications to the text of the federal definition for greater clarity. Further, we render the phrase as "single-family", rather than "single family", throughout the text of the rules.

"Small system": The Board drops "water". We add "regularly provides water to". See discussion of "large system". We make a minor correction so that "fewer" more clearly modifies the word "persons".

Revisions to the Analytical Methods/Incorporations by Reference and Monitoring and Analytical Provisions--Sections 611.102, 611.359(b), 611.560(a), 611.611, 611.612(f), 611.630(d), 611.646(p), 611.647(j) & 611.648(l) & (m)

At 56 Fed. Reg. 26560 (June 7, 1991) and 57 Fed. Reg. 28789 (June 29, 1992) USEPA added new section 40 CFR 141.59(a), which sets forth the analytical methods for the lead and copper rules. This prescribes methods for lead, copper, pH, conductivity, calcium, alkalinity, orthophosphate, silica, and temperature. (The Board has already dealt with the USEPA July 1, 1991, 56 Fed. Reg. 30275, amendments to the analytical procedures made as part of the Phase II corrections and Phase IIB rules in docket R91-3/-R92-9 (Nov. 19, 1992).) The Board proposes codifying the analytical methods requirements in the location parallel to that in the federal rules, while setting forth the version information in Section 611.102, the incorporations-by-reference Section. This is our usual practice in identical-in-substance proceedings.

The effect of the new lead and copper rules methods is to add new methods for copper (although the Board's rules set forth methods at Section 611.611 that relate to the state-only MCL for copper), pH, conductivity, calcium, alkalinity, orthophosphate, silica, and temperature, and to amend the prior methods for lead, at 40 CFR 141.89(a) (corresponding with 35 Ill. Adm. Code 611.359(b)).

The prior federal methods for lead are still codified at 40 CFR 141.23(q)(8) (corresponding with Section 611.612(f)(3)). Although USEPA deleted the MCL to which the federal methods applied, it did not delete the methods themselves. The Board proposes deleting the methods for lead at Section 611.612(f), in order to avoid any possible confusion with the methods at Section 611.359(b). As discussed with the segment on MCLs, the Board is requesting comments on deleting the state-only copper MCL as incompatible with the federal scheme of regulation. If that deletion occurs, we would follow through and delete the copper methods relating to the state-only MCL at Section 611.611(f)(5). Otherwise, we will update those methods (as subsection (f)(4)) to comport with those chosen by USEPA for the lead and copper program. The proposal includes the updated approach to the methods.

Based on the federal action in adopting the lead and copper rules, the Board makes the following methods changes (\* denotes that a parallel deletion, amendment, or addition to Section 611.102(b) incorporations by reference is also necessary):

**Lead:** Deletion of ASTM Methods D3559-78A\* and D3559-78B\*, Standard Methods (14th edition) 301A (II)\* and 301A (III)\* (neither any longer used for any contaminant), USEPA Inorganic Methods 239.1 and 239.2, and ICP Method 200.7 from Section 611.612(f)(3) and addition of ASTM Method D3559-85D\*, USEPA Inorganic Method 239.2, Standard Method (17th edition) 3113\*, ICP-MS Method 200.8\*, and AA-Platform Furnace Method 200.9\* at Section 611.359(b)(1).

**Copper:** Addition of USEPA Inorganic Methods 220.1 and 220.2; ASTM Methods D1688-90A\* and D1688-90C\*; addition of Standard Methods (17th edition) 3111-B\*, 3113\*, and 3120\*; ICP Method 200.7, rev. 3.2\*; ICP-MS Method 200.8\*; and AA-Platform Furnace Method 200.9\* at Section 611.359(b)(2), and updating ASTM Methods D1688-84D\* and D1688-84E\* to methods D1688-90A\* and D1688-90C\*; Standard Methods (16th edition) 303A, 303B\* (no longer used for any contaminant), and 304 to methods (17th edition) 3111-A\*, 3113\*, and 3120\*; updating ICP Method 200.7 to rev. 3.2\* and adding ICP-MS Method 200.8\* and AA-Platform Furnace Method 200.9\* at Section 611.612(f)(4) (formerly subsection (f)(5)).

**pH:** Addition of USEPA Inorganic Method 150.1, ASTM Method D1293-84B\*, and Standard Method (17th edition) 4500-H\* at Section 611.359(b)(3).

**Conductivity:** Addition of USEPA Inorganic Method 120.1, ASTM Method D1125-82B\*, and Standard Method (17th edition) 2510\* at Section 611.359(b)(4).

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Calcium: Addition of USEPA Inorganic Methods 215.1 and 215.2; ASTM Methods D511-88A\* and D511-88B\*; Standard Methods (17th edition) 3500-Ca D\*, 3111-B\*, and 3120\*; and ICP Method 200.7, Rev. 3.2\* to Section 611.359(b)(5).

Alkalinity: Addition of USEPA Inorganic Method 310.1, ASTM Method D1067-88B\*, Standard Method (17th edition) 2320\*, and USGS Method I-1030-85 to Section 611.359(b)(6).

Orthophosphate: Addition of USEPA Inorganic Methods 365.1, 365.2, and 365.3; ASTM Method D515-88A\* and D4327-88\*; Standard Methods (17th edition) 4500-P E\* and 4110\*; USGS Methods I-1601-85, I-2601-85, and 2598-85; and Ion Chromatography Method 300.0\* to Section 611.359(b)(7).

Silica: Addition of USEPA Inorganic Method 370.1; ASTM Method D859-88\*; Standard Methods (17th edition) 4500-Si D\*, E\*, and F\*; USGS Methods I-1700-85 and I-2700-85; and ICP Method 200.7, Rev. 3.2\* to Section 611.359(b)(8).

Temperature: Addition of Standard Method (17th edition) 2550\* to Section 611.359(b)(9).

In addition to adoption of the new methods, the federal lead and copper rules have prompted a number of unrelated chemical analytical amendments throughout the text of several provisions of Part 611. The Board hopes to ease identification of these methods in the text of the rules where their names appear. These changes are based on commonly used references to them.

The Board proposes renaming what formerly appeared as "Inorganic Methods" and "Organic Methods" ("Methods for Chemical Analysis of Water and Wastes" and "Methods for the Determination of Organic Compounds in Drinking Water"), both by USEPA and cited by USEPA as "EPA" methods, to "USEPA Inorganic Methods" and "USEPA Organic Methods". We believe that using these names used also by USEPA will more clearly identify these references where they appear throughout the various analytical Sections.

