

TITLE 15A – DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

Notice is hereby given in accordance with G.S. 150B-21.2 that the Environmental Management Commission intends to amend the rules cited as 15A NCAC 02L .0113, .0202.

Link to agency website pursuant to G.S. 150B-19.1(c): <http://portal.ncdenr.org/web/wq/groundwaterrulesrevisions>

Proposed Effective Date: November 1, 2012

Public Hearing:

Date: May 23, 2012

Time: 6:30 p.m., Speaker registration begins at 6:00 p.m.

Location: Archdale Building (Ground Floor Hearing Room), 512 N. Salisbury Street, Raleigh, NC

Reason for Proposed Action: *The purpose of revising these rules is to ensure that groundwater standards are established using the most recent U.S. EPA health effects information. The EMC approved a rulemaking petition submitted by Rhodia, Inc. to amend the 1,1-dichloroethylene groundwater standard from 7 ug/L to 350 ug/L based on the most recent U.S. EPA health effects published in the Integrated Risk Information System at <http://www.epa.gov/IRIS/> (Option 1). A change in the criteria used to establish a standard is proposed to allow the EMC to establish a standard less stringent than the federal maximum contaminant level (MCL) when the MCL is not established using the most recent U.S. EPA IRIS health effects information (Option 2). A change in the variance procedure is proposed to allow the EMC to consider a request for a statewide variance from the groundwater rules and to make editorial corrections (Option 3). In addition, the EMC seeks other proposals that allow flexibility in implementation of 15A NCAC 2L .0202(d) while maintaining or achieving appropriate water quality and public health standards, recognizing that any such proposal, if acted upon, might constitute a substantial change from the proposed rule amendments described in detail in this public notice, and might require an additional rule-making procedure.*

Procedure by which a person can object to the agency on a proposed rule: *You may attend the public hearing and provide verbal comments that specifically address the proposed groundwater rules and fiscal note. The Hearing Officer may limit the length of time that you may speak at the public hearing, if necessary, so that all those who wish to speak may have an opportunity to do so. In addition, written comments addressing the proposed groundwater rules will be accepted until July 2, 2012. All persons interested and potentially affected by the proposed rules are encouraged to read this entire notice and make comments on the proposed rules. The EMC may not adopt a rule that differs substantially from the text of the proposed rule published in this notice unless the EMC publishes the text of the proposed different rule and accepts comments on the new text [General Statute 150B 21.2 (g)]. Written comments on the proposed groundwater rules and fiscal note may be submitted to Sandra Moore of the Water Quality Planning Section at the 1617 Mail Service Center, Raleigh, NC 27699-1617, phone (919)807-6417, fax (919)807-6497, e-mail sandra.moore@ncdenr.gov.*

Comments may be submitted to: Sandra Moore, Water Quality Planning Section at 1617 Mail Service Center, Raleigh, NC 27699-1617, phone (919)807-6417, fax (919)807-6497, e-mail sandra.moore@ncdenr.gov.

Comment period ends: July 2, 2012

Procedure for Subjecting a Proposed Rule to Legislative Review: If an objection is not resolved prior to the adoption of the rule, a person may also submit written objections to the Rules Review Commission after the adoption of the Rule. If the Rules Review Commission receives written and signed objections after the adoption of the Rule in accordance with G.S. 150B-21.3(b2) from 10 or more persons clearly requesting review by the legislature and the Rules Review Commission approves the rule, the rule will become effective as provided in G.S. 150B-21.3(b1). The Commission will receive written objections until 5:00 p.m. on the day following the day the Commission approves the rule. The Commission will receive those objections by mail, delivery service, hand delivery, or facsimile transmission. If you have any further questions concerning the submission of objections to the Commission, please call a Commission staff attorney at 919-431-3000.

Fiscal impact (check all that apply).

- State funds affected
- Environmental permitting of DOT affected
Analysis submitted to Board of Transportation
- Local funds affected
Date submitted to OSBM:
- Substantial economic impact (\geq \$500,000)
- Approved by OSBM
- No fiscal note required

CHAPTER 02 - ENVIRONMENTAL MANAGEMENT

SUBCHAPTER 02L - GROUNDWATER CLASSIFICATION AND STANDARDS

SECTION .0100 - GENERAL CONSIDERATIONS

15A NCAC 02L .0202 GROUNDWATER QUALITY STANDARDS (OPTION 1)

(a) The groundwater quality standards for the protection of the groundwaters of the state are those specified in this Rule. They are the maximum allowable concentrations resulting from any discharge of contaminants to the land or waters of the state, which may be tolerated without creating a threat to human health or which would otherwise render the groundwater unsuitable for its intended best usage.

