

WEST VIRGINIA
SECRETARY OF STATE
KEN HECHLER
ADMINISTRATIVE LAW DIVISION

Form #3

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97 AUG -1 PM 2:55

OFFICE OF WEST VIRGINIA
SECRETARY OF STATE

NOTICE OF AGENCY APPROVAL OF A PROPOSED RULE
AND
FILING WITH THE LEGISLATIVE RULE-MAKING REVIEW COMMITTEE

AGENCY: ENVIRONMENTAL QUALITY BOARD TITLE NUMBER: 46

CITE AUTHORITY 22B-3-4

AMENDMENT TO AN EXISTING RULE: YES NO

IF YES, SERIES NUMBER OF RULE BEING AMENDED: 12

TITLE OF RULE BEING AMENDED: REQUIREMENTS GOVERNING GROUNDWATER

STANDARDS

IF NO, SERIES NUMBER OF NEW RULE BEING PROPOSED: _____

TITLE OF RULE BEING PROPOSED: _____

THE ABOVE PROPOSED LEGISLATIVE RULE HAVING GONE TO A PUBLIC HEARING OR
A PUBLIC COMMENT PERIOD IS HEREBY APPROVED BY THE PROMULGATING
AGENCY FOR FILING WITH THE SECRETARY OF STATE AND THE LEGISLATIVE RULE
MAKING REVIEW COMMITTEE FOR THEIR REVIEW.


Authorized Signature

Environmental Quality Board
46CSR12
“Requirements Governing Groundwater Standards”

Commissioner Letter

August 1, 1997



BUREAU OF ENVIRONMENT
10 McJunkin Road
Nitro, WV 25143-2506

CECIL H. UNDERWOOD
GOVERNOR

JOHN E. CAFFREY
COMMISSIONER

August 1, 1997

Ms. Judy Cooper
Director, Administrative Law Division
Office of the Secretary of State
Capitol Complex
Charleston, West Virginia 25305

RE: 46CSR12 - Requirements Governing Groundwater
Standards

Dear Ms. Cooper:

This is to advise you that I am giving approval for filing with your office and Legislative Rulemaking notice of Agency Approval of the above-referenced rule.

Your cooperation in this regard is very much appreciated. If you have any questions or require additional information, please feel free to contact Libby Chatfield at 558-4002.

Sincerely yours,

John E. Caffrey
Commissioner

JEC:cc

Attachment

Environmental Quality Board
46CSR12
“Requirements Governing Groundwater Standards”

LRMRC Questionnaire

August 1, 1997

DATE: August 1, 1997

TO: LEGISLATIVE RULE-MAKING REVIEW COMMITTEE

FROM: Environmental Quality Board

LEGISLATIVE RULE TITLE: "Requirements Governing Groundwater Standards"

1. Authorizing statute(s) citation 22B-3-4

2. a. Date filed in State Register with Notice of Hearing
June 18, 1997

b. What other notice, including advertising, did you give of the hearing?
Published in Charleston Newspapers on June 25, 1997 and July 10, 1997

c. Date of Hearing(s) July 21, 1997 7:00 p.m.

d. Attach list of persons who appeared at hearing, comments received, amendments, reasons for amendments
Attached X No comments received

e. Date you filed in State Register the agency approved proposed Legislative Rule following public hearing: (be exact)
August 1, 1997

f. Name and phone number(s) of agency person(s) to contact for additional information:
Elizabeth Chatfield, Technical Advisor (304) 558-4002

3. If the statute under which you promulgated the submitted rules requires certain findings and determinations to be made as a condition precedent to their promulgation:

a. Give the date upon which you filed in the State Register a notice of the time and place of a hearing for the taking of evidence and a general description of the issues to be decided.

_____ N/A _____

b. Date of hearing: _____ N/A _____

c. On what date did you file in the State Register the findings and determinations required together with the reasons therefor?

_____ N/A _____

d. Attach findings and determinations and reasons:

Attached _____ N/A _____

Environmental Quality Board
46CSR12
“Requirements Governing Groundwater Standards”

Summary of Rule

August 1, 1997

46 CSR 12

Summary of Proposed Amendments

The following is a summary of revisions proposed by the Environmental Quality Board in the attached document:

- Adoption of a groundwater standard in Appendix A for combined radium 226 and 228 of 300 picocuries (pCi)
- Amendment of section 3.5 to include a provision allowing samples for metals to be based on total concentrations rather than dissolved where required by state or federal regulations.
- Adoption of new language (section 46-12-4) addressing criteria to be used in determining need for corrective action at hazardous waste treatment, storage and disposal facilities.

Environmental Quality Board
46CSR12
“Requirements Governing Groundwater Standards”

Statement of Circumstances

August 1, 1997

46 CSR 12

Statement of Circumstances Requiring Amendments

The Environmental Quality Board is authorized by the state Groundwater Protection Act to promulgate the legislative rule, 46 CSR 12, "Requirements Governing Groundwater Standards." In the course of reviewing this regulation, the Board received comments from the Office of Water Resources and Office of Waste Management of the Division of Environmental Protection suggesting amendments to the rule to respond to new federal regulations and to correct inconsistencies between the groundwater standards and existing federal regulations. The amendments proposed herein are made in response to those comments.

Environmental Quality Board
46CSR12
“Requirements Governing Groundwater Standards”

Fiscal Note

August 1, 1997

APPENDIX B

FISCAL NOTE FOR PROPOSED RULES

Rule Title: Title 46, Series 12 Requirements Governing Groundwater Standards

Type of Rule: Legislative Interpretive Procedural

Agency Environmental Quality Board

Address 1615 Washington Street, East

Charleston, WV 25311-2126

1. Effect of Proposed Rule N/A

	ANNUAL		FISCAL YEAR		
	INCREASE	DECREASE	CURRENT	NEXT	THEREAFTER
ESTIMATED TOTAL COST	\$	\$	\$	\$	\$
PERSONAL SERVICES					
CURRENT EXPENSE					
REPAIRS & ALTERATIONS					
EQUIPMENT					
OTHER					

2. Explanation of above estimates: N/A

3. Objectives of these rules: The proposed amendments are made in response to changes in the federal Safe Drinking Water Act Regulations and to respond to inconsistencies between this rule and other federal laws.