With the advent of a new inductively-coupled plasma method, the updating of an existing one, and a new atomic absorption spectrometric method, we believe redesignating these methods will more clearly identify each. Thus, the former "Inductively Coupled Plasma Method" becomes "ICP Method 200.7", updated inductively-coupled plasma method 200.7, rev. 3.2 becomes "ICP Method 200.7, Rev. 3.2", new inductively-coupled plasma-mass spectrometry method 200.8 becomes "ICP-MS Method 200.8", and new atomic absorption-platform furnace method 200.9 becomes "AA-Platform Furnace Method 200.9" where each of these appear in analytical Sections. Similarly, the Board renders the new ion chromatography method 300.0 as "Ion Chromatography Method 300.0".



Special Exception Permits--Section 611.110

The federal lead and copper regulations in two places include mandates for a supplier to provide information to the state on request. These are in the context of the state designation of optimal corrosion control, at 40 CFR 141.82(d)(2) (corresponding with Section 611.352(d)(2)), and the state determination of source water treatment, at 40 CFR 141.83(b)(2) (corresponding with Section 611.353(b)(2)). The Board does not believe that adding this mandate to the text of the rules would create any affirmative duty. Whatever authority the Agency would have to demand information would derive from the Environmental Protection Act, and not from Board rules.

However, since this is a federal requirement that USEPA will seek in reviewing the Illinois SDWA regulations, we believe it necessary to codify some obligation to submit requested information. The Board believes that the SEP provisions is the appropriate place for such a requirement because the Agency will designate optimal corrosion control treatment and source water treatment by SEP. New subsection (f) restates the Agency's legal authority in this context. It provides that if a supplier refuses to submit necessary additional information on request or in a timely manner, the Agency may either deny the SEP or grant it with conditions.

At 40 CFR 142.18 (1992), the federal rules reserve in USEPA the authority to review and nullify Agency determinations of the types. These are state determinations made pursuant to 40 CFR 141.23(b), 141.23(c), 141.24(f), 141.24(h), and 141.24(n) (corresponding with Sections 611.602, 611.603, 611.646, 611.648, and 611.510) and, at 40 CFR 141.82(i) and 141.83(b)(7) (corresponding with Section 611.352(i) and 611.353(b)(7)) and 142.19 (1992), the discretion to establish federal standards for any supplier, superseding any state determination made pursuant to 40 CFR 141.82(d), 141.82(f), 141.83(b)(2), and 141.83(b)(4) (corresponding with Sections 611.352(d), 611.252(f)(f), 611.353(b)(2), and 611.353(b)(4)). These include state authorizations to reduce inorganic chemical contaminant, VOC, and SOC monitoring frequencies; to designate optimal corrosion control and water quality parameters; and to designate source water treatment and maximum permissible source water lead levels.

The Board has included a Board Note at Section 611.110 citing USEPA's reservation of authority. We also include at Sections 611.352(i) and 611.353(b)(7) text nearly identical to that which appears at 40 CFR 141.82(i) and 141.83(b)(7). The Board does not believe that this language has any substantive effect, but it does make USEPA's reservation clear, and USEPA may consider this language an essential element of the Illinois program.

We also make a minor correction to the existing text of Section 611.110. We correct segments of subsections (b) and (c) as follows: "a -SEP", to delete the extra space.

Limitations on Board-granted SDWA Adjusted Standards and Variances--Sections 611.111, 611.112, 611.113 & 611.130

Similar to USEPA review of Agency SEP determinations, at 40 CFR 142.23 USEPA reserves the prerogative of reviewing and negating Board SDWA §§ 1415 and 1416 variance and adjusted standard determinations. As we included a note to this effect in the Board Note to Section 611.110, the Board includes a note relating USEPA's section 142.23 reservation in the Board Notes to Sections 611.111 and 611.112.

The federal lead and copper rules included amendments to 40 CFR 142.62 that impose substantive limitations on the Board's discretion to grant variances and exemptions (adjusted standards). As a result of these amendments, the Board carefully reviewed the federal Part 142 amendments for other, similar substantive limitations. Although 40 CFR 142 generally sets forth the federal requirements for state programs and the procedures for federal review of those programs, the Board's review revealed that 40 CFR 142, Subpart G does include some additional limitations on Board discretion.

40 CFR 142, Subpart G includes a number of USEPA limitations on a state's discretion to grant certain relief from some of the drinking water rules. Most would require the state to impose very definite conditions when granting relief. Two of them prohibit certain relief altogether, and one imposes a limitation on the nature of the relief. The provisions for which Subpart G limits relief include the following:

inorganic chemical contaminant MCLs of 40 CFR 141.62 (corresponding with Section 611.301),

the fluoride MCL of that section (given separate consideration),

the VOC and SOC MCLs of 40 CFR 141.61 (corresponding with Section 611.311),

the TTHM MCL of 40 CFR 141.12 (corresponding with Section 611.310 to the extent that MCL applies to a CWS that apply disinfection and which regularly serve 10,000 or more persons),

the corrosion control treatment requirements of 40 CFR 141.81 and 141.82 (corresponding with Sections 611.351 and 611.352),

the source water treatment requirements of 40 CFR 141.82 (corresponding with Section 611.353),

the lead service line replacement requirements of 40 CFR 141.84 (corresponding with Section 611.354),

the 40 CFR 141.63 MCL for total coliforms (corresponding with Section 611.325), and

the filtration and disinfection requirements of 40 CFR 141, Subpart H and 141.72(a)(3) and (b)(2) (corresponding with Subpart B and Sections 611.241(c) and 611.242(b), respectively).

The federal restrictions vary according to the requirement from which relief is sought and the type of relief sought:

A §1415(a)(1)(A) variance from an inorganic chemical contaminant, a SOC, or a VOC MCL of 40 CFR 141.61 or 141.62: The supplier must have first applied BAT, unless the supplier can demonstrate that application of the best available control technology (BAT) would result in only a "de minimis" reduction in contaminant. If the supplier has not applied BAT, a condition to relief must require ongoing examination of specified alternative methods for reduction. If a "technically feasible" method becomes apparent, the supplier must apply that alternative. The State may impose a condition requiring the supplier to use bottled water, point-of-use devices, or point-of-entry devices to avoid unreasonable risk to public health. (40 CFR 142.62.)

A §1415(a)(1)(A) variance from the TTHM MCL of 40 CFR 141.61 and the fluoride MCL of 141.62: A condition to relief must require the supplier to apply BAT, unless the supplier can show that BAT is not "available and effective" for TTHM or fluoride control. If the supplier does not apply BAT, a condition to relief must require ongoing examination of specified alternative methods for reduction. If an alternative method appears "available and effective", the supplier must apply that alternative. The State may impose a condition requiring the supplier to use bottled water, point-of-use devices, or point-of-entry devices to avoid unreasonable risk to public health. (40 CFR 142.60.)