(b) The groundwater quality standards for contaminants specified in Paragraphs (g) and (h) of this Rule are as listed, except that:

- (1) Where the standard for a substance is less than the practical quantitation limit, the detection of that substance at or above the practical quantitation limit constitutes a violation of the standard.
- (2) Where two or more substances exist in combination, the Director shall consider the effects of chemical interactions as determined by the Division of Public Health and may establish maximum concentrations at values less than those established in accordance with Paragraphs (c), (g), or (h) of this Rule. In the absence of information to the contrary, in accordance with Paragraph (d) of this Rule, the carcinogenic risks associated with carcinogens present shall be considered additive and the toxic effects associated with non-carcinogens present shall also be considered additive.
- (3) Where naturally occurring substances exceed the established standard, the standard shall be the naturally occurring concentration as determined by the Director.

(c) Except for tracers used in concentrations which have been determined by the Division of Public Health to be protective of human health, and the use of which has been permitted by the Division, substances which are not naturally occurring and for which no standard is specified shall not be permitted in concentrations at or above the practical quantitation limit in Class GA or Class GSA groundwaters. Any person may petition the Director to establish an interim maximum allowable concentration for a substance for which a standard has not been established under this Rule. The petitioner shall submit relevant toxicological and epidemiological data, study results, and calculations necessary to establish a standard in accordance with Paragraph (d) of this Rule. Within three months after the establishment of an interim maximum allowable concentration for a substance by the Director, the Director shall initiate action to consider adoption of a standard for that substance.

(d) Groundwater quality standards for substances in Class GA and Class GSA groundwaters are established as the least of:

- (1) Systemic threshold concentration calculated as follows: $[\text{Reference Dose (mg/kg/day)} \times 70 \text{ kg (adult body weight)} \times \text{Relative Source Contribution (.10 for inorganics; .20 for organics)}] / [2 \text{ liters/day (avg. water consumption)}]$;
- (2) Concentration which corresponds to an incremental lifetime cancer risk of 1×10^{-6} ;
- (3) Taste threshold limit value;
- (4) Odor threshold limit value;
- (5) Maximum contaminant level; or
- (6) National secondary drinking water standard.

(e) The following references, in order of preference, shall be used in establishing concentrations of substances which correspond to levels described in Paragraph (d) of this Rule.

- (1) Integrated Risk Information System (U.S. EPA).
- (2) Health Advisories (U.S. EPA Office of Drinking Water).
- (3) Other health risk assessment data published by U.S. EPA.
- (4) Other relevant, published health risk assessment data, and scientifically valid peer-reviewed published toxicological data.

(f) Groundwater quality standards specified in Paragraphs (g) and (h) of this Rule and interim maximum allowable concentrations established pursuant to Paragraph (c) of this Rule shall be reviewed on a triennial basis. Appropriate modifications to established standards shall be made in accordance with the procedure prescribed in Paragraph (d) of this Rule where modifications are considered appropriate based on data published subsequent to the previous review.

(g) Class GA Standards. Where not otherwise indicated, the standard refers to the total concentration in micrograms per liter of any constituent in a dissolved, colloidal or particulate form which is mobile in groundwater. This does not apply to sediment or other particulate matter which is preserved in a groundwater sample as a result of well construction or sampling procedures. The Class GA standards are:

- (1) Acenaphthene: 80;
- (2) Acenaphthylene: 200;
- (3) Acetone: 6 mg/L;
- (4) Acrylamide: 0.008;
- (5) Anthracene: 2 mg/L;
- (6) Arsenic: 10;
- (7) Atrazine and chlorotriazine metabolites: 3;
- (8) Barium: 700;
- (9) Benzene: 1;
- (10) Benzo(a)anthracene (benz(a)anthracene): 0.05;
- (11) Benzo(b)fluoranthene: 0.05;
- (12) Benzo(k)fluoranthene: 0.5;
- (13) Benzoic acid: 30 mg/L;
- (14) Benzo(g,h,i)perylene: 200;
- (15) Benzo(a)pyrene: 0.005;
- (16) Bis(chloroethyl)ether: 0.03;
- (17) Bis(2-ethylhexyl) phthalate (di(2-ethylhexyl) phthalate): 3;

