



APPENDIX A
NON-SUBSTANTIVE EDITORIAL REVISIONS

1 15A NCAC 02B .0206 is amended as published in 28:24 NCR 3004-3032 as follows:

2
3 **15A NCAC 02B .0206 FLOW DESIGN CRITERIA FOR EFFLUENT LIMITATIONS**

4 (a) Water quality based effluent limitations ~~are shall be~~ developed to allow appropriate frequency and duration of
5 deviations from water quality standards so that the designated uses of receiving waters are protected. There are
6 water quality standards for a number of categories of pollutants and to protect a range of water uses. For this reason,
7 the appropriate frequency and duration of deviations from water quality standards ~~is not shall not be~~ the same for all
8 categories of standards. A flow design criterion ~~is shall be~~ used in the development of water quality based effluent
9 limitations as a simplified means of estimating the acceptable frequency and duration of deviations. More complex
10 modeling techniques ~~can may~~ also be used to set effluent limitations directly based on frequency and duration
11 criteria published by the U.S. Environmental Protection Agency ~~available free of charge pursuant to Section 304(a)~~
12 ~~of the Federal Clean Water Act as amended, at~~
13 <http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm> ~~are hereby incorporated by reference~~
14 ~~including any subsequent amendments.~~ Use of more complex modeling techniques to set water quality based
15 effluent limitations ~~will shall~~ be approved by the Commission or its designee on a case-by-case basis. Flow design
16 criteria to calculate water quality based effluent limitations for categories of water quality standards ~~are listed as~~
17 ~~follows: shall be the following:~~

- 18 (1) All standards except toxic substances and aesthetics ~~will shall~~ be protected using the minimum
19 average flow for a period of seven consecutive days that has an average recurrence of once in ten
20 years (7Q10 flow). Other governing flow ~~strategies strategies,~~ such as varying discharges with the
21 receiving waters ability to assimilate ~~wasteswastes,~~ may be designated by the Commission or its
22 designee on a case-by-case basis if the discharger or permit applicant ~~provide provides~~ evidence
23 ~~which that~~ establishes to the satisfaction of the Director that the alternative flow strategies will
24 give equal or better protection for the water quality standards. ~~Better~~ ~~“Better~~ protection for the
25 ~~water quality standards standards”~~ means that deviations from the standard would be expected less
26 frequently than provided by using the 7Q10 flow.
- 27 (2) Toxic substance standards to protect aquatic life from chronic toxicity ~~will shall~~ be protected using
28 the 7Q10 flow.
- 29 (3) Toxic substance standards to protect aquatic life from acute toxicity ~~[will]~~ ~~shall~~ be protected using
30 the 1Q10 flow.
- 31 (3)(4) Toxic substance standards to protect human health ~~will be: shall be the following:~~
- 32 (A) The 7Q10 flow for standards to protect human health through the consumption of water,
33 ~~fish fish,~~ and shellfish from ~~noncarcinogens; noncarcinogens; and~~
- 34 (B) The mean annual flow to protect human health from carcinogens through the
35 consumption of water, ~~fish fish,~~ and shellfish unless site specific fish contamination
36 concerns necessitate the use of an alternative design flow;

1 (4)(5) Aesthetic quality ~~will~~ shall be protected using the minimum average flow for a period of 30
2 consecutive days that has an average recurrence of once in two years (30Q2 flow).

3 (b) In cases where the stream flow is regulated, a minimum daily low flow may be used as a substitute for the 7Q10
4 ~~flow-flow~~, except in cases where there are acute toxicity concerns for aquatic life. In the cases where there are acute
5 toxicity concerns, an alternative low ~~flow-flow~~, such as the instantaneous minimum ~~release-release~~, shall be
6 ~~approved by the Director may be used~~ on a case-by-case ~~basis-basis~~ so that the designated uses of receiving waters
7 are protected.

8 (c) Flow design criteria ~~are~~ shall be used to develop water quality based effluent limitations and for the design of
9 wastewater treatment facilities. Deviations from a specific water quality standard resulting from discharges ~~which~~
10 ~~that~~ are affirmatively demonstrated to be in compliance with water quality based effluent limitations for that
11 standard ~~will~~ shall not be a violation pursuant to G.S. 143-215.6 when the actual flow is significantly less than the
12 design flow.

13 (d) In cases where the 7Q10 flow of the receiving stream is estimated to be zero, water quality based effluent
14 limitations ~~will~~ shall be assigned as follows:

15 (1) Where the 30Q2 flow is estimated to be greater than zero, effluent limitations for new or expanded
16 (additional) discharges of oxygen consuming waste ~~will~~ shall be set at BOD₅ = 5 mg/l, NH₃-N = 2
17 mg/l and DO = 6 mg/l, unless it is determined ~~by the Director~~ that these limitations will not protect
18 water quality standards. Requirements for existing discharges ~~will~~ shall be determined on a
19 case-by-case basis by the Director. More stringent limits ~~will~~ shall be applied in cases where
20 violations of water quality standards are predicted to occur for a new or expanded discharge with
21 the limits set pursuant to this Rule, or where existing limits are determined to be inadequate to
22 protect water quality standards.