Rule Title: Requirements Governing Groundwater Standards

4. Explanation of Overall Economic Impact of Proposed Rule.

A. Economic Impact on State Government.

None anticipated

B. Economic Impact on Political Subdivisions; Specific Industries; Specific groups of Citizens.

None anticipated

C. Economic Impact on Citizens/Public at Large.

None anticipated

Date: August 1, 1997

Signature of Agency Head or Authorized Representative

Ann Holstein

Environmental Quality Board
46CSR12
“Requirements Governing Groundwater Standards”

Agency Approved Rule

August 1, 1997

TITLE 46
LEGISLATIVE RULE

BUREAU OF THE ENVIRONMENT
ENVIRONMENTAL QUALITY BOARD

SERIES 12
REQUIREMENTS GOVERNING
GROUNDWATER STANDARDS

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OFFICE OF WEST VIRGINIA
SECRETARY OF STATE

§46-12-1. General.

1.1. Scope.- The purpose of this Legislative rule is to establish minimum standards of purity and quality for groundwater located within this State.

1.2. Authority. - W. Va. Code §§22-12-4 and 22B-3-4.

1.3. Filing Date. -- ~~July 26, 1993~~

1.4. Effective Date. -- ~~August 25, 1993~~

§46-12-2. Definitions.

As used in this rule:

2.1. "Act" means the Groundwater Protection Act, W. Va. Code §22-12-1 et seq..

2.2. "Board" means Environmental Quality Board.

2.3. "Constituent" means any chemical or biological substance found in groundwater due to either natural or man-made conditions.

2.4. "Groundwater" means the water occurring in the zone of saturation beneath the seasonal high water table, or any perched water zones.

2.5 "Person" means any industrial user, public or private corporation, institution, association, firm or company organized or existing under the laws of this or any other state or country; State of West Virginia; governmental agency, including federal facilities; political subdivision; county commission; municipal corporation; industry; sanitary district; public service district; soil conservation district; watershed improvement district; partnership; trust; estate; person or individual; group of persons or individuals acting individually or as a group; or any legal entity whatever.

§46-12-3. Groundwater Standards.

3.1. Except as provided in Sections 3.2 and 3.3, the standards of purity and quality for groundwater in the state shall be the constituent concentrations found in Appendix A.

3.2. Where the concentration of a constituent exceeds an otherwise applicable groundwater quality standard as a result of natural conditions, the naturally occurring level of that constituent shall become the groundwater quality standard for the affected area.

a. Where the concentration of a certain constituent exceeds an otherwise applicable groundwater quality standard due to human-induced contamination, no further contamination by that constituent shall be allowed, and every reasonable effort shall be made to identify, remove or mitigate the source of such contamination, and to strive where practical to reduce the level of contamination over time to support drinking water use.

3.3. Constituents in groundwater shall not cause a violation of the standards found at 46 CSR Series 1 in any surface water.

3.4. Groundwater quality standards do not apply:

a. Within areas of geologic formations which are site specific to site production or storage zones of crude oil or natural gas and which are utilized for the exploration, development or production of crude oil or natural gas permitted pursuant to W.Va. Code Chapter 22, Articles 6, 7, 8, 9 or 10; and

b. Within areas of geologic formations which are site specific to the injection zones of Class II or III or wells permitted pursuant to the statutes and regulations governing the underground injection control program.

c. To any constituent or any class of activities for which a variance from groundwater quality standards has been granted by the Director pursuant to W. Va. Code §22-12-5(l).

d. To coal extraction and earth disturbing activities directly involved in coal extraction that are subject to either or both article three or eleven (§22-3-2 et seq. or §22-11-1 et seq.) of chapter 22 of the West Virginia Code.

3.5. Measurement of inorganic constituents

a. Compliance with groundwater protection standards for inorganic constituents shall be determined in terms of dissolved concentrations rather than total concentrations except as specified in section 3.5.b.

b. Any groundwater regulatory agency as specified in the Act may determine compliance with groundwater protection standards for inorganic constituents utilizing total concentration values, only as necessary to protect human health or the environment. Appropriate situations for utilizing total concentrations values include, but are not limited to, the following:

A. Sample is from a carbonate formation in an area of karst terrane:

B. Sample is from a collection point for groundwater used for private or public water supply; or where

C. Sample is from a spring or seep.

D. Sample is one for which state or federal regulations require that total inorganic concentrations be measured.

§46-12-4 Hazardous Waste Treatment, Storage or Disposal Facilities

4.1. Nothing in this rule prohibits the Office of Waste Management, acting in accordance with federal regulations, from using criteria other than the standards specified in this rule for purposes of determining the need for corrective action at hazardous waste treatment, storage or disposal facilities, as provided in 40 C.F. R. Parts 264 and 265, Subpart F.

APPENDIX A

<u>Constituent</u>	<u>Not to Exceed (in mg/l except where noted)</u>
Alachlor	0.002
Antimony	0.006
Asbestos	7 MFL*
Atrazine	0.003
Barium	2.0
Benzene	0.005
Benzo (a) pyrene (PAH)	0.0002
Beryllium	0.004
Cadmium	0.005
Carbofuran	0.04
Carbon tetrachloride	0.005
Chlordane	0.002
Chromium (total)	0.1
Cyanide	0.2
2, 4-D	0.07
Dalapon	0.2
Di(2-ethylhexyl)adipate	0.4
Di(2-ethylhexyl)phthalate	0.006

Dibromochloropropane (DBCP)	0.0002
Dichlorobenzene p-	0.075
Dichlorobenzene o-	0.6
Dichlorobenzene m -	0.6
Dichloroethane (1,2)	0.005
Dichloroethylene (1,1-)	0.007
Dichloroethylene (cis- 1,2-)	0.07
Dichloroethylene (trans - 1,2-)	0.1
Dichloromethane	0.005
Dichloropropane (1,2-)	0.005
Dinoseb	0.007
Diquat	0.02
Endothall	0.1
Endrin	0.002
Ethylbenzene	0.7
Ethylene dibromide (EDB)	0.00005
Fluoride	4.0
Glyphosate	0.7
Heptachlor	0.0004
Heptachlor epoxide	0.0002
Hexachlorobenzene	0.001
Hexachlorocyclopentadiene	0.05