- (18) Boron: 700;
- (19) Bromodichloromethane: 0.6;
- (20) Bromoform (tribromomethane): 4;
- (21) n-Butylbenzene: 70;
- (22) sec-Butylbenzene: 70;
- (23) tert-Butylbenzene: 70;
- (24) Butylbenzyl phthalate: 1 mg/L;
- (25) Cadmium: 2;
- (26) Caprolactam: 4 mg/L;
- (27) Carbofuran: 40;
- (28) Carbon disulfide: 700;
- (29) Carbon tetrachloride: 0.3;
- (30) Chlordane: 0.1;
- (31) Chloride: 250 mg/L;
- (32) Chlorobenzene: 50;
- (33) Chloroethane: 3,000;
- (34) Chloroform (trichloromethane): 70;
- (35) Chloromethane (methyl chloride): 3;
- (36) 2-Chlorophenol: 0.4;
- (37) 2-Chlorotoluene (o-chlorotoluene): 100;
- (38) Chromium: 10;
- (39) Chrysene: 5;
- (40) Coliform organisms (total): 1 per 100 milliliters;
- (41) Color: 15 color units;
- (42) Copper: 1 mg/L;
- (43) Cyanide (free cyanide): 70;
- (44) 2, 4-D (2,4-dichlorophenoxy acetic acid): 70;
- (45) DDD: 0.1;
- (46) DDT: 0.1;
- (47) Dibenz(a,h)anthracene: 0.005;
- (48) Dibromochloromethane: 0.4;
- (49) 1,2-Dibromo-3-chloropropane: 0.04;
- (50) Dibutyl (or di-n-butyl) phthalate: 700;
- (51) 1,2-Dichlorobenzene (orthodichlorobenzene): 20;
- (52) 1,3-Dichlorobenzene (metadichlorobenzene): 200;
- (53) 1,4-Dichlorobenzene (paradichlorobenzene): 6;
- (54) Dichlorodifluoromethane (Freon-12; Halon): 1 mg/L;
- (55) 1,1-Dichloroethane: 6;
- (56) 1,2-Dichloroethane (ethylene dichloride): 0.4;
- (57) 1,2-Dichloroethene (cis): 70;
- (58) 1,2-Dichloroethene (trans): 100;
- (59) 1,1-Dichloroethylene (vinylidene chloride): [7350](#);
- (60) 1,2-Dichloropropane: 0.6;
- (61) 1,3-Dichloropropene (cis and trans isomers): 0.4;
- (62) Dieldrin: 0.002;
- (63) Diethylphthalate: 6 mg/L;
- (64) 2,4-Dimethylphenol (m-xylene): 100;
- (65) Di-n-octyl phthalate: 100;
- (66) 1,4-Dioxane (p-dioxane): 3;
- (67) Dioxin (2,3,7,8-TCDD): 0.0002 ng/L;
- (68) 1,1-Diphenyl (1,1-biphenyl): 400;
- (69) Dissolved solids (total): 500 mg/L;
- (70) Disulfoton: 0.3;
- (71) Diundecyl phthalate (Santicizer 711): 100;
- (72) Endosulfan: 40;
- (73) Endrin, total: (includes endrin, endrin aldehyde and endrin ketone): 2;
- (74) Epichlorohydrin: 4;
- (75) Ethyl acetate: 3 mg/L;
- (76) Ethylbenzene: 600;
- (77) Ethylene dibromide (1,2-dibromoethane): 0.02;
- (78) Ethylene glycol: 10 mg/L;
- (79) Fluoranthene: 300;
- (80) Fluorene: 300;
- (81) Fluoride: 2 mg/L;
- (82) Foaming agents: 500;