23 (2) If the 30Q2 and 7Q10 flows are both estimated to be zero, no new or expanded (additional)
24 discharge of oxygen consuming waste ~~will~~ shall be allowed. Requirements for existing discharges
25 to streams where the 30Q2 and 7Q10 flows are both estimated to be zero ~~will~~ shall be determined
26 on a case-by-case basis.

27 (3) Other water quality standards ~~will~~ shall be protected by requiring the discharge to meet the
28 standards unless the ~~Director determines that~~ alternative limitations ~~are determined by the Director~~
29 ~~to~~ protect the classified water uses.

30 (e) Receiving water flow statistics ~~will~~ shall be estimated through consultation with the U.S. Geological Survey.
31 Estimates for any given location may be based on actual flow data, modeling analyses, or other methods determined
32 to be appropriate by the Commission or its designee.

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34 *History Note: Authority G.S. 143-214.1; 143-215.3(a)(1);*
35 *Eff. February 1, 1976;*
36 *Amended Eff. January 1, 2015; February 1, 1993; October 1, 1989; August 1, 1985; January 1,*
37 *1985.*

1 15A NCAC 02B .0211 is amended with changes as published in 28:24 NCR 3004-3032 as follows:

2
3 **15A NCAC 02B .0211 FRESH SURFACE WATER QUALITY STANDARDS FOR CLASS C WATERS**

4 General. The water quality standards for all fresh surface waters are shall be the basic standards applicable to Class
5 C waters. ~~See Rule .0208 of this Section for standards for toxic substances and temperature. Water quality standards~~
6 for temperature and numerical water quality standards for the protection of human health applicable to all fresh surface
7 waters are in Rule .0208 of this Section. Additional and more stringent standards applicable to other specific
8 freshwater classifications are specified in Rules .0212, .0214, .0215, .0216, ~~.0217~~, .0218, .0219, .0223, .0224 and
9 .0225 of this Section. Action Levels for purposes of National Pollutant Discharge Elimination System (NPDES)
10 [NPDES] permitting are specified in Item (22) of this Rule.

11 (1) Best Usage of Waters: aquatic life propagation and maintenance of biological integrity (including
12 fishing and fish), wildlife, secondary recreation, agriculture agriculture, and any other usage except
13 for primary recreation or as a source of water supply for drinking, culinary culinary, or food
14 processing purposes;

15 (2) Conditions Related to Best Usage: the waters shall be suitable for aquatic life propagation and
16 maintenance of biological integrity, wildlife, secondary recreation, and agriculture. Sources of
17 water pollution which that preclude any of these uses on either a short-term or long-term basis shall
18 be considered to be violating a water quality standard;

19 ~~(3) Quality standards applicable to all fresh surface waters:~~

20 ~~(3) Chlorine, total residual: 17 ug/l;~~

21 ~~(4)(a) Chlorophyll a (corrected): not greater than 40 ug/l for lakes, reservoirs, and other waters subject to~~
22 ~~growths of macroscopic or microscopic vegetation not designated as trout waters, and not greater~~
23 ~~than 15 ug/l for lakes, reservoirs, and other waters subject to growths of macroscopic or microscopic~~
24 ~~vegetation designated as trout waters (not applicable to lakes or reservoirs less than 10 acres in~~
25 ~~surface area). The Commission or its designee may prohibit or limit any discharge of waste into~~
26 ~~surface waters if, in the opinion of the Director, if the surface waters experience or the discharge~~
27 ~~would result in growths of microscopic or macroscopic vegetation such that the standards~~
28 ~~established pursuant to this Rule would be violated or the intended best usage of the waters would~~
29 ~~be impaired;~~

30 ~~(5) Cyanide, total: 5.0 ug/L;~~

31 ~~(6)(b) Dissolved oxygen: not less than 6.0 mg/l for trout waters; for non-trout waters, not less than a daily~~
32 ~~average of 5.0 mg/l with a minimum instantaneous value of not less than 4.0 mg/l; swamp waters,~~
33 ~~lake eoves coves, or backwaters, and lake bottom waters may have lower values if caused by natural~~
34 ~~conditions;~~

35 ~~(7) Fecal coliform: shall not exceed a geometric mean of 200/100ml (MF count) based upon at least~~
36 ~~five consecutive samples examined during any 30 day period, nor exceed 400/100ml in more than~~
37 ~~20 percent of the samples examined during such period. Violations of the fecal coliform standard~~