Lead	0.015
Lindane	0.0002
Mercury (inorganic)	0.002
Methoxychlor	0.04
Monochlorobenzene	0.1
Nickel	0.1
Nitrate (as N)	10.0
Nitrite (as N)	1.0
Total Nitrate and Nitrite (both as N)	10.0
Oxamyl (Vydate)	0.2
Pentachlorophenol	0.001
Picloram	0.5
Polychlorinated biphenyls	0.0005
Selenium	0.05
Simazine	0.004
Styrene	0.1
2, 3, 7, 8- TCDD (Dioxin)	0.000000005
Tetrachlorethylene	0.005
Thallium	0.002
Toluene	1.0
Toxaphene	0.003
2, 4, 5,- TP (Silvex)	0.05

Trichlorobenzene (1, 2, 4-)	0.07
Trichloroethane (1, 1, 1-)	0.2
Trichloroethane (1, 1, 2-)	0.005
Trichlorethylene	0.005
Vinyl Chloride	0.002
Xylenes (total)	10.0
Radionuclides	
Beta particle and photon activity	4 mrem**
Gross alpha particle activity	15 pCi/L***
<u>Combined Radium 226 and 228</u>	<u>300 pCi/l</u>

*MFL = million fibers per liter

**mrem = millirem (rem = roentgen - equivalent - man)

*** pCi = picocurie

Environmental Quality Board
46CSR12
“Requirements Governing Groundwater Standards”

Public Hearing Transcript
and List of Attendees

August 1, 1997



ENVIRONMENTAL QUALITY BOARD

1615 Washington Street, East, Suite 301
Charleston, West Virginia 25311-2126

Telephone: (304) 558-4002
Fax: (304) 558-4116

August 1, 1997

Ms. Judy Cooper
Director, Administrative Law Division
Office of the Secretary of State
Capitol Complex
Charleston, West Virginia 25305

RE: 46CSR12 - Requirements Governing Groundwater Standards

Dear Ms. Cooper:

At this time, the transcript from the Public Hearing held on July 21, 1997 at 7:00 p.m. has not been completed by the court reporter. Upon receipt of this transcript, we will forward the necessary copies to your office as well as the Legislative Rule-Making Review Committee. Oral comments will also be documented in the transcript.

If you should have any questions, please feel free to contact Libby Chatfield at 558-4002.

Sincerely,

A handwritten signature in cursive script that reads "Ann L. Holstein".

Ann L. Holstein
Administrative Secretary

ENVIRONMENTAL QUALITY BOARD MEETING

JULY 24, 1997 - 3:00 P.M.

ATTENDANCE ONLY

- 412 838 6813
1. RICHARD Herd Allegheny Power
 2. Mark Vignovic Weirton Steel Corporation 304 797 4276
 3. Bob Williams VIRGINIA POWER 804 273 2999
 4. JESSICA KELLEY Calver & McCormick/ACT Foundation
 5. David M Flannery Jackson & Kelly
 6. Christa M. Stewart WSAZ-TV (304) 344-3521
 7. Ben Greene WVHRA 347-5318
 8. Leonard Kree Bowles Rice 347-1706
 9. Jennie Henthorn Bowles Rice 347-1162
 10. Dave Yaussy Robinson & McKee 347-8358
 11. Jim Eychaner USGS 347-5130
 12. Randy Lovic OWR 558-3614
 13. Scott D Galoman DEP-OLS 8-9160
 14. DON KUNTZ Bureau for Public Health 558-298
 15. _____
 16. _____
 17. _____
 18. _____
 19. _____

ENVIRONMENTAL QUALITY BOARD MEETING
JULY 24, 1997 - 3:00 P.M.
ATTENDANCE ONLY

1. DAVE WATKINS - OWR/DEP

2. DON KUNTZ - Environmental Health

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____

19. _____

Environmental Quality Board
46CSR12
“Requirements Governing Groundwater Standards”

Copies of Comments Received

August 1, 1997



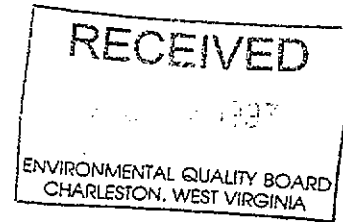
DIVISION OF ENVIRONMENTAL PROTECTION

CECIL H. UNDERWOOD
GOVERNOR

1201 Greenbrier Street
Charleston, WV 25311-1088
July 18, 1997

JOHN E. CAFFREY
DIRECTOR

Ms. Libby Chatfield
Technical Advisor
Environmental Quality Board
1615 Washington Street, East
Suite 301
Charleston, WV 25311-2126



RE: Proposed Rule changes
To 46 CSR 12

Dear Ms. Chatfield:

I have reviewed the above referenced EQB's proposed changes and offer the following comments:

Proposed changes to Section 3.5 - Due to the addition of new 3.5.b.D., it appears that the wording 'or where' in 3.5.b.B. should now be eliminated.

Proposed addition of radium to Appendix A - In part, as a result of the proposal to include radium, (but more importantly for consistency with WV Code 22-11-3(18)) suggest the following revisions to the definition in Section 2.3: "Constituent means any chemical, physical, biological or radiological substance found in groundwater due to either natural or man-made conditions.

Furthermore, although not part of the EQB's proposed rule changes, the following are corrections or recommendations that I would urge the EQB to pursue:

Section 3.1. - Should the reference to exception 3.3. more appropriately be 3.4.? Section 3.3 does not appear to be a referenced exception to the language of 3.1. If, however, 3.3 is still appropriate, it appears 3.4 should also be added.

Section 3.2. - Consistent with my comments made on 3/19/97 in relation to the EQB's Triennial Review of 46 CSR 1, it is recommended that the EQB also develop a protocol for the establishment of naturally occurring groundwater values. If a stakeholder task team is contemplated by the EQB for such protocol as part of the 46 CSR 1 process, it is conceivable that this group could be expanded to combine its efforts with any associated stakeholder in the groundwater arena.