- (83) Formaldehyde: 600;
- (84) Gross alpha (adjusted) particle activity (excluding radium-226 and uranium): 15 pCi/L;
- (85) Heptachlor: 0.008;
- (86) Heptachlor epoxide: 0.004;
- (87) Heptane: 400;
- (88) Hexachlorobenzene (perchlorobenzene): 0.02;
- (89) Hexachlorobutadiene: 0.4;
- (90) Hexachlorocyclohexane isomers (technical grade): 0.02;
- (91) n-Hexane: 400;
- (92) Indeno(1,2,3-cd)pyrene: 0.05;
- (93) Iron: 300;
- (94) Isophorone: 40;
- (95) Isopropylbenzene: 70;
- (96) Isopropyl ether: 70;
- (97) Lead: 15;
- (98) Lindane (gamma hexachlorocyclohexane): 0.03;
- (99) Manganese: 50;
- (100) Mercury: 1;
- (101) Methanol: 4 mg/L;
- (102) Methoxychlor: 40;
- (103) Methylene chloride (dichloromethane): 5;
- (104) Methyl ethyl ketone (2-butanone): 4 mg/L;
- (105) 2-Methylnaphthalene: 30;
- (106) 3-Methylphenol (m-cresol): 400;
- (107) 4-Methylphenol (p-cresol): 40;
- (108) Methyl tert-butyl ether (MTBE): 20;
- (109) Naphthalene: 6;
- (110) Nickel: 100;
- (111) Nitrate: (as N) 10 mg/L;
- (112) Nitrite: (as N) 1 mg/L;
- (113) N-nitrosodimethylamine: 0.0007;
- (114) Oxamyl: 200;
- (115) Pentachlorophenol: 0.3;
- (116) Petroleum aliphatic carbon fraction class (C5 - C8): 400;
- (117) Petroleum aliphatic carbon fraction class (C9 - C18): 700;
- (118) Petroleum aliphatic carbon fraction class (C19 - C36): 10 mg/L;
- (119) Petroleum aromatics carbon fraction class (C9 - C22): 200;
- (120) pH: 6.5 - 8.5;
- (121) Phenanthrene: 200;
- (122) Phenol: 30;
- (123) Phorate: 1;
- (124) n-Propylbenzene: 70;
- (125) Pyrene: 200;
- (126) Selenium: 20;
- (127) Silver: 20;
- (128) Simazine: 4;
- (129) Styrene: 70;
- (130) Sulfate: 250 mg/L;
- (131) 1,1,2,2-Tetrachloroethane: 0.2;
- (132) Tetrachloroethylene (perchloroethylene; PCE): 0.7;
- (133) 2,3,4,6-Tetrachlorophenol: 200;
- (134) Toluene: 600;
- (135) Toxaphene: 0.03;
- (136) 2, 4, 5,-TP (Silvex): 50;
- (137) 1,2,4-Trichlorobenzene: 70;
- (138) 1,1,1-Trichloroethane: 200;
- (139) Trichloroethylene (TCE): 3;
- (140) Trichlorofluoromethane: 2 mg/L;
- (141) 1,2,3-Trichloropropane: 0.005;
- (142) 1,2,4-Trimethylbenzene: 400;
- (143) 1,3,5-Trimethylbenzene: 400;
- (144) 1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113): 200 mg/L;
- (145) Vinyl chloride: 0.03;
- (146) Xylenes (o-, m-, and p-): 500; and
- (147) Zinc: 1 mg/L.

- (h) Class GSA Standards. The standards for this class are the same as those for Class GA except as follows:
- (1) chloride: allowable increase not to exceed 100 percent of the natural quality concentration; and
 - (2) total dissolved solids: 1000 mg/l.
- (i) Class GC Waters.
- (1) The concentrations of substances which, at the time of classification, exceed the standards applicable to Class GA or GSA groundwaters shall not be caused to increase, nor shall the concentrations of other substances be caused to exceed the GA or GSA standards as a result of further disposal of contaminants to or beneath the surface of the land within the boundary of the area classified GC.
 - (2) The concentrations of substances which, at the time of classification, exceed the standards applicable to GA or GSA groundwaters shall not be caused to migrate as a result of activities within the boundary of the GC classification, so as to violate the groundwater or surface water quality standards in adjoining waters of a different class.
 - (3) Concentrations of specific substances, which exceed the established standard at the time of classification, are listed in Section .0300 of this Subchapter.

Authority G.S. 143-214.1; 143B-282(a)(2).

15A NCAC 02L .0202 GROUNDWATER QUALITY STANDARDS (OPTION 2)

(a) The groundwater quality standards for the protection of the groundwaters of the state are those specified in this Rule. They are the maximum allowable concentrations resulting from any discharge of contaminants to the land or waters of the state, which may be tolerated without creating a threat to human health or which would otherwise render the groundwater unsuitable for its intended best usage.

- (b) The groundwater quality standards for contaminants specified in Paragraphs (g) and (h) of this Rule are as listed, except that:
- (1) Where the standard for a substance is less than the practical quantitation limit, the detection of that substance at or above the practical quantitation limit constitutes a violation of the standard.
 - (2) Where two or more substances exist in combination, the Director shall consider the effects of chemical interactions as determined by the Division of Public Health and may establish maximum concentrations at values less than those established in accordance with Paragraphs (c), (g), or (h) of this Rule. In the absence of information to the contrary, in accordance with Paragraph (d) of this Rule, the carcinogenic risks associated with carcinogens present shall be considered additive and the toxic effects associated with non-carcinogens present shall also be considered additive.
 - (3) Where naturally occurring substances exceed the established standard, the standard shall be the naturally occurring concentration as determined by the Director.