1 are expected during rainfall events and, in some cases, this violation is expected to be caused by
2 uncontrollable nonpoint source pollution. All coliform concentrations ~~[are to]~~ shall be analyzed
3 using the membrane filter ~~[technique]~~ technique, unless high turbidity or other adverse conditions
4 necessitate the tube dilution~~[method;]~~ method. ~~[in]~~ In case of controversy over results, the MPN
5 5-tube dilution technique shall be used as the reference method;

6 (8)(e) Floating solids, settleable solids, or sludge deposits: only such amounts attributable to sewage,
7 industrial ~~wastes-wastes~~, or other wastes as shall not make the water unsafe or unsuitable for aquatic
8 life and wildlife or impair the waters for any designated uses;

9 (9) Fluorides: 1.8 mg/l;

10 (10)(d) Gases, total dissolved: not greater than 110 percent of saturation;

11 (e) ~~Organisms of the coliform group: fecal coliforms shall not exceed a geometric mean of~~
12 ~~200/100ml (MF count) based upon at least five consecutive samples examined during any~~
13 ~~30-day period, nor exceed 400/100ml in more than 20 percent of the samples examined~~
14 ~~during such period. Violations of the fecal coliform standard are expected during rainfall~~
15 ~~events and, in some cases, this violation is expected to be caused by uncontrollable~~
16 ~~nonpoint source pollution. All coliform concentrations are to be analyzed using the~~
17 ~~membrane filter technique unless high turbidity or other adverse conditions necessitate the~~
18 ~~tube dilution method; in case of controversy over results, the MPN 5-tube dilution~~
19 ~~technique shall be used as the reference method;~~

20 (11) Metals:

21 (a) With the exception of mercury and selenium, freshwater aquatic life standards for metals
22 shall be based upon measurement of the dissolved fraction of the metal. Mercury and
23 ~~[Selenium]~~ selenium water quality standards ~~[must]~~ shall be based upon measurement of
24 the total recoverable ~~metal:metal;~~ ~~[Alternative site-specific metals standards can be~~
25 ~~developed where studies are designed in accordance with the "Water Quality Standards~~
26 ~~Handbook: Second Edition" published by the US Environmental Protection Agency (EPA~~
27 ~~823-B-94-005a) hereby incorporated by reference including any subsequent amendments;]~~

28 (b) Freshwater metals standards that are not hardness-dependent ~~[are]~~ shall be as follows:

- 29 (i) Arsenic, dissolved, acute: ~~WER:~~ 340 ug/l;
30 (ii) Arsenic, dissolved, chronic: ~~WER:~~ 150 ug/l;
31 (iii) Beryllium, dissolved, acute: ~~WER:~~ 65 ug/l;
32 (iv) Beryllium, dissolved, chronic: ~~WER:~~ 6.5 ug/l;
33 (v) Chromium VI, dissolved, acute: ~~WER:~~ 16 ug/l;
34 (vi) Chromium VI, dissolved, chronic: ~~WER:~~ 11 ug/l;
35 (vii) Mercury, total recoverable, chronic: 0.012 ug/l;
36 (viii) Selenium, total recoverable, chronic: 5 ug/l;
37 (ix) Silver, dissolved, chronic: ~~WER:~~ 0.06 ug/l;

1 With the exception of mercury and selenium, acute and chronic freshwater aquatic life
2 standards for metals listed ~~above~~ in this Subparagraph apply to the dissolved form of the
3 metal and apply as a function of the pollutant's water effect ratio (WER). A WER ~~is a~~
4 ~~factor that~~ expresses the difference between the measures of the toxicity of a substance in
5 laboratory waters and the toxicity in site water. The WER ~~is~~ shall be assigned a value equal
6 to one ~~(1)~~ unless any person demonstrates to the ~~Department's~~ Division's satisfaction in
7 a permit proceeding that another value is ~~appropriately~~ developed in accordance with the
8 "Water Quality Standards Handbook: Second Edition" published by the US Environmental
9 Protection Agency (EPA-823-B-12-002), free of charge, at
10 <http://water.epa.gov/scitech/swguidance/standards/handbook/>, hereby incorporated by
11 reference including any subsequent amendments. Alternative site-specific standards ~~can~~
12 may also be developed when any person submits values that demonstrate to the
13 Commissions' satisfaction that they were derived in accordance with the "Water Quality
14 Standards Handbook: Second Edition, Recalculation Procedure or the Resident Species
15 ~~Procedure~~ Procedure", hereby incorporated by reference including subsequent
16 amendments at <http://water.epa.gov/scitech/swguidance/standards/handbook/>.
17 This material is available free of charge.