Any variance or exemption from the optimal corrosion control treatment requirements of 40 CFR 141.81 or 141.82: The State may impose a condition requiring the supplier to use bottled water or point-of-use devices to avoid unreasonable risk to public health, but the state may not require the use of point-of-entry devices. (40 CFR 142.62(f).)

Any variance or exemption from the source water treatment

requirements of 40 CFR 141.83 and the lead service line requirements of 40 CFR 141.84: The State may impose a condition requiring the supplier to use point-of-entry devices to avoid unreasonable risk to public health. However, the supplier must assure that the use will not cause increased corrosion of lead- and copper-bearing materials so as to cause increased contaminant levels at the tap. (40 CFR 142.62(f) & (h)(7).)

If bottled water is used pursuant to a condition of relief from an MCL or from the corrosion control treatment, source water treatment, or service line replacement requirements: The supplier must monitor the water annually for all contaminants and report the results annually to the state. The supplier must receive the bottled water supplier's certification the bottled water supplier is an FDA-approved source, that it monitors the water provided in compliance with FDA regulations, and that the water complies with the FDA rules, and the supplier must provide all persons on its distribution system with "sufficient quantities" of bottled water by door-to-door delivery. (40 CFR 142.62(g).)

If a point-of-entry or point-of-use device is used pursuant to a condition of relief from the source water treatment or service line replacement requirements: The supplier must assure the state that it will properly operate and maintain the device; that the use will provide equivalent health protection; that the supplier will assure the microbiological safety of the use; that it has adequate standards of performance; that it has field tested the device; that it has conducted an engineering design review; that the operation and maintenance of the devices will account for any increased microbiological activity due to the device; that it will provide those on its distribution system with sufficient devices properly installed, maintained, and monitored to protect all persons; and, if a point-of-entry device required for relief from the treatment requirements of the lead and copper rules, that no increased corrosion will occur to lead and copper bearing materials in its distribution system through the use of the devices so that elevated lead and copper levels result at the tap. (The state may not require a supplier to use a point-of-entry device as a condition of relief from corrosion control treatment requirements.) (40 CFR 142.62(h).)

Limitation of variances and exemptions from total coliform MCL: A state may not grant a variance or exemption (adjusted standard) from the MCL for total coliforms unless the violation is due to inadvertent persistent growth. (40 CFR 142.63.)

Prohibition against variances from the filtration and

disinfection requirements or exemptions from the residual disinfectant concentration requirements: A state may not grant an exemption (adjusted standard) from the residual disinfectant concentration requirements. (40 CFR 142.64.)

Of all the substantive limitations in 40 CFR 142, Subpart G, only those of section 142.62(f) and (h)(7) are new at 56 Fed. Reg. 26562 (June 7, 1991). These new restrictions relate to the use of point-of-use and point-of-entry devices for relief from the lead and copper rules. The balance of the restrictions in this federal subpart evolved with the federal drinking water program.

USEPA adopted the section 142.60 provisions relating to relief from the TTHM MCL on Feb. 28, 1983 (48 Fed. Reg. 4814). USEPA adopted section 142.61, relative to relief from the fluoride MCL on April 2, 1986 (51 Fed. Reg. 11411). Both sections have thus remained without amendment.

USEPA adopted the section 142.62 provision relative to SOCs with the Phase I rules, on July 8, 1987 (52 Fed. Reg. 25716), making corrective amendments on July 1, 1988 (53 Fed. Reg. 25111). USEPA amended it with the Phase II rules on January 30, 1991 (56 Fed. Reg. 3596). Those amendments dropped the applicability to "synthetic organic chemicals", in the generic sense, in favor of applicability to VOCs and SOCs, as used in the Phase II rules. The references to the BATs became contaminant-specific, renumbering of subsections occurred, and the wording changed for certain of the renumbered subsection (h) restrictions relating to point-of-use and point-of-entry devices. With the lead and copper rules, on June 7, 1991 (56 Fed. Reg. 26563), USEPA added the limitation to subsection (f) that suppliers could not use point-of-entry devices as a condition for relief from the lead and copper corrosion control treatment requirements, while allowing their use as a condition to relief from the service line replacement or source water treatment requirements. USEPA also added paragraph (h)(7), which requires assurance that any use of a point-of-entry device as a condition to relief not cause increased corrosion of lead- and copper-bearing materials so as to increase contaminant levels at the tap.

USEPA adopted the section 142.63 ban on variances and exemptions (adjusted standards) from the MCL for total coliforms and the similar section 142.64 ban with regard to disinfection and filtration requirements in separate actions on June 29, 1989 (54 Fed. Reg. 27568 & 27540, respectively). USEPA subsequently amended section 142.63 on January 15, 1991 (56 Fed. Reg. 1557), staying its effect for certain systems that can demonstrate that their violation of the total coliform MCL is due to persistent growth, rather than from fecal or pathogenic contamination, from a treatment lapse, or from operational or maintenance problems.

We note that in the Phase I corrections, USEPA required the Board to adopt the limitations of 40 CFR 142.63 and 142.64 in order to maintain Phase I primacy. (See November 19, 1992 opinion and order in R91-3/R92-9). The Board had not included these two restrictions in docket R88-26. USEPA cited this as a programmatic deficiency that threatened state primacy unless corrected. The Board adopted them in the docket R92-9 Phase I corrections because we did not want to lose state primacy in this program. From that experience the Board learned that USEPA considers some of the 40 CFR 142, Subpart G provisions as substantive limitations that it considers essential elements of the state program.

The Board believes that the rest of the federal Subpart G provisions are substantive limitations on state authority to grant variances and exemptions (adjusted standards). We also believe that as substantive limitations, it is within the interest of the state that the Board adopt them in order to maintain state primacy. The balance of the Subpart G restrictions appear very similar to those of sections 142.63 and 142.64, with the exception that the these two sections that USEPA has already required the state to adopt are outright prohibitions against relief, whereas the balance of the provisions appear as limitations on relief granted. We do not perceive this as a distinction with a difference. Thus, the Board believes we are required to adopt them in order to maintain state primacy. For this reason we propose not only the limitations adopted by USEPA with lead and copper, but also the pre-existing Phase I and Phase II segments of this section.