(c) Except for tracers used in concentrations which have been determined by the Division of Public Health to be protective of human health, and the use of which has been permitted by the Division, substances which are not naturally occurring and for which no standard is specified shall not be permitted in concentrations at or above the practical quantitation limit in Class GA or Class GSA groundwaters. Any person may petition the Director to establish an interim maximum allowable concentration for a substance for which a standard has not been established under this Rule. The petitioner shall submit relevant toxicological and epidemiological data, study results, and calculations necessary to establish a standard in accordance with Paragraph (d) of this Rule. Within three months after the establishment of an interim maximum allowable concentration for a substance by the Director, the Director shall initiate action to consider adoption of a standard for that substance.

(d) Except as provided in Paragraph (f) of this Rule, groundwater ~~Groundwater~~ quality standards for substances in Class GA and Class GSA groundwaters are established as the least of:

- (1) Systemic threshold concentration calculated as follows: $[\text{Reference Dose (mg/kg/day)} \times 70 \text{ kg (adult body weight)} \times \text{Relative Source Contribution (.10 for inorganics; .20 for organics)}] / [2 \text{ liters/day (avg. water consumption)}]$;
- (2) Concentration which corresponds to an incremental lifetime cancer risk of 1×10^{-6} ;
- (3) Taste threshold limit value;
- (4) Odor threshold limit value;
- (5) Maximum contaminant level; or
- (6) National secondary drinking water standard.

(e) The following references, in order of preference, shall be used in establishing concentrations of substances which correspond to levels described in Paragraph (d) of this Rule.

- (1) Integrated Risk Information System (U.S. EPA).
- (2) Health Advisories (U.S. EPA Office of Drinking Water).
- (3) Other health risk assessment data published by U.S. EPA.
- (4) Other relevant, published health risk assessment data, and scientifically valid peer-reviewed published toxicological data.

(f) The Commission may establish groundwater standards less stringent than existing maximum contaminant levels or national secondary drinking water standards if it finds, after public notice and opportunity for hearing, that

- (1) more recent data published in any of the EPA health references listed in Paragraph (e) of this Rule results in a standard which is protective of public health, taste threshold, or odor threshold,
- (2) such a standard will not endanger the public health and safety, including health and environmental effects from exposure to groundwater contaminants, and
- (3) compliance with a standard based on the maximum contaminant level or national secondary drinking water standard would produce serious hardship without equal or greater public benefit.

(g) Groundwater quality standards specified in Paragraphs ~~(e)(h)~~ and ~~(h)(i)~~ of this Rule and interim maximum allowable concentrations established pursuant to Paragraph (c) of this Rule shall be reviewed on a triennial basis. Appropriate modifications to

established standards shall be made in accordance with the procedure prescribed in Paragraph (d) of this Rule where modifications are considered appropriate based on data published subsequent to the previous review.

(h) Class GA Standards. Where not otherwise indicated, the standard refers to the total concentration in micrograms per liter of any constituent in a dissolved, colloidal or particulate form which is mobile in groundwater. This does not apply to sediment or other particulate matter which is preserved in a groundwater sample as a result of well construction or sampling procedures. The Class GA standards are:

- (1) Acenaphthene: 80;
- (2) Acenaphthylene: 200;
- (3) Acetone: 6 mg/L;
- (4) Acrylamide: 0.008;
- (5) Anthracene: 2 mg/L;
- (6) Arsenic: 10;
- (7) Atrazine and chlorotriazine metabolites: 3;
- (8) Barium: 700;
- (9) Benzene: 1;
- (10) Benzo(a)anthracene (benz(a)anthracene): 0.05;
- (11) Benzo(b)fluoranthene: 0.05;
- (12) Benzo(k)fluoranthene: 0.5;
- (13) Benzoic acid: 30 mg/L;
- (14) Benzo(g,h,i)perylene: 200;
- (15) Benzo(a)pyrene: 0.005;
- (16) Bis(chloroethyl)ether: 0.03;
- (17) Bis(2-ethylhexyl) phthalate (di(2-ethylhexyl) phthalate): 3;
- (18) Boron: 700;
- (19) Bromodichloromethane: 0.6;
- (20) Bromoform (tribromomethane): 4;
- (21) n-Butylbenzene: 70;
- (22) sec-Butylbenzene: 70;
- (23) tert-Butylbenzene: 70;
- (24) Butylbenzyl phthalate: 1 mg/L;
- (25) Cadmium: 2;
- (26) Caprolactam: 4 mg/L;
- (27) Carbofuran: 40;
- (28) Carbon disulfide: 700;
- (29) Carbon tetrachloride: 0.3;
- (30) Chlordane: 0.1;
- (31) Chloride: 250 mg/L;
- (32) Chlorobenzene: 50;
- (33) Chloroethane: 3,000;
- (34) Chloroform (trichloromethane): 70;
- (35) Chloromethane (methyl chloride): 3;
- (36) 2-Chlorophenol: 0.4;
- (37) 2-Chlorotoluene (o-chlorotoluene): 100;
- (38) Chromium: 10;
- (39) Chrysene: 5;
- (40) Coliform organisms (total): 1 per 100 milliliters;
- (41) Color: 15 color units;
- (42) Copper: 1 mg/L;
- (43) Cyanide (free cyanide): 70;
- (44) 2, 4-D (2,4-dichlorophenoxy acetic acid): 70;
- (45) DDD: 0.1;
- (46) DDT: 0.1;
- (47) Dibenz(a,h)anthracene: 0.005;
- (48) Dibromochloromethane: 0.4;
- (49) 1,2-Dibromo-3-chloropropane: 0.04;
- (50) Dibutyl (or di-n-butyl) phthalate: 700;
- (51) 1,2-Dichlorobenzene (orthodichlorobenzene): 20;
- (52) 1,3-Dichlorobenzene (metadichlorobenzene): 200;
- (53) 1,4-Dichlorobenzene (paradichlorobenzene): 6;
- (54) Dichlorodifluoromethane (Freon-12; Halon): 1 mg/L;
- (55) 1,1-Dichloroethane: 6;
- (56) 1,2-Dichloroethane (ethylene dichloride): 0.4;
- (57) 1,2-Dichloroethene (cis): 70;
- (58) 1,2-Dichloroethene (trans): 100;
- (59) 1,1-Dichloroethylene (vinylidene chloride): 7;

- (60) 1,2-Dichloropropane: 0.6;
- (61) 1,3-Dichloropropene (cis and trans isomers): 0.4;
- (62) Dieldrin: 0.002;
- (63) Diethylphthalate: 6 mg/L;
- (64) 2,4-Dimethylphenol (m-xyleneol): 100;
- (65) Di-n-octyl phthalate: 100;
- (66) 1,4-Dioxane (p-dioxane): 3;
- (67) Dioxin (2,3,7,8-TCDD): 0.0002 ng/L;
- (68) 1,1-Diphenyl (1,1,-biphenyl): 400;
- (69) Dissolved solids (total): 500 mg/L;
- (70) Disulfoton: 0.3;
- (71) Diundecyl phthalate (Santicizer 711): 100;
- (72) Endosulfan: 40;
- (73) Endrin, total: (includes endrin, endrin aldehyde and endrin ketone): 2;
- (74) Epichlorohydrin: 4;
- (75) Ethyl acetate: 3 mg/L;
- (76) Ethylbenzene: 600;
- (77) Ethylene dibromide (1,2-dibromoethane): 0.02;
- (78) Ethylene glycol: 10 mg/L;
- (79) Fluoranthene: 300;
- (80) Fluorene: 300;
- (81) Fluoride: 2 mg/L;
- (82) Foaming agents: 500;
- (83) Formaldehyde: 600;
- (84) Gross alpha (adjusted) particle activity (excluding radium-226 and uranium): 15 pCi/L;
- (85) Heptachlor: 0.008;
- (86) Heptachlor epoxide: 0.004;
- (87) Heptane: 400;
- (88) Hexachlorobenzene (perchlorobenzene): 0.02;
- (89) Hexachlorobutadiene: 0.4;
- (90) Hexachlorocyclohexane isomers (technical grade): 0.02;
- (91) n-Hexane: 400;
- (92) Indeno(1,2,3-cd)pyrene: 0.05;
- (93) Iron: 300;
- (94) Isophorone: 40;
- (95) Isopropylbenzene: 70;
- (96) Isopropyl ether: 70;
- (97) Lead: 15;
- (98) Lindane (gamma hexachlorocyclohexane): 0.03;
- (99) Manganese: 50;
- (100) Mercury: 1;
- (101) Methanol: 4 mg/L;
- (102) Methoxychlor: 40;
- (103) Methylene chloride (dichloromethane): 5;
- (104) Methyl ethyl ketone (2-butanone): 4 mg/L;
- (105) 2-Methylnaphthalene: 30;
- (106) 3-Methylphenol (m-cresol): 400;
- (107) 4-Methylphenol (p-cresol): 40;
- (108) Methyl tert-butyl ether (MTBE): 20;
- (109) Naphthalene: 6;
- (110) Nickel: 100;
- (111) Nitrate: (as N) 10 mg/L;
- (112) Nitrite: (as N) 1 mg/L;
- (113) N-nitrosodimethylamine: 0.0007;
- (114) Oxamyl: 200;
- (115) Pentachlorophenol: 0.3;
- (116) Petroleum aliphatic carbon fraction class (C5 - C8): 400;
- (117) Petroleum aliphatic carbon fraction class (C9 - C18): 700;
- (118) Petroleum aliphatic carbon fraction class (C19 - C36): 10 mg/L;
- (119) Petroleum aromatics carbon fraction class (C9 - C22): 200;
- (120) pH: 6.5 - 8.5;
- (121) Phenanthrene: 200;
- (122) Phenol: 30;
- (123) Phorate: 1;
- (124) n-Propylbenzene: 70;