18 Hardness-dependent freshwater metals standards are located in Sub-Item (c) and (d) and in
19 Table A: Dissolved Freshwater Standards for Hardness-Dependent Metals;

20 (c) Hardness-dependent freshwater metals standards ~~are~~ shall be as follows:

21 (i) Hardness-dependent metals standards shall be derived using the equations specified in
22 Table A: Dissolved Freshwater Standards for Hardness-Dependent Metals. If the actual
23 instream hardness (expressed as CaCO₃ or Ca+Mg) is less than 25 milligrams/liter (mg/l),
24 standards shall be calculated based upon 25 mg/l hardness. If the actual instream hardness
25 is greater than 25 mg/l and less than 400 mg/l, standards ~~will~~ shall be calculated based
26 upon the actual instream hardness. If the instream hardness is greater than 400 mg/l, the
27 maximum applicable hardness shall be 400 mg/l;

28 (ii) Hardness-dependent metals ~~standards~~ in NPDES permitting: for NPDES permitting
29 purposes, application of the equations in Table A: Dissolved Freshwater Standards for
30 Hardness-Dependent Metals ~~requires~~ shall have hardness values (expressed as CaCO₃ or
31 Ca+Mg) established using the median of instream hardness data collected within the local
32 US Geological Survey (USGS) and Natural Resources Conservation Service (NRCS) 8-
33 digit Hydrologic Unit (HU). The minimum applicable instream hardness shall be 25 mg/l
34 and the maximum applicable instream hardness shall be 400 mg/l, even when the actual
35 median instream hardness is less than 25 mg/l and greater than 400 mg/l;

36 (d) Alternatives:

Acute and chronic freshwater aquatic life standards for metals listed in Table A apply to the dissolved form of the metal and apply as a function of the pollutant's water effect ratio (WER), which is set forth in Sub-Item (b). A WER is a factor that expresses the difference between the measures of the toxicity of a substance in laboratory waters and the toxicity in site water. The WER is assigned a value equal to one (1) unless any person demonstrates to the Department's satisfaction in a permit proceeding that another value is appropriately developed in accordance with the "Water Quality Standards Handbook: Second Edition" published by the US Environmental Protection Agency (EPA-823-B-12-002) hereby incorporated by reference including any subsequent amendments. Alternative site-specific standards may also be developed as set forth in Sub-Item (b); when any person submits values that demonstrate to the Commissions' satisfaction that they were derived in accordance with the "Water Quality Standards Handbook: Second Edition, Recalculation Procedure or the Resident Species Procedure";

Table A: Dissolved Freshwater Standards for Hardness-Dependent Metals

Numeric standards listed below calculated at 25 mg/l hardness are listed below for illustrative purposes. The Water Effects Ratio (WER) is equal to one (1) unless determined otherwise under 15A-NCAC 02B .0211 (d) Sub-Item (d) of this rule.

Metal	Equations for Hardness-Dependent Freshwater Metals (ug/l)	Standard at 25 mg/l hardness (ug/l)
Cadmium, Acute	$WER \cdot [1.136672 - \ln(\text{hardness})](0.041838) \cdot e^{\{0.9151 [\ln(\text{hardness}) - 3.1485]\}}$	0.82
Cadmium, Acute, Trout waters	$WER \cdot [1.136672 - \ln(\text{hardness})](0.041838) \cdot e^{\{0.9151 [\ln(\text{hardness}) - 3.6236]\}}$	0.51
Cadmium, Chronic	$WER \cdot [1.101672 - \ln(\text{hardness})](0.041838) \cdot e^{\{0.7998 [\ln(\text{hardness}) - 4.4451]\}}$	0.15
Chromium III, Acute	$WER \cdot [0.316 \cdot e^{\{0.8190 [\ln(\text{hardness}) + 3.7256]\}}$	180
Chromium III, Chronic	$WER \cdot [0.860 \cdot e^{\{0.8190 [\ln(\text{hardness}) + 0.6848]\}}$	24
Copper, Acute	$WER \cdot [0.960 \cdot e^{\{0.9422 [\ln(\text{hardness}) - 1.700]\}}$	3.6
	Or, Aquatic Life Ambient Freshwater Quality Criteria—Copper 2007 Revision	NA