Letter to Libby Chatfield
Proposed Rule changes to 46 CSR 12
July 18, 1997
Page Two

groundwater arena.

Appendix A -

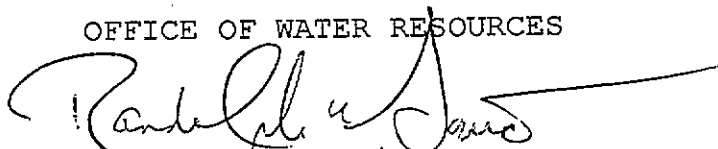
Correct typo relating to units (i.e. mg/l~~m~~ to mg/l).

I would also reiterate my earlier 3/19/97 comments relating to 46 CSR 1 (highlighted excerpts from pg. 11 attached) and continue to urge that the EQB re-evaluate parameter levels to clarify the disparities between certain MCLs and Public 'A' use criteria.

I appreciate the opportunity to submit the above comments. If you have any questions, feel free to contact me at 558-3615.

Very truly yours,

OFFICE OF WATER RESOURCES



Randolph M. Sovic
Technical Analyst
Permits

RS/pah
Attachment
cc: Barbara Taylor
Dave Watkins
Jerry Ray

- PCB - Clarification should be offered as to whether this includes all seven (7) or only certain of the specified Arochlors listed as priority pollutants.

- Halomethanes - Clarification should be offered as to the specified list of holomethanes intended. Various lists relating to priority pollutants range from as low as six (6) to at least as many as thirteen (13) individual constituents.

- Polynuclear Aromatic Hydrocarbons (PAH) - A defined list of PAH must be provided. Various priority pollutant lists specify as few as thirteen (13) or as many as seventeen (17) individual constituents. A clearly defined list is essential.

- Phthalate Esters - A defined list of phthalate esters should be provided. It is presumed that it includes bis (2-ethylhexyl), butyl benzyl, di-n-butyl, di-n octyl, diethyl, & dimethyl; however, specifying would be beneficial.

- It is suggested that the EQB undertake an evaluation of all organics and certain other parameters in relation to the disparities between Category A criteria in 46-1 and groundwater standards in 46-12. Of most particular interest are those 46-1 criteria that are more restrictive (and in some instances several orders of magnitude more restrictive) than the groundwater standards. Those most obvious include:

<u>Parameters</u>	<u>46-1 Criteria</u>	<u>47-12 Standards</u>
Endrin	2.3 ng/l	2000 ng/l
Toxaphene	0.73 ng/l	3000 ng/l
Dioxin	0.013 pg/l	5.0 pg/l
Methoxychlor	0.03 ug/l	40 ug/l
Hexachlorobenzene	0.72 ng/l	1000 ng/l
Beryllium	0.0077 ug/l	4.0 ug/l

- Consideration by the EQB should also be given to those Category A criteria that significantly exceed levels established in 47-12, particularly if those parameters are not susceptible to 'conventional treatment' as stipulated in 46-1-6.2. Examples may be:

<u>Parameter</u>	<u>46-1</u>	<u>47-12</u>
Lead	50 ug/l	15 ug/l
Nickel	510 ug/l	100 ug/l
1,4 dichlorobenzene	0.4 mg/l	0.075 mg/l
Toluene	6.8 mg/l	1.0 mg/l
Ethlybenzene	3.1 mg/l	0.7 mg/l

Note that some metals may be precipitated to a degree by 'conventional treatment' if tied up in the solids. However, 'conventional treatment' is not typically designed to remove these nor various organic pollutants. Alternately, an expanded definition of what is generally termed 'conventional treatment' (46-1-2.3) should be considered.

RECEIVED
JUL 22 1997
ENVIRONMENTAL QUALITY BOARD
CHARLESTON, WEST VIRGINIA

**Before The
ENVIRONMENTAL QUALITY BOARD**

**Comments of the
WEST VIRGINIA MANUFACTURERS ASSOCIATION**

**Regarding
GROUND WATER QUALITY STANDARDS
46 C.S.R. 12**

JULY 22, 1997

BEFORE THE ENVIRONMENTAL QUALITY BOARD
Comments Of The
WEST VIRGINIA MANUFACTURERS ASSOCIATION
Regarding
GROUNDWATER QUALITY STANDARDS
46 C.S.R. 12

I. Introduction

The West Virginia Manufacturers Association (WVMA) is a trade organization consisting of manufacturers and associated organizations throughout West Virginia. The WVMA participates in, and comments on, rulemakings that have a significant effect on its members' operations. While we do not oppose any of the Board's proposed changes to the groundwater quality standards, found at 46 C.S.R. 12, we are offering the following as our understanding of what is intended by the Board's changes.

II. Comments

A. Use of Total Metals to Determine Compliance

The Board has proposed changes to state groundwater quality standards, found at 46 C.S.R. 12, in order to address the Office of Waste Management's (OWM) concern that it be allowed to specify the use of total metals for those programs that require groundwater analyses expressed as measurement of total metals rather than dissolved. The WVMA agrees that total metals is the appropriate measurement when a regulation requires measurement of total metals. However, we are not aware of a federal regulation that requires use of total metals for measuring groundwater contamination. EPA has issued federal guidance that total metals should be measured, but even that guidance concedes that in some situations, such as murky wells, dissolved is a better measure. We believe the language proposed by the Board allows the OWM and those persons regulated under RCRA and CERCLA to negotiate the proper method of measurement, with due consideration given

to EPA guidance, but does not require use of total metals for determining compliance with federal standards.

Our concerns on this score were raised in a letter to David Samuel from Karen Price on December 3, 1992, at the time the groundwater standards were being developed. Because we believe it still states our position on use of total metals for determining compliance with groundwater standards, we would like to incorporate it into these comments.

