

ILLINOIS POLLUTION CONTROL BOARD

August 22, 2013

IN THE MATTER OF: )  
)  
PROPOSED AMENDMENTS TO ) R08-18(B)  
GROUNDWATER QUALITY STANDARDS ) (Rulemaking - Public Water Supply)  
(35 ILL. ADM. CODE 620) )

Proposed Rule. Second Notice.

OPINION AND ORDER OF THE BOARD (by J.D. O’Leary):

Today the Board proposes amendments to the Part 620 groundwater quality standards (GQS) (35 Ill. Adm. Code 620) for second-notice review by the Joint Committee on Administrative Rules (JCAR) (5 ILCS 100/5-40(c) (2010)). On April 18, 2013, the Board opened a subdocket B in this proceeding and proposed first-notice amendments consisting of three technical corrections to the GQS amendments adopted by the Board on October 4, 2012 (Proposed Amendments to Groundwater Quality Standards (35 Ill. Adm. Code 620), R08-18 (Oct. 4, 2012) (GQS Update, R08-18)). The technical corrections are needed due to scribes’ errors that occurred during the R08-18 rulemaking.

First-notice publication of the technical corrections occurred in the *Illinois Register* on May 10, 2013 (37 Ill. Reg. 6123 (May 10, 2013)). Section 5-40(b) of the Illinois Administrative Procedure Act (IAPA) (5 ILCS 100/5-40(b) (2010)) requires the Board to receive any public comments for at least 45 days from the date of first-notice publication. Since publication, the Board has received no public comments.

In this opinion, the Board provides an overview of the R08-18 rulemaking, after which the Board discusses each of the technical corrections being proposed. The second-notice rule language, which is set forth in the order following this opinion, is proposed for JCAR’s review without any changes to the first-notice rule language.

**OVERVIEW OF R08-18**

Docket R08-18 updated the Board’s GQS at 35 Ill. Adm. Code 620 based upon new scientific data, federal amendments, and technical references. See GQS Update, R08-18, slip op. at 1 (Oct. 4, 2012). The amendments added GQS for chemicals detected in Illinois groundwater that have established toxicity values or that have groundwater remediation objectives under the Tiered Approach to Corrective Action Objectives (TACO) (35 Ill. Adm. Code 742). *Id.* In all, 39 chemicals were added. Additionally, revision was made to the Class I GQS for arsenic. The Board’s adopted amendments were based upon the proposal filed by the Illinois Environmental Protection Agency under Sections 27 and 28 of the Environmental Protection Act (Act) (415 ILCS 5/27, 28 (2010)).

Following two public hearings in R08-18, the Board adopted a first-notice proposal on October 20, 2011, and those proposed amendments appeared in the *Illinois Register* at 31 Ill. Reg. 18502 (Nov. 14, 2011). The final rules were adopted on October 4, 2012, became effective on October 5, 2012, and were published in the *Illinois Register* on October 19, 2012 (36 Ill. Reg. 15206 (Oct. 19, 2012)).

### **TECHNICAL CORRECTIONS**

This subdoCKET was opened for the limited purpose of making several technical corrections to Section 620.420(b)(1) (35 Ill. Adm. Code 620.420(b)(1)). The errors occurred in the rule's list of organic chemicals and corresponding concentrations. Section 620.420(b)(1) provides that the organic chemical concentrations listed must not be exceeded in Class II general resource groundwater. *See* 35 Ill. Adm. Code 620.420(b)(1).

Specifically, amendments to 35 Ill. Adm. Code 620.420(b)(1) are required to remedy three errors resulting from the R08-18 rulemaking. First, trichloroethylene and its Class II GQS of 0.025 milligrams per liter (mg/L) were inadvertently deleted and must be restored. Second, the Class II GQS for 1,1,2-trichloroethane of 0.05 mg/L was accidentally changed to 0.025 mg/L. The correct concentration must be restored. Third and finally, an asterisk next to "dibenzo(a,h)anthracene" to denote that the chemical is a carcinogen was inadvertently not added and must be added.