	(EPA-822-R-07-001)	
Copper, Chronic	WER · [0.960 · e ^{0.8545[ln hardness]-1.702}]	2.7
	Or, Aquatic Life Ambient Freshwater Quality Criteria—Copper 2007 Revision (EPA-822-R-07-001)	NA
Lead, Acute	WER · [{1.46203-[ln hardness](0.145712)} · e ^{1.273[ln hardness]-1.460}]	14
Lead, Chronic	WER · [{1.46203-[ln hardness](0.145712)} · e ^{1.273[ln hardness]-4.705}]	0.54
Nickel, Acute	WER · [0.998 · e ^{0.8460[ln hardness]+2.255}]	140
Nickel, Chronic	WER · [0.997 · e ^{0.8460[ln hardness]+0.0584}]	16
Silver, Acute	WER · [0.85 · e ^{1.72[ln hardness]-6.59}]	0.30
Zinc, Acute	WER · [0.978 · e ^{0.8473[ln hardness]+0.884}]	36
Zinc, Chronic	WER · [0.986 · e ^{0.8473[ln hardness]+0.884}]	36

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~~(d)~~(e) Compliance with acute instream metals standards shall only be evaluated using an average of two or more samples collected within one hour. Compliance with chronic instream metals standards shall only be evaluated using averages of a minimum of four samples taken on consecutive days, or as a 96-hour average;

~~(e)~~ — With the exception of mercury and selenium, demonstrated attainment of the applicable aquatic life use in a waterbody will take precedence over the application of the aquatic life criteria established for metals associated with these uses. An instream exceedence of the numeric criterion for metals shall not be considered to have caused an adverse impact to the instream aquatic community if biological monitoring has demonstrated attainment of biological integrity.]

(f) Metals criteria [will] shall be used for proactive environmental management. An instream exceedence of the numeric criterion for metals shall not be considered to have caused an adverse impact to the instream aquatic community without biological confirmation and a comparison of all available monitoring data and applicable water quality standards. This weight of evidence evaluation [will] shall take into account data quality and the overall confidence in how representative the sampling is of conditions in the waterbody segment before an assessment of aquatic life use attainment, or non-attainment, [is] shall be made by the Division. Recognizing the synergistic and antagonistic complexities of other water quality variables on the actual toxicity of metals, with the exception of mercury and selenium, biological monitoring will be used to validate, by direct measurement, whether or not the aquatic life use is supported;

~~(f)~~(12) Oils, deleterious substances, ~~colored-colored~~, or other wastes: only such amounts as shall not render the waters injurious to public health, secondary ~~recreation recreation~~, or to aquatic life and ~~wildlife~~

1 ~~wildlife~~, or adversely affect the palatability of fish, aesthetic ~~quality~~ ~~quality~~, or impair the waters
2 for any designated uses. For the purpose of implementing this Rule, oils, deleterious substances,
3 ~~colored~~ ~~colored~~, or other wastes shall include ~~but not be limited to~~ substances that cause a film or
4 sheen upon or discoloration of the surface of the water or adjoining shorelines pursuant to 40 CFR
5 110.3(a)-(b) which are hereby incorporated by reference including any subsequent amendments and
6 additions. This material is ~~available~~ ~~available, free of charge, at: <http://www.ecfr.gov/>; for inspection~~
7 ~~at the Department of Environment and Natural Resources, Division of Water Quality, [Water~~
8 ~~Resources,] 512 North Salisbury Street, Raleigh, North Carolina.[Carolina;] Copies may be~~
9 ~~obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington,~~
10 ~~D.C. 20402-9325 at a cost of forty five dollars (\$45.00);D.C.;~~

11 (13) Pesticides:

- 12 (a) Aldrin: 0.002 ug/l;
13 (b) Chlordane: 0.004 ug/l;
14 (c) DDT: 0.001 ug/l;
15 (d) Demeton: 0.1 ug/l;
16 (e) Dieldrin: 0.002 ug/l;
17 (f) Endosulfan: 0.05 ug/l;
18 (g) Endrin: 0.002 ug/l;
19 (h) Guthion: 0.01 ug/l;
20 (i) Heptachlor: 0.004 ug/l;
21 (j) Lindane: 0.01 ug/l;
22 (k) Methoxychlor: 0.03 ug/l;
23 (l) Mirex: 0.001 ug/l;
24 (m) Parathion: 0.013 [~~ug/l;~~] ~~ug/l;~~ and
25 (n) Toxaphene: 0.0002 ug/l;

26 (g)(14) pH: shall be normal for the waters in the area, which ~~generally shall~~ range between 6.0 and 9.0
27 except that swamp waters may have a pH as low as 4.3 if it is the result of natural conditions;

28 (h)(15) Phenolic compounds: only such levels as shall not result in fish-flesh tainting or impairment of other
29 best usage;

30 (16) Polychlorinated biphenyls (total of all PCBs and congeners identified): 0.001 ug/l;

31 (i)(17) Radioactive substances:

32 (i)(a) Combined radium-226 and radium-228: the ~~maximum~~ average annual activity level (based
33 on at least ~~one sample collected per quarter~~ ~~four samples collected quarterly~~) for combined
34 radium-226 and radium-228 shall not exceed five picoCuries per liter;