The Board's approach to the federal limitations on state authority to grant variance or exemption (adjusted standard) relief has been to try to retain the essence of the federal language while compressing the entire federal subpart into a single section. This is possible by rewording the limitations and using cross-references to other Sections for BAT where possible. Because sections 142.60, 142.61, and 142.62(e) require the state to impose an alternative treatment when one appears viable, we have added, as subsections (a)(2) and (a)(3), (b)(2) and (b)(3), and (c)(2) and (c)(3), paired duties for the supplier to submit results of ongoing investigations to the Agency and for the Agency to petition the Board to reconsider the relief if it determines that the alternative treatment viable. We referenced 35 Ill. Adm. Code 101.Subpart K for the authority for the Agency to move for reconsideration, without intending to foreclose the Agency from being able to do so if it makes the necessary finding relative to an alternative method.

The Board has placed all the restrictions in new Section 611.130 as follows:

Subsection (a) derives from 40 CFR 141.60. This relates to

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the application of BAT as a condition to relief from the MCL for TTHM. USEPA uses the phrase "available and effective" as the key to whether application of BAT is required, it then goes on to define this as "technically appropriate and technically feasible for that system or would only result in a marginal reduction in TTHM for the system". The Board drops the "available and effective" phrase in favor of using the definitional language directly. We note (and add language to subsection (b)(1) and to the Board Note to this subsection) that this limitation applies only to certain suppliers. USEPA regulates TTHM for CWS suppliers that add a disinfectant at any stage of treatment and which regularly provide water to 10,000 or more persons.

Subsection (b) derives from 40 CFR 141.61. This relates to the application of BAT as a condition to relief from the MCL for fluoride. It is very similar to the provision for TTHM, except "available and effective" means "technically appropriate and technically feasible for the system" in the changed context. This provision applies only to CWS suppliers. We have revised the language accordingly.

Subsection (c) corresponds with 40 CFR 142.62(a) through (e). These subsections apply to the CWS and NTNCWS suppliers' application of BAT as a predicate or condition to relief from an inorganic chemical contaminant, a VOC, or a SOC MCL. As for the TTHM and fluoride provisions of section 142.60 and 142.61, it imposes an ongoing obligation to seek an alternative means of contaminant reduction as a condition to relief, unless the supplier makes a necessary showing. The showing, however, is not "available and effective". Rather, the supplier must show that application of BAT would only result in a "*de minimis* reduction in contaminants". The Board has rendered this as "minimal and insignificant reduction in the level of contaminant". The Board cross-references other, existing provisions for identification of BAT for the contaminants.

Subsection (d) corresponds with 40 CFR 142.62(f). This provision allows a state to require the use of bottled water, point-of-entry devices, or point-of-use devices to avoid an unreasonable risk to public health when granting relief from an inorganic chemical contaminant, a VOC, or a SOC MCL. Originally, this provision did not appear to limit state discretion. However, as amended with the lead and copper rules, it includes an expressed limitation on the use of devices. It expressly prohibits the use of point-of-entry devices as a condition to an exemption (adjusted standard) from the corrosion control treatment requirements. It states that the state may require their use as a condition to relief from the source water treatment or lead service line requirements, which may implicitly limit the

similar use of point-of-use devices for this purpose, but the Board cannot now determine whether this is true.

Subsection (e) corresponds with 40 CFR 142.62(g). This provision includes restrictions that the state must impose on those using bottled water as a condition to relief. Those using bottled water as a condition to relief must either initiate testing for the inorganic chemical contaminants, the VOCs, and the SOCs and provide sufficient water door-to-door to all persons on its system, or the supplier must obtain certain assurances from a supplier of FDA-approved bottled water that complies with FDA rules and assure adequate door-to-door provision to all persons it serves. In drafting, federal paragraph (g)(1) became subsection (e)(1) through (e)(3), paragraph (g)(2) became subsections (e)(4) and (e)(5), and paragraph (g)(3) became (e)(6). The Board omitted the portion of federal paragraph (g)(2) that provided that a sister state's monitoring program was sufficient. If the Board were to codify this, we would expand the subsection by adding a new subsection (e)(6) and making proposed subsection (e)(6) into subsection (e)(7). However, Illinois administrative law would not allow us to grant a blanket approval to all sister state's bottled water monitoring programs.

Subsection (f) corresponds with 40 CFR 142.62(h). This provision includes limitations on the use of point-of-entry and point-of-use devices as a condition to relief. The unique aspect of this set of restrictions is that they apply to any PWS granted relief from a National Primary Drinking Water Regulation (NPDWR), not just from lead and copper or MCL requirements. The thrust of the requirements is to assure proper installation, operation, and maintenance of these devices, that their use does not result in increased heterotrophic bacteria growth, and that their use does not cause corrosion that will elevate lead and copper levels at the tap.

The Board has not included the essence of 40 CFR 142.63 and 142.64 in Section 611.130 because we believe that the present language in Sections 611.112 and 611.113 adequately addresses their restrictions. At Sections 611.111(g), 611.112(h), and 611.113(f) we have added a statement that the provisions of Section 611.130 apply to relief granted under those Sections.

Use of Bottled Water and Point-of-entry Devices--Sections 611.280 & 611.290

The Board has added the restriction on the use of point-of-entry devices as a condition to relief, added June 7, 1991 at 56 Fed. Reg. 26564 as 40 CFR 142.62(h)(7), to the Section 611.280 provision regarding these devices. Section 611.280 derives from



40 CFR 141.100. USEPA did not amend this provision with the lead and copper rules. However, the Board believes the restriction against increased lead and copper levels at the tap through the use of these devices is desirable and well within USEPA's intent in imposing the restriction on the states' granting variance and exemption relief. The text of 40 CFR 141.100(b) through (e) parallels that of 40 CFR 142.62(h)(1) through (h)(6). We believe that USEPA did not similarly add the language of 40 CFR 142.62(h)(7) as 40 CFR 141.100(f) through oversight. We therefore added it.

We further note that Section 611.280(c)(3) limits use of point-of-entry devices to use pursuant to a SEP. We amend the language of this subsection to read according to what has evolved to become our present standard language in this regard:

Use of point-of-entry devices must be approved by special exception permits SEP granted by the Agency pursuant to Section 611.110.

Section 611.290 derives from 40 CFR 141.101. USEPA did not amend this provision in the current period. 40 CFR 141.101 (and Section 611.290) includes a prohibition against the use of point-of-use devices or bottled water as a means of compliance with an MCL. It allows the temporary use of these devices or water to avoid an unreasonable risk to health. The Board has found minor problems with this provision that we now try to remedy.

Initially, the Board notes that the federal (and Illinois) section heading does not optimally describe the contents of the section. We have amended the heading to read "Use of Point-of-Use Devices or Bottled Water". We feel this is superior because bottled water is not a "device" in the mechanical sense by which this phrase is commonly understood.