#### **Trichloroethylene**

The Class II GQS of 0.025 mg/L for trichloroethylene has been a part of the GQS since their adoption in 1991. *See* Groundwater Quality Standards, R89-14(B), slip op. at 55 (Nov. 7, 1991). The trichloroethylene Class II GQS, which has long been located in Section 620.420(b)(1) with other organic chemical Class II GQS, was not at issue in R08-18. However, because Section 620.420(b)(1) was being amended, the Board's first-notice, second-notice, and final-adoption orders in R08-18 included the trichloroethylene Class II GQS. *See* GQS Update, R08-18, slip op. at 51 (Oct. 20, 2011); GQS Update, R08-18, slip op. at 51 (Aug. 9, 2012); GQS Update, R08-18, slip op. at 51 (Oct. 4, 2012).

The trichloroethylene Class II GQS failed to appear in the *Illinois Register* at first notice or final adoption of the R08-18 amendments. *See* 35 Ill. Reg. at 18534 (Nov. 14, 2011); 36 Ill. Reg. at 15236 (Oct. 19, 2012). To correct the inadvertent deletion of the trichloroethylene Class II GQS, the Board proposes restoring this carcinogenic chemical and its Class II GQS to Section 620.420(b)(1).

#### **1,1,2-Trichloroethane**

The Class II GQS of 0.05 mg/L for 1,1,2-trichloroethane has been a part of the GQS since the Part 620 amendments of 1994. *See* Groundwater Protection: Amendments to Groundwater Quality Standards (35 Ill. Adm. Code 620), R93-27, slip op. at 24 (Aug. 11, 1994). The 1,1,2-trichloroethane Class II GQS, which has long been located in Section 620.420(b)(1) with other organic chemical Class II GQS, was not at issue in R08-18. However, because

Section 620.420(b)(1) was being amended, the Board's first-notice, second-notice, and final-adoption orders in R08-18 included the Class II GQS for 1,1,2-trichloroethane. *See* GQS Update, R08-18, slip op. at 51 (Oct. 20, 2011); GQS Update, R08-18, slip op. at 51 (Aug. 9, 2012); GQS Update, R08-18, slip op. at 51 (Oct. 4, 2012).

The 1,1,2-trichloroethane Class II GQS of 0.05 mg/L appeared incorrectly as 0.025 mg/L in the *Illinois Register* at first notice and final adoption of the R08-18 amendments. *See* 35 Ill. Reg. at 18534 (Nov. 14, 2011); 36 Ill. Reg. at 15236 (Oct. 19, 2012). To remedy the inadvertent modification of the 1,1,2-trichloroethane Class II GQS, the Board proposes deleting the incorrect concentration of 0.025 mg/L and restoring the concentration of 0.05 mg/L as the Class II GQS for 1,1,2-trichloroethane Section 620.420(b)(1).

### **Dibenzo(a,h)anthracene**

In R08-18, Class I potable resource GQS and Class II general resource GQS were added for dibenzo(a,h)anthracene and 38 other chemicals. *See* GQS Update, R08-18, slip op. at 8-9 (Oct. 4, 2012). In each of its opinions in that rulemaking, the Board discussed the need to include an asterisk next to "dibenzo(a,h)anthracene" to denote that the chemical is a carcinogen. *See* GQS Update, R08-18, slip op. at 23 (Oct. 20, 2011); GQS Update, R08-18, slip op. at 24 (Aug. 9, 2012); GQS Update, R08-18, slip op. at 25 (Oct. 4, 2012); *see also* GQS Update, R08-18, slip op. at 8 (Oct. 4, 2012) (listing dibenzo(a,h)anthracene with "\*" next to it).

However, while the *Illinois Register* at first notice and final adoption listed dibenzo(a,h)anthracene with an asterisk in the *Class I* GQS, the chemical appeared in those publications in the *Class II* GQS without an asterisk. *See* 35 Ill. Reg. at 18527, 18533 (Nov. 14, 2011); 36 Ill. Reg. at 15229, 15235 (Oct. 19, 2012). To correct the inadvertent omission of an asterisk next to the chemical's Class II GQS, the Board proposes adding "\*" next to "dibenzo(a,h)anthracene" in Section 620.420(b)(1) to reflect the chemical's carcinogenic nature.