35 (i)(b) Alpha Emitters: the average annual gross alpha particle activity (including radium-226, but
36 excluding radon and uranium) shall not exceed 15 picoCuries per liter;

1 (iii)(c) Beta Emitters: the maximum average annual activity level (based on at least one sample
2 collected per quarter ~~four samples, collected quarterly~~) for strontium-90 shall not exceed
3 eight picoCuries per liter; nor shall the average annual gross beta particle activity
4 (excluding potassium-40 and other naturally occurring ~~radio-nuelides~~radionuclides)
5 exceed 50 picoCuries per liter; nor shall the maximum average annual activity level for
6 tritium exceed 20,000 picoCuries per liter;

7 (j)(18) Temperature: not to exceed 2.8 degrees C (5.04 degrees F) above the natural water temperature, and
8 in no case to exceed 29 degrees C (84.2 degrees F) for mountain and upper piedmont waters and 32
9 degrees C (89.6 degrees F) for lower piedmont and coastal plain Waters; the temperature for trout
10 waters shall not be increased by more than 0.5 degrees C (0.9 degrees F) due to the discharge of
11 heated liquids, but in no case to exceed 20 degrees C (68 degrees F);

12 (19) Toluene: 11 ug/l or 0.36 ug/l in trout classified waters;

13 (20) Trialkyltin compounds: 0.07 ug/l expressed as tributyltin;

14 (k)(21) Turbidity: the turbidity in the receiving water shall not exceed 50 Nephelometric Turbidity Units
15 (NTU) in streams not designated as trout waters and 10 NTU in streams, lakes-lakes, or reservoirs
16 designated as trout waters; for lakes and reservoirs not designated as trout waters, the turbidity shall
17 not exceed 25 NTU; if turbidity exceeds these levels due to natural background conditions, the
18 existing turbidity level shall not be increased. Compliance with this turbidity standard can be met
19 when land management activities employ Best Management Practices (BMPs) [as defined by Rule
20 .0202 of this Section] recommended by the Designated Nonpoint Source Agency [as defined by
21 Rule .0202 of this Section]. BMPs must-shall be in full compliance with all specifications governing
22 the proper design, installation, operation-operation, and maintenance of such BMPs;

23 (l) ~~—— Toxic substances: numerical water quality standards (maximum permissible levels) for the
24 protection of human health applicable to all fresh surface waters are in Rule .0208 of this
25 Section. Numerical water quality standards (maximum permissible levels) to protect
26 aquatic life applicable to all fresh surface waters:~~

27 (i) ~~—— Arsenic: 50 ug/l;~~

28 (ii) ~~—— Beryllium: 6.5 ug/l;~~

29 (iii) ~~—— Cadmium: 0.4 ug/l for trout waters and 2.0 ug/l for non-trout waters; attainment
30 of these water quality standards in surface waters shall be based on measurement
31 of total recoverable metals concentrations unless appropriate studies have been
32 conducted to translate total recoverable metals to a toxic form. Studies used to
33 determine the toxic form or translators must be designed according to the "Water
34 Quality Standards Handbook Second Edition" published by the Environmental
35 Protection Agency (EPA 823-B-94-005a) or "The Metals Translator: Guidance
36 For Calculating a Total Recoverable Permit Limit From a Dissolved Criterion"
37 published by the Environmental Protection Agency (EPA 823-B-96-007) which~~

1 are hereby incorporated by reference including any subsequent amendments. The
2 Director shall consider conformance to EPA guidance as well as the presence of
3 environmental conditions that limit the applicability of translators in approving
4 the use of metal translators;

5 (iv) — Chlorine, total residual: 17 ug/l;

6 (v) — Chromium, total recoverable: 50 ug/l;

7 (vi) — Cyanide, 5.0 ug/l, unless site specific criteria are developed based upon the
8 aquatic life at the site utilizing The Recalculation Procedure in Appendix B of
9 Appendix L in the Environmental Protection Agency's Water Quality Standards
10 Handbook hereby incorporated by reference including any subsequent
11 amendments;

12 (vii) — Fluorides: 1.8 mg/l;

13 (viii) — Lead, total recoverable: 25 ug/l, collection of data on sources, transport and fate
14 of lead shall be required as part of the toxicity reduction evaluation for dischargers
15 who are out of compliance with whole effluent toxicity testing requirements and
16 the concentration of lead in the effluent is concomitantly determined to exceed an
17 instream level of 3.1 ug/l from the discharge;

18 (ix) — Mercury: 0.012 ug/l;