B. Corrective Action At Hazardous Waste Facilities

New Section 4 would clarify that the OWM can implement federal regulations pertaining to groundwater monitoring at hazardous waste facilities, without implicitly adopting the federal hazardous waste action levels as state groundwater quality standards. This flexibility is needed because the action levels used by the OWM for a hazardous waste facility may be higher or lower than the state groundwater standards, depending on the situation. For example, the goal of a hazardous waste disposal remedy, for purposes of the state Groundwater Protection Act, may be the achievement of groundwater quality standards over time, but the more immediate goal for purposes of determining the need for corrective action under the federal Resource Conservation and Recovery Act (RCRA) may be some other risk-based figure. RCRA allows use of alternative standards, such as background, generic standards, and site-specific figures, for determining the need for corrective action. See 40 C.F.R. 264.94. The proposed rule clarifies that the RCRA alternative groundwater concentrations are allowed for purposes of the federal hazardous waste program, and that the federal program may set action levels higher than state groundwater quality standards.

The WVMA further believes and expects that adoption of the new language will allow the Board to withdraw the 47 C.S.R. 12 hazardous waste facility groundwater standards. Those

standards arguably require corrective action upon exceeding background concentrations of designated substances, in contrast to the options available in the hazardous waste program.

C. Environmental Quality Board Study Committee

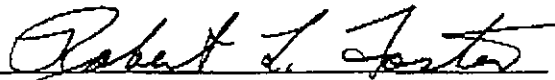
The Board announced at its meetings in June that it might form a committee to discuss the adoption of groundwater quality standards for certain micro organisms and for naphthalene. If such a committee is formed, the WVMA would have a great interest in having a representative on that committee, and respectfully requests that it be allowed to nominate someone for that purpose.

III. Conclusion

We appreciate the opportunity to offer these comments and hope that they will be given your careful consideration. If you should have any questions about the comments we will be happy to discuss them further.

Respectfully submitted this July 22, 1997.

WEST VIRGINIA MANUFACTURERS ASSOCIATION


Robert L. Foster

Prepared by:

**David L. Yaussy
ROBINSON & McELWEE
500 Virginia Street, East
600 United Center
Charleston, WV 25301**

file: 32314

**WEST VIRGINIA
MANUFACTURERS ASSOCIATION**SUITE 503
405 CAPITOL STREET
CHARLESTON, WV 25301
TELEPHONE (304) 342-2123

December 3, 1992

David E. Samuel, Ph.D.
Chairman
West Virginia Water
1615 Washington Stre
Charleston, WV 2531

DIX

Determining Groundwater
ons of Metals

Dear Chairman Samuel:

On behalf of the west Virginia Manufacturer's Association, I would like to express support for the Water Resources Board's adoption of subsection 3.5 of its groundwater quality standards (46 C.S.R. Series 12). That subsection specifies analysis of dissolved inorganic compounds, principally metals, for purposes of determining compliance with groundwater quality standards. It is my understanding that, as a result of an October 7, 1992 letter from the United States Environmental Protection Agency, the Board may be asked to reconsider this provision. We urge the Board not to do so.

EPA has suggested that, because maximum contaminant limits for drinking water were developed on the basis of total metals, the same analytical method should be used for the West Virginia groundwater program. Such an approach reveals a misunderstanding of the difference between groundwater monitoring wells, which will be drilled to measure compliance with the Groundwater Protection Act, and drinking water wells. Most monitoring wells are pumped infrequently and are drilled to a strata where silt, sand or clay predominates, and therefore have high levels of sediment. This sediment has undissolved metals attached to it, which is not biologically available but which greatly increases the total metals measurement. Drinking water wells, on the other hand, are generally drilled to bedrock and are cased and screened so as to greatly reduce the amount of sediment. They are not expected to pick up the same amount of undissolved metals. Therefore, the amount of total metals measured in a monitoring well usually will not be representative of the amount of total metals or dissolved metals in a nearby drinking water well. A more accurate comparison can be made between dissolved metals in a monitoring well and



David E. Samuel, Ph.D.
December 3, 1992
Page 2

drinking water well, since they will be more consistent with one another.

EPA has also advised you that the RCRA and CERCLA programs require measurement of both total metals (unfiltered samples) and dissolved metals (filtered samples). However, it is important to note that the total metals analysis requirement is being reviewed by EPA, and may be changed. In any event, EPA's selection of an analytical method for its hazardous waste programs should not have any bearing on West Virginia's choice of an analytical method for purposes of its groundwater program.

If total metals analysis is used to determine compliance with the Groundwater Protection Act many facilities will be thrown into noncompliance, and there will be unnecessary expense in "remediating" groundwater that would meet water quality standards if measured at a drinking water well. I encourage the Board to stay with its current standard and to continue to measure only the dissolved, biologically-available metals to determine compliance with the groundwater quality standards.

Sincerely yours,

Karen Price

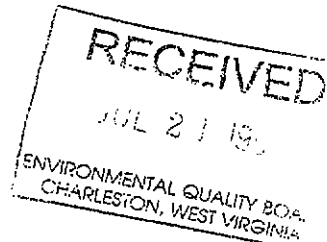
KP:shb

cc: Legislative Rule-Making Review Committee



DEPARTMENT OF THE NAVY

COMMANDER
NAVAL BASE NORFOLK
1530 GILBERT ST. STE 2200
NORFOLK, VA 23511-2797



IN REPLY REFER TO:
5090
N451A/226
16 JUL 1997

Ms. Libby Chatfield
Bureau of Environment
10 McJunkin Road
Nitro, WV 25143-2506

Dear Ms. Chatfield:

SUBJECT: 46CSR12, REQUIREMENTS GOVERNING GROUNDWATER STANDARDS

As the Navy's Regional Environmental Coordinator for West Virginia, we are responding to the public notice requesting comments for the above referenced regulation.

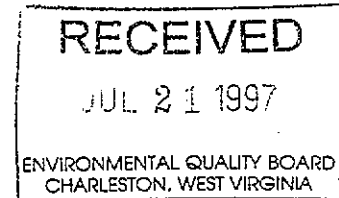
The Navy agrees that the regulations should be modified to provide consistency between state and federal requirements contained in the Safe Drinking Water Act (SDWA) and the Resource Conservation and Recovery Act (RCRA). The proposed language in section 46-12-4 regarding hazard waste treatment, storage and disposal facilities allows for criteria other than the groundwater standards to be used to determine the need for, and extent of, groundwater remediation under RCRA corrective actions. We agree with this approach because West Virginia groundwater standards are based on SDWA primary and secondary drinking water standards; these standards are not always appropriate to use as cleanup end points in areas where groundwater is not used as a drinking water source. We believe the proposed language will give the Bureau needed flexibility to make RCRA corrective action decisions on a case-by-case basis, while ensuring adequate protection of public health and the environment.

