

ILLINOIS POLLUTION CONTROL BOARD

April 18, 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. First Notice.

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

Today the Board opens a subdocket B in this proceeding and proposes, for first notice, technical corrections to recently-adopted amendments of the Part 620 groundwater quality standards (GQS). The adopted amendments were published in the *Illinois Register* at 36 Ill. Reg. 15206 (Oct. 19, 2012) and became effective October 5, 2012. See 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 scrivener’s errors that occurred during the rulemaking.

This subdocket is 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 chemicals concentrations listed must not be exceeded in Class II general resource groundwater. See 35 Ill. Adm. Code 620.420(b)(1).

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 (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 (Agency) under Section 27 of the Environmental Protection Act (Act) (415 ILCS 5/27 (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, and, as noted, were published at 36 Ill. Reg. 15206 (Oct. 19, 2012). Amendments to 35 Ill. Adm. Code 620.420(b)(1) are now 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.

DISCUSSION

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

The Board today proposes three technical corrections for first notice under the Illinois Administrative Procedure Act (IAPA) (5 ILCS 100/5-40(b) (2010)). First-notice publication in the *Illinois Register* of these proposed amendments will start a period of 45 days during which anyone may file a public comment with the Clerk of the Board.

The Board has already held the public hearings required by Section 28(a) of the Act (415 ILCS 5/28(a) (2010)). *See* GQS Update, R08-18, slip op. at 2 (Oct. 4, 2012). The sole purpose of this subdocket B is to correct the above-described scrivener’s errors that occurred during the R08-18 rulemaking. The Board finds that further hearings are unnecessary. Accordingly, the Board does not intend to hold any additional hearing unless requested to do so pursuant to Section 5-40(b) of the IAPA (5 ILCS 100/5-40(b) (2010)).

ORDER

The Board proposes the following amendments to the GQS (35 Ill. Adm. Code 620) and directs the Clerk to submit the proposed amendments to the Secretary of State for first-notice publication in the *Illinois Register*. Proposed additions to Part 620 are underlined; the proposed deletion appears 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	0.025 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, Assistant Clerk of the Illinois Pollution Control Board, certify that the Board adopted the above opinion and order on April 18, 2013, by a vote of 5-0.

A handwritten signature in black ink that reads "John T. Therriault". The signature is written in a cursive style with a long horizontal stroke at the end.

John T. Therriault, Assistant Clerk
Illinois Pollution Control Board