- (125) Pyrene: 200;
- (126) Selenium: 20;
- (127) Silver: 20;
- (128) Simazine: 4;
- (129) Styrene: 70;
- (130) Sulfate: 250 mg/L;
- (131) 1,1,2,2-Tetrachloroethane: 0.2;
- (132) Tetrachloroethylene (perchloroethylene; PCE): 0.7;
- (133) 2,3,4,6-Tetrachlorophenol: 200;
- (134) Toluene: 600;
- (135) Toxaphene: 0.03;
- (136) 2, 4, 5,-TP (Silvex): 50;
- (137) 1,2,4-Trichlorobenzene: 70;
- (138) 1,1,1-Trichloroethane: 200;
- (139) Trichloroethylene (TCE): 3;
- (140) Trichlorofluoromethane: 2 mg/L;
- (141) 1,2,3-Trichloropropane: 0.005;
- (142) 1,2,4-Trimethylbenzene: 400;
- (143) 1,3,5-Trimethylbenzene: 400;
- (144) 1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113): 200 mg/L;
- (145) Vinyl chloride: 0.03;
- (146) Xylenes (o-, m-, and p-): 500; and
- (147) Zinc: 1 mg/L.

(i) Class GSA Standards. The standards for this class are the same as those for Class GA except as follows:

- (1) chloride: allowable increase not to exceed 100 percent of the natural quality concentration; and
- (2) total dissolved solids: 1000 mg/l.

(j) Class GC Waters.

- (1) The concentrations of substances which, at the time of classification, exceed the standards applicable to Class GA or GSA groundwaters shall not be caused to increase, nor shall the concentrations of other substances be caused to exceed the GA or GSA standards as a result of further disposal of contaminants to or beneath the surface of the land within the boundary of the area classified GC.
- (2) The concentrations of substances which, at the time of classification, exceed the standards applicable to GA or GSA groundwaters shall not be caused to migrate as a result of activities within the boundary of the GC classification, so as to violate the groundwater or surface water quality standards in adjoining waters of a different class.
- (3) Concentrations of specific substances, which exceed the established standard at the time of classification, are listed in Section .0300 of this Subchapter.

Authority G.S. 143-214.1; 143B-282(a)(2).

15A NCAC 02L .0113 VARIANCE (OPTION 3)

(a) The Commission, on its own initiative or pursuant to a request under G.S. 143-215.3(e), may grant variances to the rules of this Subchapter.

(b) Requests for variances are filed by letter from the applicant to the Environmental Management Commission. The application shall be mailed to the chairman of the Commission in care of the Director, Division of [Environmental Management, Post Office Box 29535, Raleigh, N.C. 27626-0535](#), [Water Quality, 1617 Mail Service Center, Raleigh, N.C. 27699-1617](#).