Second, we note that the use of point-of-entry devices, under Section 611.280, requires a SEP. We believe it desirable that a supplier obtain Agency approval before using any exception from the general rule. The general rule prohibits the use of bottled water or point-of-use devices to comply with a MCL. The exception is the permissive use to avoid an unreasonable risk to health. We have amended this Section by adding language to subsection (b) requiring prior Agency approval by the SEP mechanism. The Agency SEP approval process works efficiently enough that we do not believe this restriction significantly impedes the use of this water or these devices where necessary to avoid the unreasonable risk to health.

Finally, we note that 40 CFR 142.62(g) imposes a number of restrictions on the state's discretion to allow an exemption (adjusted standard) or variance that allows the use of bottled water or point-of-use devices. If this federal provision does

not apply to Section 611.290 decisions to allow the use, the Board believes that it is at least desirable that it apply to Agency determinations in the same way it would apply to Board determinations. Therefore, we add new subsection (c) that renders the substantive limitations of Section 611.130(e) applicable to Agency determinations to allow the use of bottled water or point-of-use devices. Since Section 611.130(e) contemplates Board review, we specifically reference that the compliance plan is submitted for Agency review, rather than for Board review.

#### Alternative Treatment Techniques--Section 611.297

One significant segment of the lead and copper rules is corrosion control treatment. The Board added Subpart D in R91-3 to accommodate NPDWRs keyed to a treatment technique, rather than a MCL. At that time, the only such requirements were the treatment polymer application restrictions of 40 CFR 141, Subpart K (sections 141.110 and 141.111), for unreacted epichlorohydrin and acrylamide monomers. Although USEPA did not add any reference to the corrosion control treatment techniques segments of the lead and copper rules to this subpart. The Board proposes doing so in the interest of helping the regulated community more readily recognize and locate those requirements. Treatment of water to control the lead and copper content of water appears very like a treatment technique such as polymer application to control exposure to unreacted monomers. Further, we do not wish to disrupt the cohesive structure of the lead and copper rules at Subpart G by relocating the corrosion control provisions to Subpart D.

#### MCLs--Sections 611.300, 611.301, and 611.311

Section 611.300 derives from 40 CFR 141.11, amended by USEPA at 56 Fed. Reg. 26548 (June 7, 1991) and 56 Fed. Reg. 30274 (July 1, 1991). The Board dealt in part with both sets of federal amendments by adding statements as to the future expiration of the MCLs for lead and barium. We now delete that language along with the MCLs for those two contaminants.

In amending Section 611.300 in response to the lead and copper rules, the Board is requesting comments as to whether we should delete the "additional state requirement" for copper in light of the new lead and copper rules. This MCL is potentially not consistent with the federal requirements. The federal rules may also render the copper MCL superfluous. The federal rules require determination of the 90th percentile copper level to determine compliance. The state-only MCL for copper applies to any single sample of water. It is possible that the state-only copper MCL would render the state program inconsistent with the federal scheme because the monitoring frameworks are so different, and the methods for determining compliance are so

different.

The Agency, by PC 1, states that retention of the state-only copper MCL would render the Illinois regulations less stringent than the federal SDWA rules. The Agency cites the inconsistency with the federal scheme for copper. It further notes that copper contamination generally results from corrosion of household plumbing. Although we do not propose the deletion at this time, we note the Agency's public comment on this issue and state that, unless additional public comments convince us otherwise, we are inclined to ultimately follow the Agency's suggestion. We do not yet follow the Agency's suggestion so we can exhibit additional proposed language in case the Board ultimately determines to leave the copper MCL intact. That language is an added Board Note to this Section that would explain the existence of the federal lead and copper action levels and the reason we would have retained the state-only MCL for copper. the Board specifically requests public comment on these issues.

Section 611.301 derives from 40 CFR 141.62, amended by USEPA at 56 Fed. Reg. 30280 (July 1, 1991). The Board dealt in part with these amendments in R91-3. We now add the new MCL for barium and revise the MCL for fluoride to read 4.0 mg/l (adding the additional significant digit. We further amend the entry for asbestos so that we now use the standard abbreviation "MFL" in place of "million fibers/L (longer than 10 micrometers)", which is subsumed by the definition of MFL in Section 611.101.

Section 611.311 derives from 40 CFR 141.61, added by USEPA at 56 Fed. Reg. 30280 (July 1, 1991). USEPA added MCLs for aldicarb, aldicarb sulfoxide, aldicarb sulfone, and pentachlorophenol. On May 27, 1992, at 56 Fed. Reg. 22178, USEPA indefinitely stayed the effectiveness of the aldicarb, aldicarb sulfoxide, and aldicarb sulfone MCLs. USEPA made it clear in granting the stay that the monitoring requirements for these three SOCs would promptly go into effect on January 1, 1993. We adopt all four MCLs. We adopted the BAT listings for all four contaminants in R91-3, however, it is necessary to move the listing for pentachlorophenol to its proper alphabetical position. We add language to the Board Note to subsection (c) that notes an administrative stay until further action by the Board. We reference the parallel federal provision and the May 37, 1992 stay. This is similar to the approach taken by the Board in our August 26, 1991 order in RCRA docket R91-1, when confronted with a similar federal stay. (See 125 PCB 117, 128 & 224-26.)

Lead and Copper: General Provisions--Section 611.350

Section 611.350 derives from 40 CFR 141.80, added by USEPA at 56 Fed. Reg. 26549, on June 7, 1991, corrected at 56 Fed. Reg. 32113, on July 15, 1991, and amended at 57 Fed. Reg. 28788, on

June 29, 1992. It sets forth the general lead and copper requirements. The preceding general discussion considers the substantive aspects of this Section, so this discussion will focus on the Board's deviations from the federal format and language. Subsections (a) and (c) through (k) correspond linearly with the federal subsections. The Board has changed subsection (b) as described below.

To accommodate the changed structure and keep with our usual practice of pairing scope and applicability statements, the Board has rendered federal subsection (b) ("Scope") as subsection (a)(2). Since the federal effective date of November 9, 1992 in this provision is now past, the Board has omitted federal paragraph (a)(2). The Illinois lead and copper rules will become effective upon filing with the Secretary of State. In subsection (a) we have omitted the "Unless otherwise indicated" in the applicability statement. The Subpart applies generally to CWSs and NTNCWSs, as stated in the federal and the Board's proposed texts. If any other provision applies to a smaller universe, as do Sections 611.355(c)(2) through (c)(5), 611.356(a)(4)(A) through (a)(4)(C), and 611.360(a)(2) and (a)(3), statements within those provisions will limit their applicability. This renders the federal limiting phrase at this location superfluous, so we have omitted it.