We appreciate the opportunity to comment on this proposed regulation. Please contact Ms. Christine Wallace of my staff at (757)322-2903 if you have any questions or require further information.

Sincerely,

STEVEN G. OLSON
Director, Regional Coordination Div.
By direction of the Commander

Copy to: Naval Security Group Activity, Sugar Grove (Code 75)
Allegany Ballistics Laboratory, Rocket Center
(Environmental Dept.)
Atlantic Division, Naval Facilities Engineering Command
(Code 18134)



STATE OF WEST VIRGINIA
DEPARTMENT OF HEALTH AND HUMAN RESOURCES

Cecil H. Underwood
Governor

July 21, 1997

Joan E. Ohi
Secretary

West Virginia Environmental Quality Board
1615 Washington Street, Suite 301
Charleston, WV 25311-2126

RE: Legislative Rule 46, CSR 12 "Requirements
Governing Groundwater Standards"

Please incorporate the following comments into the record regarding groundwater quality standards proposed by the Office of Water Resources and currently under review by the Environmental Quality Board in the referenced Legislative Rule.

Within the Groundwater Protection, the Legislature noted the following:

- (1) West Virginia has relatively pure groundwater resources which are abundant and readily available;
- (2) Over fifty percent of West Virginia's overall population, and over ninety percent of the state's rural population, depend on groundwater for drinking water;
- (3) A rural lifestyle has created a quality of life in many parts of West Virginia which is highly valued. Maintaining this lifestyle depends upon protecting groundwater to avoid increased expenses associated with providing treated drinking water supplies to rural households . . ."

In light of this information, the Legislature established groundwater quality standards to protect those individuals which obtain their drinking water from untreated groundwater sources. A portion of those standards are as follows, ". . . (b) Such standards shall establish the maximum contaminant levels permitted for groundwater, but in no event shall such standards allow contaminant levels in groundwater to exceed the maximum containment levels adopted by the United States Environmental Protection Agency pursuant to the Federal Safe Drinking Water Act. The Board may

BUREAU FOR PUBLIC HEALTH

Commissioner's Office

Building 3, Room 518, State Capital Complex
Charleston, West Virginia 25305-0501
Telephone: (304) 558-2971 FAX: (304) 558-1035

West Virginia Environmental Quality Board
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set standards more restrictive than the maximum containment levels where it finds that such standards are necessary to protect drinking water use where scientifically supportable evidence reflects factors unique to West Virginia or some area thereof, or to protect other beneficial uses of the groundwater . . ."

We are concerned that all the contaminants and their maximum contaminant levels (MCLs) as established by the Safe Drinking Water Act (SDWA) are not included in Appendix A of 46 CSR 12 and a contaminant "not to exceed" limit is above the SDWA MCLs. The following chemical contaminants were not included: aldicarb with a MCL of 0.003 mg/l; aldicarb sulfoxide with a MCL of 0.004 mg/l; and aldicarb sulfone with a MCL of 0.002 mg/l. The MCL for Combined Radium 226 and 228 is 5 pCi/l not 300 pCi/l as listed in Appendix A. We request that these changes be included in the standards

Another very important contaminant group that has not been included in Appendix A is microbiological contaminants. These contaminants are some of the most detrimental to groundwater from a public health perspective. Microbiological contaminants can cause serious illness or even death in a short period of time with limited exposure. We feel that it is critical, particularly for protecting the public health of the large number of citizens not served by a public water supply, that standards for microbiological contaminants be established in this Legislative Rule. Under the SDWA, the U.S. EPA has established total and fecal coliform as microbiological indicator organisms based on their resistance to disinfection and ease of testing. They have also established a somewhat complicated procedure for determining compliance with the MCL, which is probably not a good fit in the Groundwater Protection Act. We recommend setting the "not to exceed" limit very low for total coliforms and zero for fecal coliforms.

We appreciate the opportunity to comment on this Legislature Rule. Should you have any questions concerning our comments, please contact us.

Sincerely,



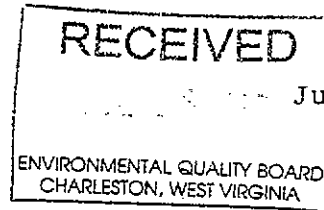
Henry G. Taylor, M.D., M.P.H.
Commissioner

HGT/scw
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LEAGUE OF WOMEN VOTERS OF WEST VIRGINIA

6128 GIDEON RD • HUNTINGTON, WV 25705 • TELEPHONE 304-736-3287



To: Environmental Quality Board

From: League of Women Voters of WV

Re: Title 46 Series 12, Requirements Governing Groundwater Standards

The League of Women Voters of West Virginia wishes to make some comments on the proposed amendments to the groundwater standards.

Section 3.5 There are problems with testing for total concentrations of inorganic constituents versus dissolved. Either test individually does not take in account partitioning of the metals between solid and dissolved phases. In most cases testing of both the total and dissolved concentrations are necessary to evaluate environmental impacts. The dissolved species of metals are implicated in adverse impacts to aquatic ecosystems, for example, impacts arising from dissolved aluminum and manganese in acid mine drainage. Both tests are needed because of conditions of oxidation-reduction changes rapidly over short distances in the groundwater environment or where groundwater enters surface flows.

We appreciate the opportunity to make comments on the proposed amendments.

ES/HG

Ellender Stanchina, President
League of Women Voters of WV
2023 Huber Rd.
Charleston, WV 25314

Helen Gibbins

Helen Gibbins, Natural Resources
Director
League of Women Voters of WV
6128 Gideon Rd.
Huntington, WV 25705



DIVISION OF ENVIRONMENTAL PROTECTION

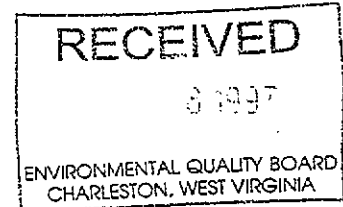
1201 Greenbrier Street
Charleston, WV 25311-1088

CECIL H. UNDERWOOD
GOVERNOR

JOHN E. CAFFREY
DIRECTOR

July 16, 1997

Ms. Libby Chatfield
Technical Advisor
Environmental Quality Board
1615 Washington Street, East
Suite 301
Charleston, West Virginia 25311-2126



Dear Libby:

We are submitting the following comments for incorporation into the record concerning those groundwater quality standards proposed by the Office of Water Resources and currently under consideration by the Environmental Quality Board.