19 (x) — Nickel: 88 ug/l, attainment of these water quality standards in surface waters shall
20 be based on measurement of total recoverable metals concentrations unless
21 appropriate studies have been conducted to translate total recoverable metals to a
22 toxic form. Studies used to determine the toxic form or translators must be
23 designed according to the "Water Quality Standards Handbook Second Edition"
24 published by the Environmental Protection Agency (EPA 823-B-94-005a) or
25 "The Metals Translator: Guidance For Calculating a Total Recoverable Permit
26 Limit From a Dissolved Criterion" published by the Environmental Protection
27 Agency (EPA 823-B-96-007) which are hereby incorporated by reference
28 including any subsequent amendments. The Director shall consider conformance
29 to EPA guidance as well as the presence of environmental conditions that limit
30 the applicability of translators in approving the use of metal translators;

31 (xi) — Pesticides:

32 (A) — Aldrin: 0.002 ug/l;

33 (B) — Chlordane: 0.004 ug/l;

34 (C) — DDT: 0.001 ug/l;

35 (D) — Demeton: 0.1 ug/l;

36 (E) — Dieldrin: 0.002 ug/l;

37 (F) — Endosulfan: 0.05 ug/l;

- (G) — Endrin: 0.002 ug/l;
- (H) — Guthion: 0.01 ug/l;
- (I) — Heptachlor: 0.004 ug/l;
- (J) — Lindane: 0.01 ug/l;
- (K) — Methoxychlor: 0.03 ug/l;
- (L) — Mirex: 0.001 ug/l;
- (M) — Parathion: 0.013 ug/l;
- (N) — Toxaphene: 0.0002 ug/l;

- (xii) — Polychlorinated biphenyls: (total of all PCBs and congeners identified) 0.001 ug/l;
- (xiii) — Selenium: 5 ug/l;
- (xiv) — Toluene: 11 ug/l or 0.36 ug/l in trout waters;
- (xv) — Trialkyltin compounds: 0.07 ug/l expressed as tributyltin;

(4)(22) Action Levels for Toxic Substances: Substances Applicable to NPDES Permits:

- (a) ~~Copper: 7 ug/l;~~ Copper, dissolved, chronic: 2.7 ug/l;
- (b) — Iron: 1.0 mg/l;
- (c) ~~Silver:~~ Silver, dissolved, chronic: 0.06 ug/l;
- (d) ~~Zinc:~~ Zinc, dissolved, chronic: 50 ug/l; 36 [ug/l;] ug/l; and
- (e) Chloride: 230 mg/l;

The hardness-dependent freshwater action levels for Copper and Zinc, copper and zinc, provided here for illustrative purposes, corresponds to a hardness of 25 mg/l. Copper and [Zinc] zinc action level values for other instream hardness values shall be calculated per the chronic equations specified in Item (11) of this Rule and in Table A: Dissolved Freshwater Standards for Hardness-Dependent Metals. If the Action Levels action levels for any of the substances listed in this SubparagraphItem (which are generally not bioaccumulative and have variable toxicity to aquatic life because of chemical form, solubility, stream characteristics or associated waste characteristics) are determined by the waste load allocation to be exceeded in a receiving water by a discharge under the specified low flow 7Q10 criterion for toxic substances (Rule .0206 in this Section); substances, the discharger shall monitor the chemical or biological effects of the discharge; efforts shall be made by all dischargers to reduce or eliminate these substances from their effluents. Those substances for which Action Levels action levels are listed in this SubparagraphItem shall be limited as appropriate in the NPDES permit based on the Action Levels listed in this Subparagraph if sufficient information (to be determined for metals by measurements of that portion of the dissolved instream concentration of the Action Levels action levels parameter attributable to a specific NPDES permitted discharge) exists to indicate that any of those substances may be a causative factor resulting in toxicity of the effluent. NPDES permit limits may be based on translation of the toxic form to total recoverable metals. Studies used to determine the toxic form or translators must be

1 designed according to "Water Quality Standards Handbook Second Edition" published by the
2 Environmental Protection Agency (EPA 823-B-94-005a) or "The Metals Translator: Guidance For
3 Calculating a Total Recoverable Permit Limit From a Dissolved Criterion" published by the
4 Environmental Protection Agency (EPA 823-B-96-007) which are hereby incorporated by reference
5 including any subsequent amendments. The Director shall consider conformance to EPA guidance
6 as well as the presence of environmental conditions that limit the applicability of translators in
7 approving the use of metal translators.

8 For purposes other than consideration of NPDES permitting of point source discharges as described
9 in this Subparagraph, the Action Levels in this Rule, as measured by an appropriate analytical
10 technique, per 15A NCAC 02B .0103(a), shall be considered as numerical instream water quality
11 standards.