For the reasons discussed earlier, we rendered the federal definitions as subsection (b), and we added other definitions for clarity. We do not repeat the discussion of the definitions here.

In subsection (c) is revised by changing the federal wording. In subsections (a)(1) and (a)(2), we drop the federal cross-referential language for computation of the 90th percentile level because the added definition includes it. Subsection (c)(3) is phrased in the active voice, imposing the duty on the supplier to calculate this level. Subsection (c)(3)(B) includes added language relative to determining the ordinal number of the 90th percentile sample because that is the object of this arithmetic computation.

The changes from the federal text for subsections (e) through (g) are very minor. In light of the Board's choice in viewing a "system" as a thing and a "supplier" as a responsible person, we have rendered the federal "system exceeding" as "supplier whose system exceeds".

In subsection (k), the Board has rendered the federal language relating to "requirements established by the State" to read "conditions imposed by the Agency by special exception permit". This focuses on the Illinois chosen vehicle for imposing any requirements on a site-specific basis that the Board can only provide for broadly on a state-wide basis by

establishing a regulatory basis for site-specific determinations.

Lead and Copper: Corrosion Control Treatment Provisions--  
Sections 611.351 & 611.352

Sections 611.351 and 611.252 derive from 40 CFR 141.81 and 141.82, added by USEPA at 56 Fed. Reg. 26549 and 26550, on June 7, 1991. Together they set forth the corrosion control treatment requirements. The preceding general discussion considers the substantive aspects of these Sections, so this discussion will focus on the Board's deviations from the federal format and language.

The Board's chosen structure remains largely parallel with that of the federal rules. The only exception to this is that we have subdivided subsection (c) into five subsections, (c)(1), (c)(1)(A), (c)(1)(B), (c)(2), and (c)(3). To the parentheticals at subsections (a)(1) and (a)(2) describing large, medium-sized, and small system suppliers, the Board has added the same "regularly serving" language added to the definition of these entities. We have added "one of" to the end of subsection (a)(2) for clarity; provided for "equivalent activities" determinations at subsection (b)(2) by providing (in the active voice) that the Agency "shall deem" if it "determines that", as is our common construction; punctuation using commas is shifted in subsection (b)(3); segments of subsection (c) and (e) are reworded for clarity; and references to SEPs are added to subsections (b)(2), (c), (d)(3), (e)(2), (e)(4), and (e)(7).

The structure of the federal rules has required the Board to break with our standard practice and retain one past effective date at subsection (d)(1). 40 CFR 141.81(d)(1) requires that suppliers must have completed the initial monitoring by January 1, 1993. Because the balance of subsection (d) carries a time-line forward from this point, we felt that deleting this date would substantively alter the entire scheme embodied in the entire subsection. We included a Board Note explaining this inclusion.

A noteworthy deviation from the federal language appears at Section 611.352(h). The federal language would have almost required the Agency to formally consider modifying its treatment decision if a third party submitted a written request along with supporting information. Because this would raise issues of Board review of Agency permit decisions and other related issues under Sections 39 and 40 of the Act, the Board changed the structure. As drafted, the Agency may modify its decision on its own initiative or in response to a request by the supplier. Under these circumstances, Sections 39 and 40 would apply. However, at added subsection (h)(4), we provide that "any interested person may submit information to the Agency bearing on whether the Agency should . . . modify its determination . . ." We

expressly provide that an Agency determination not to act on this submitted information is not an Agency determination for the purposes of Sections 39 and 40. In adding (i), we state that USEPA "has reserved the prerogative" because the use of "may" appears as though the Board is granting an authorization to USEPA. An alternative is to delete this paragraph altogether, however, we believe its inclusion warns the regulated community of the fact that USEPA could modify or negate the Agency determination. We request comment on these issues.

Lead and Copper: Source Water Treatment Provisions--Section 611.353

Section 611.353 derives from 40 CFR 141.83, added by USEPA at 56 Fed. Reg. 26552, on June 7, 1991. It sets forth the source water treatment requirements. The preceding general discussion considers the substantive aspects of this Section, so this discussion will focus on the Board's deviations from the federal format and language. We have found it necessary in rendering this provision to subdivide federal paragraphs (b)(2) (b)(4), and (b)(6) into subsections to enhance their clarity. As for Section 611.352(i), in adding federal paragraph (b)(7), we state that USEPA "has reserved the prerogative" because the use of "may" appears as though the Board is granting an authorization to USEPA. An alternative is to delete this paragraph altogether, however, we believe its inclusion warns the regulated community of the fact that USEPA could modify or negate the Agency determination. We request comment on these issues.

Lead and Copper: Lead Service Line Replacement Provisions--Section 611.354

Section 611.354 derives from 40 CFR 141.84, added by USEPA at 56 Fed. Reg. 26552, on June 7, 1991, and amended at 57 Fed. Reg. 28788, on June 29, 1992. This Section sets forth the lead service line replacement requirements. The preceding general discussion considers the substantive aspects of this Section, so this discussion will focus on the Board's deviations from the federal format and language. The Board has found it necessary to subdivide most of the federal subsections and to add subsection headers to enhance readability. We have also reworded the first sentence of subsection (b) (subsection (b)(1)), a few sentences of subsection (d), the end of subsection (e) (subsection (e)(2)), and segments of subsections (f) and (g) (subsections (f)(1), (g)(1), and (g)(2)) to enhance the clarity of these provisions. Otherwise, the Board adheres to the structure and language while retaining the substance of the federal provision.

Lead and Copper: Public Education and Supplemental Monitoring Provisions--Sections 611.355 & 611.Appendix E

Sections 611.355 and 611.Appendix E derive from 40 CFR

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141.85, added by USEPA at 56 Fed. Reg. 26553, on June 7, 1991, and amended at 57 Fed. Reg. 28788, on June 29, 1992. These Sections set forth the public education requirements for the lead and copper rules. The preceding general discussion considers the substantive aspects of this Section, so this discussion will focus on the Board's deviations from the federal format and language. The only significant shift in structure to this Section is to place the entirety of the required notice of federal subsection (a) into a new Appendix E. The Board could not retain the structure of the required notice and retain it as subsection (a). Further, this notice is lengthy. In subsection (b) we use "broadcast" in place of "broadcasting" because this is more grammatically correct. We have added mandatory language at the end of subsection (c)(2) that did not appear in the federal text, rendered "fails to meet" as "exceeds" in subsection (c)(2), added "required by" to subsections (c)(2)(A) and (c)(2)(B), added "the" to subsection (c)(2)(C)(ii), added the abbreviation "(WIC)" to subsection (c)(2)(C)(iii), and rendered "if" as "after" and "recommence" as "begin anew" in subsection (c)(6). The Board restructured subsection (c)(3), subdividing this subsection, to clarify the required actions and associated frequencies.