(c) ~~The~~ application shall contain the following information:

- (1) Applications filed by counties or municipalities must include a resolution of the County Board of Commissioners or the governing board of the municipality requesting the variance.
- (2) A description of the past, existing or proposed activities or operations that have or would result in a discharge of contaminants to the groundwaters.
- (3) Description of the proposed area for which a variance is requested. A detailed location map, showing the orientation of the facility, potential for groundwater contaminant migration, as well as the area covered by the variance request, with reference to at least two geographic references (numbered roads, named streams/rivers, etc.) must be included.
- (4) Supporting information to establish that the variance will not endanger the public health and safety, including health and environmental effects from exposure to groundwater contaminants. (Location of wells and other water supply sources including details of well construction within 1/2 mile of site must be shown on a map).
- (5) Supporting information to establish that requirements of this Rule cannot be achieved by providing the best available technology economically reasonable. This information must identify specific technology considered, and the costs of implementing the technology and the impact of the costs on the applicant.
- (6) Supporting information to establish that compliance would produce serious financial hardship on the applicant.
- (7) Supporting information that compliance would produce serious financial hardship without equal or greater public benefit.
- (8) A copy of any Special Order that was issued in connection with contaminants in the proposed area and supporting information that applicant has complied with the Special Order.

- (9) A list of the names and addresses of any property owners within the proposed area of the variance as well as any property owners adjacent to the site covered by the variance.

(d) For state-wide variances to groundwater standards established in Rule .0202 of this Subchapter, the application shall contain the following information:

- (1) Supporting information to establish that the variance will not endanger the public health and safety, including health and environmental effects from exposure to groundwater at the proposed constituent levels. This should include information obtained from the following references.

(A) Integrated risk Information System (U.S. EPA).

(B) Health Advisories (U.S. EPA Office of Drinking Waters).

(D) Other health risk assessment data published by U.S. EPA.

(E) Other relevant, published health and ecological risk assessment data, and scientifically valid peer-reviewed published toxicological data.

- (2) A list of all known potentially affected sites, to include permitted sites and incident sites. For each site listed, a map for each site with the location of wells and other water supply sources within ½ mile of the affected site must be provided.

- (3) A list of increased costs for treatment for any of the wells or water supply sources listed in Paragraph (2) of this Rule due to the proposed variance to Rule .0202 of this Subchapter.

~~(d)~~(e) Upon receipt of the application, the Director will review it for completeness and request additional information if necessary. When the application is complete, the Director shall give public notice of the application and schedule the matter for a public hearing in accordance with G.S. 143-215.4(b) and the procedures set out in Paragraph ~~(e)~~(f) of this Rule.

~~(e)~~(f) Notice of Public Hearing:

- (1) Notice of public hearing on any variance application shall be circulated in the geographical areas of the proposed variance by the Director at least 30 days prior to the date of the hearing:

(A) by publishing the notice one time in a newspaper having general circulation in said county;

(B) by mailing to the North Carolina Department of Environment, Health, and Natural Resources, Division of Environmental Health and appropriate local health agency;

(C) by mailing to any other federal, state or local agency upon request;

(D) by mailing to the local governmental unit or units having jurisdiction over the geographic area covered by the variance;

(E) by mailing to any property owner within the proposed area of the variance, as well as any property owners adjacent to the site covered by the variance; and

(F) by mailing to any person or group upon request.

- (2) The contents of public notice of any hearing shall include at least the following:

(A) name, address, and phone number of agency holding the public hearing;

(B) name and address of each applicant whose application will be considered at the meeting;

(C) brief summary of the variance request;

(D) geographic description of a proposed area for which a variance is requested;

(E) brief description of activities or operations which have or will result in the discharge of contaminants to the groundwaters described in the variance application;

(F) a brief reference to the public notice issued for each variance application;

(G) information regarding the time and location for the hearing;

(H) the purpose of the hearing;

(I) address and phone number of premises at which interested persons may obtain further information, request a copy of each application, and inspect and copy forms and related documents; and

(J) a brief description of the nature of the hearing including the rules and procedures to be followed. The notice shall also state that additional information is on file with the Director and may be inspected at any time during normal working hours. Copies of the information on file will be made available upon request and payment of cost or reproduction.

~~(f)~~(g) All comments received within 30 days following the date of the public hearing shall be made part of the application file and shall be considered by the Commission prior to taking final action on the application.

~~(g)~~(h) In determining whether to grant a variance, the Commission shall consider whether the applicant has complied with any Special Order, or Special Order by Consent issued under G.S. 143-215.2.

~~(h)~~(i) ~~If the Commission's final decision is unacceptable, the applicant may file~~ The applicant may appeal the Commission's final decision by filing a petition for a contested case in accordance with Chapter 150B of the General Statutes. If the petition is not filed within 60 days, the Commission's decision on the variance shall be final and binding.

~~(i) A variance shall not operate as a defense to an action at law based upon a public or private nuisance theory or any other cause of action.~~

Authority G.S. 143-215.3(a)(1); 143-215.3(a)(3); 143-215.3(a)(4); 143-215.3(e); 143-215.4.