The authors of the Groundwater Protection Act, West Virginia Code, Chapter 22, Article 12, as well as the West Virginia State Legislature realized early in the development process of the Act that the majority of the state population is rural. That realization prompted a declaration of such life style in the "Policy Section" of the Act. This declaration simply states that "the Legislature finds that over fifty percent of West Virginia's overall population depend on ground water for drinking water". It further states that "a rural lifestyle has created a quality of life in many parts of West Virginia which is highly valued. Maintaining this lifestyle depends upon protecting ground water to avoid increased expenses associated with providing treated drinking water supplies to rural households." The Legislature realized that not all West Virginians have access to public water supplies and the treatment levels provided by these supplies. In fact, in many parts of the state and U.S. ground water serves as the only reliable source of drinking water. Unfortunately, this vital resource is vulnerable to contamination, and ground water contamination problems are being reported throughout the state.

In response, the Groundwater Protection Act was the Legislative way of providing safe drinking water, at treatment technology levels, for those citizens living in rural settings. The Legislature did this by mandating that the Board, at a minimum, adopt the U.S. EPA Maximum Contaminant Levels (MCLs) for groundwater. The Legislature also provided a means for the Board to set standards more restrictive than the MCLs "where it finds that such standards are necessary to protect drinking water use ...".

Ms. Libby Chatfield
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The Legislature realized that the MCL's are reflective of treated water provided by a public water supply. It is for this reason that these treatment levels were chosen as standards of purity and quality for West Virginia's ground water. There is no reason or excuse for not providing that same level of protection for all West Virginians to insure that no one is subject to microorganisms or other contaminants in their private water wells. To do otherwise would simply be contrary to the mandates of the Groundwater Protection Act.

The impact of ground water that is naturally discharged to streams and other surface water bodies cannot be underestimated. Ground water can transport contaminants to streams and affect surface water quality and quantity, which may impact drinking water supplies drawn from surface waters, fish and wildlife habitats, swimming, boating, fishing, and commercial navigation. Modifications to the quantity or quality of ground water discharged into surface water ecosystems can also have major economic repercussions as a result of adverse impacts on recreation, public health, fisheries, tourism, and general ecosystem integrity.

With the advent of many federally mandated programs such as Wellhead Protection and Source Water Protection, and in concert with the State's new Watershed Management Initiative, it is imperative that the Board provide those groundwater regulatory agencies with the necessary tools to insure that the quality of both groundwater and surface water are maintained at levels that are protective of human health and the environment. The agencies, utilities and citizens who have embraced these programs should be offered this degree of protection. However, without a comprehensive set of standards these programs can not be expected to afford these people the levels of protection that are anticipated.

In addition, these programs provide utilities with supportable justification to apply for monitoring waivers for contaminants that are found to be non-existent or regulatorily controlled within these delineated areas. As a result reduced monitoring and analysis costs could be passed on to the consumer. Conversely, if contaminants are discovered or if the public water supply is susceptible to unregulated contaminants the cost for treatment and monitoring will surely be passed on to the consumer. This is not a fair or appropriate burden for those consumers to bear because of the practices of a few and the lack of regulatory standards.

Ms. Libby Chatfield
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Therefore, we urge the Board to adopt the Microbiological standards at the health levels recommended by the U.S. EPA, the West Virginia Department of Health and Human Resources, and the Division of Environmental Protection. We also, support the adoption of the constituent naphthalene, a constituent that is neither naturally occurring nor exists under any other condition than human induced. We urge the Board to adopt the recommended health advisory level of 0.02 mg/l to protect human health and the environment and to further insure the present and future beneficial uses of the state's groundwater resources.

If you have any questions or wish to discuss this letter with any member of our staff please feel free to contact us.

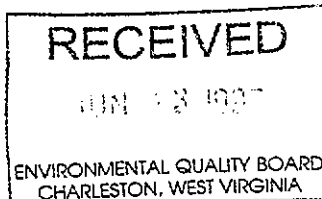
Sincerely;

OFFICE OF WATER RESOURCES



David P. Watkins
Ground Water Program Leader

cc: Barbara S. Taylor, Chief, OWR
Bill Brannon, Asst. Chief, OWR
Jerry Ray, Asst. Chief, OWR



Charles R. Jenkins, Ph.D., Chairman
Environmental Quality Board
1615 Washington Street, East
Charleston, WV 25311

June 2, 1997

Re: Proposed Revisions to West Virginia Groundwater Standards

Dear Dr. Jenkins:

American Electric Power (AEP) is pleased to submit the following initial comments to the Environmental Quality Board (EQB) on the February 26, 1997 memorandum from David P. Watkins to Libby Chatfield concerning proposed revisions to the West Virginia Groundwater Standards.

Item 1. Consistent With USEPA Hazardous Waste Rules

The existing West Virginia Groundwater Standards for barium, chromium and selenium are identical to USEPA's most recent maximum contaminant levels (MCLs) and maximum contaminant level goals (MCLGs) found in the federal drinking water regulations (40 CFR Part 141). The drinking water standards developed by USEPA reflect the most up to date scientific studies and were determined to be protective of human health.

The federal hazardous waste program groundwater concentration limits listed in Table 1 of 40 CFR 264.94 were based on the interim primary drinking water standards that were promulgated by USEPA on December 24, 1975 (FR Vol. 40, No. 248, p. 59566). Since then, USEPA has revised the drinking water maximum contaminant levels for these constituents to reflect the latest scientific human health studies. The federal hazardous waste program groundwater concentration limits were never updated to reflect these changes.