The Board wishes to highlight a potential error in federal subsection (c)(4). Federal paragraph (c)(4) references "the public education materials contained in paragraphs (a)(1), (2), and (4) of this section" as the public education required of NTNCWSs. The cited paragraphs are the introductory, health effects, and exposure reduction portions of the required lead notice (codified as Appendix E). We believe it possible that USEPA intended to cite paragraphs (c)(2)(i), (c)(2)(ii), and (c)(2)(iv), requiring notice to schools, the health department, and hospitals. We have left the references as drafted by USEPA, so that it now requires an NTNCWS to post and distribute only a part of the public notice, but we request comment on this issue.

Lead and Copper: Tap Water Monitoring Provisions--Sections 611.356, 611.Table D, 611.Table E & 611.Table Z

Sections 611.356, 611.Table D, and 611.Table E derives from 40 CFR 141.86, added by USEPA at 56 Fed. Reg. 26555, on June 7, 1991, corrected at 56 Fed. Reg. 32113, on July 15, 1991, and amended at 57 Fed. Reg. 28788, on June 29, 1992. They set forth the tap water monitoring requirements for lead and copper. The preceding general discussion considers the substantive aspects of this Section, so this discussion will focus on the Board's deviations from the federal format and language. This Section proved the most problematic in drafting. As for Section 611.355, the Board found it necessary to subdivide the subsections and to add subsection headings for clarity. The major problems, however, involved the language and structure of federal paragraphs (a)(3), (a)(4), and (d)(4).

The first sentence of federal paragraph (a)(1) was divided into two subsections for clarity and ease of reading. We rendered the second and third sentences of this subsection in the active voice, and added "or capable of removing" to the last sentence. The Board can envision the use of some devices, such as activated carbon, that are designed to remove organic contaminants but also are capable of removing lead or copper.

The Board has left the citation to 40 CFR 141.42(d) intact in subsections (a)(2)(A) and (a)(2)(B). This is a federal requirement for special monitoring for corrosivity that the Board did not adopt in R88-26 because its deadlines were past. There is no parallel state provision to cite, so we use the federal cite.

Significant in the Board's deviations from the federal structure in rendering subsection (a)(3) is adding clarity to defining the sampling tier structure. We refer the reader to the discussion on page 16 for how the Board defined and applied the tier structure. This has led to extensive rewording and restructuring of subsections (a)(3) and (a)(4), while attempting to remain identical in substance to the federal rules and retain a parallel structure. The federal language mixes the definitions and sample pool selection provisions throughout paragraphs (a)(3) through (a)(9). In the restructured provisions, the Board has included all definitions at subsection (a)(3) and the sampling pool selection provisions at (a)(4). Federal paragraphs (a)(4) through (a)(9) have, more or less linearly, become subsections (a)(4)(A) through (a)(4)(D). Subsection (a)(4)(A) sets forth the selection criteria for CWS suppliers, subsection (a)(4)(B) sets forth the criteria for NTNCWS suppliers, subsection (a)(4)(C) is the provision that requires suppliers to justify the use of anything other than tier 1 sampling sites, and subsection (a)(4)(D) is the special requirement for using sampling sites with lead service lines.

The revisions to subsection (b) and (c) are fairly minor. In subsection (b)(2)(E) the active voice is used. We add "calculated as being" to subsection (b)(3)(B)(i) and "single family structure" (the term actually defined by USEPA) in place of "single family residence" in subsection (b)(3)(B)(iii). To subsection (b)(4)(A) the Board adds "follow-up", since it was follow-up sampling that USEPA intended. We have reworded and restructured subsection (c) for clarity and ease of reading by incorporating the table of 40 CFR 141.86(c) into new Section 611.Table D, rearranging the prepositional phrases, and adding "six-month" and "reduced" to differentiate the monitoring periods intended. This has made it necessary to renumber former Table D into Table Z.

Similarly, most of the revisions to subsections (d) and (e) are minor, with the exception of the rewording and restructuring



of subsection (b)(4). We have incorporated the table of 40 CFR 141.86(d) into new Section 611.Table E. We added subsection headings. We added "consecutive", "action level", and "each of" to subsection (d)(1)(B), (d)(1)(E), and (e) where necessary for clarity. We subdivided subsections (d)(4)(B) and (d)(4)(C) to accommodate the Board's standard, active-voice SEP provision format. We added references to subsection (d)(4)(B)(i) throughout the other subsections of (d)(4)(B) for clarity because of the proximity to subsection (d)(4)(C), in which a different determination is made. The Board specifically requests public comment on its approach to this Section.

Lead and Copper: Water Quality Monitoring Provisions--Section 611.357, 611.Table F & 611.Table G

Sections 611.357, 611.Table F, and 611.Table G derives from 40 CFR 141.87, added by USEPA at 56 Fed. Reg. 26557, on June 7, 1991, and amended at 57 Fed. Reg. 28788, on June 29, 1992. They set forth the water quality monitoring provisions for corrosion control. The preceding general discussion considers the substantive aspects of this Section, so this discussion will focus on the Board's deviations from the federal format and language. The Board has subdivided subsections (a)(2)(B), (b), (c), (d), and (e)(2) and added subsection headings for clarity. Similar to Section 611.356, the Board has used the active voice and added phrases like "six-month", "annual", "action level", "original . . .it seeks to confirm", and "it took" to various passages for clarity. The tables 40 CFR 141.87(a)(2), (e), and (f) are codified as new Sections 611.Table F (40 CFR 141.87(a)(2) and (e) together) and 611.Table G. The information in Table G is noted by USEPA as being for illustrative purposes only; it summarizes the narrative requirements rather than independently imposing any requirements. The Board could omit this table altogether, and we request comments on whether we should do so.

At 57 Fed. Reg. 28788, USEPA amended subsection (e)(2) to provide for triennial monitoring for suppliers that maintain the range of water quality parameters for three consecutive annual reduced monitoring periods. However, it did not add a reference to paragraph (e)(3) requiring a supplier sampling triennially to sample to reflect seasonal variation, as it does for a supplier sampling annually. The Board has added this requirement by referencing triennial monitoring in subsection (e)(3). The Board specifically requests public comment on its approach to Section 611.357.