### **CONCLUSION**

In its first-notice opinion, the Board noted that it had already held the public hearings required by Section 28(a) of the Act (415 ILCS 5/28(a) (2010)) and that the sole purpose of this subdocket B is to correct the above-described scriveners' errors. The Board therefore found that no further hearings would be held unless the Board was requested to do so pursuant to Section 5-40(b) of the IAPA (5 ILCS 100/5-40(b) (2010)). The Board received no request for an additional hearing.

The Board today proposes the three technical corrections for second-notice review by JCAR. The Board received no public comments on the first-notice amendments, which are unchanged at second notice.

**ORDER**

The Board directs the Clerk to submit to JCAR the following proposed amendments to 35 Ill. Adm. Code 620. Proposed additions to the current rules are underlined; proposed deletions to the current rules appear stricken.

TITLE 35: ENVIRONMENTAL PROTECTION  
 SUBTITLE F: PUBLIC WATER SUPPLIES  
 CHAPTER I: POLLUTION CONTROL BOARD

PART 620  
 GROUNDWATER QUALITY

SUBPART A: GENERAL

Section	
620.105	Purpose
620.110	Definitions
620.115	Prohibition
620.125	Incorporations by Reference
620.130	Exemption from General Use Standards and Public and Food Processing Water Supply Standards
620.135	Exclusion for Underground Waters in Certain Man-Made Conduits

SUBPART B: GROUNDWATER CLASSIFICATION

Section	
620.201	Groundwater Designations
620.210	Class I: Potable Resource Groundwater
620.220	Class II: General Resource Groundwater
620.230	Class III: Special Resource Groundwater
620.240	Class IV: Other Groundwater
620.250	Groundwater Management Zone
620.260	Reclassification of Groundwater by Adjusted Standard

SUBPART C: NONDEGRADATION PROVISIONS FOR APPROPRIATE  
 GROUNDWATERS

Section	
620.301	General Prohibition Against Use Impairment of Resource Groundwater
620.302	Applicability of Preventive Notification and Preventive Response Activities
620.305	Preventive Notification Procedures
620.310	Preventive Response Activities

SUBPART D: GROUNDWATER QUALITY STANDARDS

Section

620.401	Applicability
620.405	General Prohibitions Against Violations of Groundwater Quality Standards
620.410	Groundwater Quality Standards for Class I: Potable Resource Groundwater
620.420	Groundwater Quality Standards for Class II: General Resource Groundwater
620.430	Groundwater Quality Standards for Class III: Special Resource Groundwater
620.440	Groundwater Quality Standards for Class IV: Other Groundwater
620.450	Alternative Groundwater Quality Standards

#### SUBPART E: GROUNDWATER MONITORING AND ANALYTICAL PROCEDURES

Section	
620.505	Compliance Determination
620.510	Monitoring and Analytical Requirements

#### SUBPART F: HEALTH ADVISORIES

Section	
620.601	Purpose of a Health Advisory
620.605	Issuance of a Health Advisory
620.610	Publishing Health Advisories
620.615	Additional Health Advice for Mixtures of Similar-Acting Substances
620.APPENDIX A	Procedures for Determining Human Threshold Toxicant Advisory Concentration for Class I: Potable Resource Groundwater
620.APPENDIX B	Procedures for Determining Hazard Indices for Class I: Potable Resource Groundwater for Mixtures of Similar-Acting Substances
620.APPENDIX C	Guidelines for Determining When Dose Addition of Similar-Acting Substances in Class I: Potable Resource Groundwaters is Appropriate
620.APPENDIX D	Confirmation of an Adequate Corrective Action Pursuant to 35 Ill. Adm. Code 620.250(a)(2)

**AUTHORITY:** Implementing and authorized by Section 8 of the Illinois Groundwater Protection Act [415 ILCS 55/8] and authorized by Section 27 of the Illinois Environmental Protection Act [415 ILCS 5/27].