Barium - The DEP proposes to change the maximum concentration for barium from 2.0 mg/l to 1.0 mg/l. The December 24, 1975 USEPA interim drinking water MCL for barium was 1.0 mg/l. USEPA established the MCL and MCLG for barium at 2.0 mg/l on July 1, 1991 (FR Vol. 56, No. 125, p. 30266).

Chromium - The DEP proposes to change the maximum concentration for chromium from 0.10 mg/l to 0.05 mg/l. The December 24, 1975 USEPA interim drinking water standard for chromium was 0.05 mg/l. USEPA established the MCL and MCLG for chromium at 0.10 mg/l on January 30, 1991 (FR Vol. 56, No. 20, p. 3526).

Mr. Charles R. Jenkins
June 2, 1997
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Selenium - The DEP proposes to revise the maximum concentration for selenium from 0.05 mg/l to 0.01 mg/l. The December 24, 1975 USEPA interim drinking water standard for selenium was 0.01 mg/l. USEPA established the MCL and MCLG for selenium at 0.05 mg/l on January 30, 1991 (FR Vol. 56, No. 20, p. 3526).

AEP recommends that the EQB retain the existing groundwater standards for barium, chromium and selenium, as these standards are already sufficiently protective of human health and the environment. If USEPA insists that the West Virginia hazardous waste management program include the out-dated groundwater standards listed in 40 CFR 264.94, then the West Virginia rules could specify that the more stringent criteria would only apply at hazardous waste facilities.

Item 2. Total vs. Dissolved Metals

The West Virginia rule should be flexible and continue to allow for the sampling and analysis of dissolved metals when and where it is appropriate to do so.

Item 4. Microbiological Standards (Giardia, Legionella, Total Coliform and Viruses)

Microbiological standards adopted pursuant to the Safe Drinking Water Act (SDWA) are treatment technology based MCLs not source water MCLs. The reason for this, in part, is that coliform bacteria is ubiquitous in surface waters and groundwater under the direct influence of surface waters. As a result, the implementing regulations of the SDWA require public water systems to filter surface waters and groundwater under the direct influence of surface waters; and to disinfect the raw water sources with chlorine and/or ozone, etc. to remove and/or deactivate the microbial contaminants in the source waters prior to final delivery to the consumer.

As West Virginia's groundwater regulations do not exclude "groundwater under the direct influence of surface waters" as defined under 40 CFR Section 141.2 from regulation, the proposed adoption of a "maximum concentration" of zero for giardia, legionella, total coliform and viruses will likely place much of the groundwater in Karst geologic areas, and other groundwater that are perched or otherwise "under the direct influence of surface waters" in non-compliance with the proposed amendments.

Unless the groundwater regulations specifically exclude all groundwater "under the direct influence of surface waters" as defined under 40 CFR Section 141.2 (including those waters in Karst geology), AEP urges the Board not to adopt the proposed changes.

Mr. Charles R. Jenkins
June 2, 1997
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Item 5. Naphthalene

DEP has proposed a maximum concentration of 0.02 mg/l for naphthalene. This concentration is overly protective in comparison to the naphthalene standard developed in other states.

We appreciate the opportunity to provide you with these preliminary comments. If you should have any questions, please contact Jim Pappas at (614) 223-1257 or Mike Brown at (614) 223-1286.

Sincerely,

A handwritten signature in black ink, appearing to read "Alan R. Wood". The signature is cursive and somewhat stylized, with the first name "Alan" being more prominent.

Alan R. Wood, P. E.
Manager, Water Quality Section

cc: Ms. Libby Chatfield, Technical Advisor

Environmental Quality Board
46CSR12
“Requirements Governing Groundwater Standards”

Response to Comments
Amendments Made
Reasons for the Amendments

August 1, 1997

Rationale Document
46 CSR 12
Requirements Governing Groundwater Quality Standards
August 1, 1997

The Groundwater Standards rule establishes the minimum standards of purity and quality for the groundwater within West Virginia. This rule is promulgated by the Board pursuant to authority established in the Groundwater Act (W. Va. Code sections 22-12-4 and 22B-3-4).

This document describes the changes proposed in the Groundwater Standards rule. For each proposed change, the following are provided: a description of the existing rule; the change proposed by the Board; the comments received on the proposed amendment; the Board's response to the comments; and the final action taken by the Board on the proposed change.

The Board received several comments on sections of the rule for which no change was proposed. We recognize the value of these comments but cannot adopt significant changes which were not made available for public comment. These comments will be considered for inclusion in the next review of the groundwater standards but will not be addressed in this proposed revision or this rationale document.

SECTION 46-12-3.5

Existing Rule

This section explains that the standards compliance with the groundwater standards for inorganic constituents shall be determined based on dissolved concentrations of those constituents rather than total concentrations, except in certain situations which are listed in sections 3.5.b A-C.

Proposed Change

The Board proposed adding a new exception in section 3.5.b that requires dissolved concentrations to be used where state or federal regulations require total measurements to be used. This change was made at the suggestion of the Office of Waste Management of the DEP.

Comments and Responses

Comments from the WV Manufacturers Association (WVMA) expressed support of this amendment.

One commenter suggested requiring the use of both dissolved and total measurements determining compliance with metals criteria. While the Board acknowledges that having both sets of data would be useful for this purpose, the additional cost associated with running both tests could be quite burdensome.

Board Action

Amendment adopted as proposed.

SECTION 46-12-4

Existing Rule

None.

Proposed Changes

The Board proposed this new section which provides that nothing in the groundwater rule prohibits the Office of Waste Management from using standards other than those in this rule for determining the need for corrective action at hazardous waste treatment, storage or disposal facilities as provided in 40 C.F.R.. Parts 264 and 265, Subpart F.

Comments and Responses

The WVMA submitted comments in support of this change.

Board Action

Amendment adopted as proposed.

APPENDIX A - Radionuclides

Existing Rule

The existing rule provides concentration limits for beta particle and photon activity and gross alpha particle activity.

Proposed Changes

The Board proposed a new standard for combined radium 226 and 228 of 300 pCi/l. This new limit was proposed as a result of updates in the Safe Drinking Water Act.

Comments and Responses

None received.

Board Action

Amendment adopted as proposed.