Lead and Copper: Source Water Monitoring Provisions--Section 611.358

Section 611.358 derives from 40 CFR 141.88, added by USEPA at 56 Fed. Reg. 26559, on June 7, 1991, and amended at 57 Fed. Reg. 28788, on June 29, 1992. This Section sets forth the source

water monitoring requirements for lead and copper. The preceding general discussion considers the substantive aspects of this Section, so this discussion will focus on the Board's deviations from the federal format and language. As for the other Sections, the Board has engaged in some minor subdivision of subsections, addition of subsection headings, minor rewording, and rewording of various provisions to active voice for clarity. In subsection (a)(2)(A), we have codified the two week limitation so that it appears more clearly as a substantive provision. We also reword subsections (d)(1)(B) and (e)(2) to remove the parentheticals by expressly naming mixed system suppliers. The Board has found it necessary to add the phrase "of the appropriate duration provided by subsection (d)(1)" to define "monitoring period" in subsection (e)(3). Subsection (d)(1) provides that these periods are a compliance period for a GWS and annually for a SWS or mixed system supplier. This clarifies the Board's interpretation of this rule: that the rule does not intend a six-month monitoring period. We request comment on this issue.

Lead and Copper: Analytical Provisions--Section 611.359

Section 611.359 derives from 40 CFR 141.89, added by USEPA at 56 Fed. Reg. 26559, on June 7, 1991, and amended at 57 Fed. Reg. 28789, on June 29, 1992. This Section sets forth the analytical requirements for the lead and copper program. The preceding general and analytical methods discussions considers the substantive aspects of this Section, so this discussion will focus on the Board's deviations from the federal format and language. See pages 22 through 24 for the discussion of the methods themselves. The Board has defined the method detection limits for lead and copper in Section 611.350(a) and moved the methods from a tabular format at subsection (a) into a text format in subsection (b). (There is no federal subsection (b) for this section). In adapting subsection (a), which embodies the federal laboratory and analytical requirements (apart from the methods), the Board has only minimally revised the federal text. We add "performed for the purposes of . . ." to subsection (a)(1) and "under this Subpart" to subsection (a)(2) and subdivided subsections (a)(3) and (a)(4) and added subsection headings. We request comment on our approach to the analytical methods requirements.

Lead and Copper: Reporting Requirements--Section 611.360

Section 611.360 derives from 40 CFR 141.90, added by USEPA at 56 Fed. Reg. 26561, on June 7, 1991. This Section sets forth the reporting requirements for the lead and copper program. The Board has managed to adopt the federal language with a number of changes so minor that no individual change warrants much discussion. For example, most of the changes involve adding clarifying phrases like "requirements of", "pursuant to", etc. and changing "by" to "on or before". We add "annually" to

subsection (e)(1)(C); "number . . . in its distribution system" to subsection (e)(2)(A); the subsection (e)(2)(B) demonstration language, "that the supplier has replaced", and "combined with the total number of" to subsection (e)(2)(C); "originally" to subsection (e)(3)(A); "actually" to subsection (e)(3)(B); "over the service lines" to subsection (e)(4)(B); "calendar" to subsection (f)(1); and "continues to" to subsection (f)(3) for clarity. At subsection (g), the Board uses "sampling period" to avoid confusion with "monitoring period" because the time periods contemplated may range from a six-month monitoring period to a nine-year compliance cycle. The Board specifically requests comment.

Lead and Copper: Recordskeeping Requirements--Section 611.361

Section 611.361 derives from 40 CFR 141.91, added by USEPA at 56 Fed. Reg. 26562, on June 7, 1991. This is the recordskeeping requirement for the lead and copper program. The Board adopts the federal language with only one revision: the change of "no fewer than" to "at least".

Organic Monitoring Requirements Definitions--Section 611.640

The Board adds a definition of "Phase IIB SOC" to this Section. This definition includes a Board Note explaining that while USEPA stayed the MCLs for aldicarb, aldicarb sulfone, and aldicarb sulfoxide, it did not stay the monitoring requirements for these contaminants. See the discussion of the MCLs at pages 34-35.

Phase I VOC Sampling--Section 611.647

In addition to changing the names of the analytical methods, as discussed above, the Board proposes the deletion of subsection (h). This provision expired on January 1, 1993. We propose replacing it with "dummy" language to maintain structural parity with the corresponding federal rule 40 CFR 141.24(g). USEPA has not repeal that provision. The Board specifically requests comment.

Phase II SOC Sampling--Section 611.648

In addition to changing the names of the analytical methods, as discussed above, the Board proposes adding a Board Note to subsection (b) that explains that USEPA stayed the MCLs for aldicarb, aldicarb sulfone, and aldicarb sulfoxide but did not stay the monitoring requirements for these contaminants. See the discussion of the MCLs at pages 34-35. The Board specifically requests comment.

Reporting and Public Notice: MCL Violations--Section 611.Appendix A

Section 611.Appendix A derive from 40 CFR 141.32, amended by USEPA at 56 Fed. Reg. 26548 (June 7, 1991) and 56 Fed. Reg. 30279 (July 1, 1991). The federal rule sets forth the contaminant-by-contaminant mandatory health effects information that suppliers must submit to the public when they violate an MCL. The federal amendments added notices for aldicarb, aldicarb sulfoxide, aldicarb sulfone, pentachlorophenol, copper, and lead. The Board adopts the federal language without material deviation. We use "USEPA" for clarity in each notice and render "ground water" as "groundwater" wherever it appears throughout the Appendix, which is the Board's usual convention. We update the CFR reference in the Board Note.

Federal Effective Dates--Section 611.Table Z

Section 611.Table Z derives from no particular federal provision. Rather, the Board believes that setting forth the federal effective dates for the various federal MCLs would prove useful to the regulated community. We have added this as Table D in R91-3 for reference. As a result of the addition of additional tables in this docket, the Board has renumbered this Section to 611.Table Z. We add the effective dates for the federal lead and copper program and the Phase IIB amendments. We made multiple entries for lead and copper because 40 CFR 141.81 through 141.85 had a later effective date than 40 CFR 141.86 through 141.91. For the Phase IIB rules, the Board has separated the Phase IIB IOC (inorganic chemical contaminant) and Phase IIB SOC entries. The latter entry notes the federal stay of the MCLs for aldicarb, aldicarb sulfone, and aldicarb sulfoxide. See the discussion of MCLs at pages 34-35.

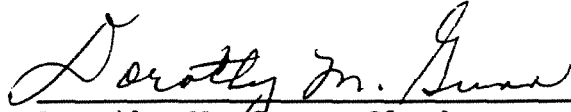
CONCLUSION

This proposed opinion supports the Board's proposed order of this same day. The Board will promptly submit these proposed amendments to the Secretary of State for publication in the Illinois Register.

B. Forcade concurred.

0139-0176

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above proposed opinion was adopted on the 4<sup>th</sup> day of February, 1993, by a vote of 6-0.

  
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Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board

0139-0177