**SOURCE:** Adopted in R89-14(B) at 15 Ill. Reg. 17614, effective November 25, 1991; amended in R89-14(C) at 16 Ill. Reg. 14667, effective September 11, 1992; amended in R93-27 at 18 Ill. Reg. 14084, effective August 24, 1994; amended in R96-18 at 21 Ill. Reg. 6518, effective May 8, 1997; amended in R97-11 at 21 Ill. Reg. 7869, effective July 1, 1997; amended in R01-14 at 26 Ill. Reg. 2662, effective February 5, 2002; amended in R08-18 at 36 Ill. Reg. 15206, effective October 5, 2012; amended in R08-18(B) at 37 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_.

#### SUBPART D: GROUNDWATER QUALITY STANDARDS

**Section 620.420 Groundwater Quality Standards for Class II: General Resource Groundwater**

## a) Inorganic Chemical Constituents

- 1) Except due to natural causes or as provided in Section 620.450 or subsection (a)(3) or (e) of this Section, concentrations of the following chemical constituents must not be exceeded in Class II groundwater:

Constituent	Standard (mg/L)
Antimony	0.024
Arsenic*	0.2
Barium	2.0
Beryllium	0.5
Cadmium	0.05
Chromium	1.0
Cobalt	1.0
Cyanide	0.6
Fluoride	4.0
Lead	0.1
Mercury	0.01
Nitrate as N	100.0
Perchlorate	0.0049
Thallium	0.02
Vanadium	0.1

\*Denotes a carcinogen.

- 2) Except as provided in Section 620.450 or subsection (a)(3) or (e) of this Section, concentrations of the following chemical constituents must not be exceeded in Class II groundwater:

Constituent	Standard (mg/L)
Boron	2.0
Chloride	200.0
Copper	0.65
Iron	5.0
Manganese	10.0
Nickel	2.0
Selenium	0.05
Total Dissolved Solids (TDS)	1,200.0
Sulfate	400.0
Zinc	10.0

- 3) The standard for any inorganic chemical constituent listed in subsection (a)(2) of this Section, for barium, or for pH does not apply to groundwater within fill material or within the upper 10 feet of parent material under such fill material on a site not within the rural property class for which:
- A) Prior to November 25, 1991, surficial characteristics have been altered by the placement of such fill material so as to impact the concentration of the parameters listed in subsection (a)(3) of this Section, and any on-site groundwater monitoring of such parameters is available for review by the Agency.
- B) On November 25, 1991, surficial characteristics are in the process of being altered by the placement of such fill material, that proceeds in a reasonably continuous manner to completion, so as to impact the concentration of the parameters listed in subsection (a)(3) of this Section, and any on-site groundwater monitoring of such parameters is available for review by the Agency.
- 4) For purposes of subsection (a)(3) of this Section, the term "fill material" means clean earthen materials, slag, ash, clean demolition debris, or other similar materials.

b) Organic Chemical Constituents

- 1) Except due to natural causes or as provided in Section 620.450 or subsection (b)(2) or (e) of this Section, concentrations of the following organic chemical constituents must not be exceeded in Class II groundwater:

Constituent	Standard (mg/L)
Acenaphthene	2.1
Acetone	6.3
Alachlor*	0.010
Aldicarb	0.015
Anthracene	10.5
Atrazine	0.015
Benzene*	0.025
Benzo(a)anthracene*	0.00065
Benzo(b)fluoranthene*	0.0009
Benzo(k)fluoranthene*	0.006
Benzo(a)pyrene*	0.002
Benzoic acid	28.0
2-Butanone (MEK)	4.2

Carbon Disulfide	3.5
Carbofuran	0.2
Carbon Tetrachloride*	0.025
Chlordane*	0.01
Chloroform*	0.35
Chrysene*	0.06
Dalapon	2.0
Dibenzo(a,h)anthracene*	0.0015
Dicamba	0.21
Dichlorodifluoromethane	7.0
1,1-Dichloroethane	7.0
Dichloromethane*	0.05
Di(2-ethylhexyl)phthalate*	0.06
Diethyl Phthalate	5.6
Di-n-butyl Phthalate	3.5
Dinoseb	0.07
Endothall	0.1
Endrin	0.01
Ethylene Dibromide*	0.0005
Fluoranthene	1.4
Fluorene	1.4
Heptachlor*	0.002
Heptachlor Epoxide*	0.001
Hexachlorocyclopentadiene	0.5
Indeno(1,2,3-cd)pyrene*	0.0022
Isopropylbenzene (Cumene)	3.5
Lindane (Gamma-Hexachloro cyclohexane)	0.001
2,4-D	0.35
Ortho-Dichlorobenze	1.5
Para-Dichlorobenzene	0.375
1,2-Dibromo-3-Chloropropane*	0.002
1,2-Dichloroethane*	0.025
1,1-Dichloroethylene	0.035
cis-1,2-Dichloroethylene	0.2
Trans-1,2-Dichloroethylene	0.5
1,2-Dichloropropane*	0.025
Ethylbenzene	1.0
MCPP (Mecoprop)	0.007
Methoxychlor	0.2
2-Methylnaphthalene	0.14
2-Methylphenol	0.35
Methyl Tertiary-Butyl Ether (MTBE)	0.07
Monochlorobenzene	0.5
Naphthalene	0.22
P-Dioxane*	0.0077

Pentachlorophenol*	0.005
Phenols	0.1
Picloram	5.0
Pyrene	1.05
Polychlorinated Biphenyls (PCBs) (as decachloro-biphenyl)*	0.0025
alpha-BHC (alpha-Benzene hexachloride)*	0.00055
Simazine	0.04
Styrene	0.5
2,4,5-TP	0.25
Tetrachloroethylene*	0.025
Toluene	2.5
Toxaphene*	0.015
1,1,1-Trichloroethane	1.0
1,2,4-Trichlorobenzene	0.7
1,1,2-Trichloroethane	<del>0.025</del> 0.05
<u>Trichloroethylene*</u>	<u>0.025</u>
Trichlorofluoromethane	10.5
Vinyl Chloride*	0.01
Xylenes	10.0

\* Denotes a carcinogen.

- 2) The standards for pesticide chemical constituents listed in subsection (b)(1) of this Section do not apply to groundwater within 10 feet of the land surface, provided that the concentrations of such constituents result from the application of pesticides in a manner consistent with the requirements of the Federal Insecticide, Fungicide and Rodenticide Act (7 USC 136 et seq.) and the Illinois Pesticide Act [415 ILCS 60].

- c) Explosive Constituents  
Concentrations of the following explosive constituents must not exceed the Class II groundwater standard:

Constituent	Standard (mg/L)
1,3-Dinitrobenzene	0.0007
2,4-Dinitrotoluene*	0.0001
2,6-Dinitrotoluene*	0.00031
HMX (High Melting Explosive, Octogen)	1.4
Nitrobenzene	0.014
RDX (Royal Demolition Explosive, Cyclonite)	0.084

1,3,5-Trinitrobenzene	0.84
2,4,6-Trinitrotoluene (TNT)	0.014

\*Denotes a carcinogen.

- d) Complex Organic Chemical Mixtures  
Concentrations of the following organic chemical constituents of gasoline, diesel fuel, or heating fuel must not be exceeded in Class II groundwater:

Constituent	Standard (mg/L)
Benzene*	0.025
BETX	13.525

\*Denotes a carcinogen

- e) pH  
Except due to natural causes, a pH range of 6.5 - 9.0 units must not be exceeded in Class II groundwater that is within 5 feet of the land surface.

(Source: Amended at 37 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

IT IS SO ORDERED.

I, John T. Therriault, Clerk of the Illinois Pollution Control Board, certify that the Board adopted the above opinion and order on August 22, 2013, by a vote of 4-0.




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John T. Therriault, Clerk  
Illinois Pollution Control Board