12
13 *History Note:* Authority G.S. 143-214.1; 143-215.3(a)(1);
14 Eff. February 1, 1976;
15 Amended Eff. January 1, 2015; May 1, 2007; April 1, 2003; August 1, 2000; October 1, 1995;
16 August 1, 1995; April 1, 1994; February 1, 1993.
17

1 15A NCAC 02B .0212 is amended with changes as published in 28:24 NCR 3004-3032 as follows:

2
3 **15A NCAC 02B .0212 FRESH SURFACE WATER QUALITY STANDARDS FOR CLASS WS-I**
4 **WATERS**

5 The following water quality standards apply to surface waters within water supply watersheds that are classified as
6 WS-I. Water quality standards applicable to Class C waters as described in Rule .0211 of this Section shall also
7 apply to Class WS-I waters.

- 8 (1) The best usage of WS-I waters are shall be as follows: a source of water supply for drinking,
9 culinary, or food-processing purposes for those users desiring maximum protection of their water
10 supplies; waters located on land in public ownership; and any best usage specified for Class C
11 waters;
- 12 (2) The conditions related to the best usage are shall be as follows: waters of this class are protected
13 water supplies within essentially natural and undeveloped watersheds in public ownership with no
14 permitted point source dischargers except those specified in Rule .0104 of this Subchapter; waters
15 within this class must shall be relatively unimpacted by nonpoint sources of pollution; land use
16 management programs are required to protect waters from nonpoint source pollution; the waters,
17 following treatment required by the ~~Division of Environmental Health, Division,~~ shall meet the
18 Maximum Contaminant Level concentrations considered safe for drinking, culinary, and
19 food-processing purposes which that are specified in the national drinking water regulations and in
20 the North Carolina Rules Governing Public Water Supplies, 15A NCAC 18C .1500. Sources of
21 water pollution which that preclude any of these uses on either a short-term or long-term basis
22 shall be considered to be violating a water quality standard. The Class WS-I classification may be
23 used to protect portions of Class WS-II, WS-III-WS-III, and WS-IV water supplies. For
24 reclassifications occurring after the July 1, 1992 statewide reclassification, the more protective
25 classification requested by local governments shall be considered by the Commission when all
26 local governments having jurisdiction in the affected area(s) have adopted a resolution and the
27 appropriate ordinances to protect the watershed or the Commission acts to protect a watershed
28 when one or more local governments has failed to adopt necessary protection measures;
- 29 (3) Quality standards applicable to Class WS-I Waters are shall be as follows:
- 30 (a) MBAS (Methylene-Blue Active Substances): not greater than 0.5 mg/l to protect the
31 aesthetic qualities of water supplies and to prevent foaming;
- 32 (b) Nonpoint Source Pollution: none shall be allowed that would adversely impact the
33 waters for use as a water supply or any other designated use;
- 34 (c) Organisms of coliform group: total coliforms not to exceed 50/100 ml (MF count) as a
35 monthly geometric mean value in watersheds serving as unfiltered water supplies;
- 36 (d) Chlorinated phenolic compounds: not greater than 1.0 ug/l to protect water supplies from
37 taste and odor problems from chlorinated phenols;

- 1 (e) Sewage, industrial wastes: none shall be allowed except those specified in
- 2 Subparagraph ~~Item(2)~~ Item (2) of this Paragraph ~~Rule~~ or Rule .0104 of this Subchapter;
- 3 (f) Solids, total dissolved: not greater than 500 mg/l;
- 4 (g) Total hardness: not greater than 100 mg/l as calcium ~~earbonate;~~ carbonate (CaCO₃ or Ca
- 5 + Mg);
- 6 (h) Toxic and other deleterious substances:
 - 7 (i) Water quality standards (maximum permissible concentrations) to protect
 - 8 human health through water consumption and fish tissue consumption for
 - 9 non-carcinogens in Class WS-I waters:
 - 10 (A) Barium: 1.0 mg/l;
 - 11 (B) Chloride: 250 mg/l;
 - 12 ~~(C)~~ Manganese: 200 ug/l;
 - 13 ~~(D)~~ (C) Nickel: 25 ug/l;
 - 14 ~~(E)~~ (D) Nitrate nitrogen: 10.0 mg/l;
 - 15 ~~(F)~~ (E) 2,4-D: 100 ug/l; 70 ug/l;
 - 16 ~~(G)~~ (F) 2,4,5-TP (Silvex): 10 ug/l; ug/l; and
 - 17 ~~(H)~~ (G) Sulfates: 250 mg/l;
 - 18 (ii) Water quality standards (maximum permissible concentrations) to protect
 - 19 human health through water consumption and fish tissue consumption for
 - 20 carcinogens in Class WS-I waters:
 - 21 (A) Aldrin: 0.05 ng/l;
 - 22 (B) Arsenic: 10 ug/l;
 - 23 (C) Benzene: 1.19 ug/l;
 - 24 (D) Carbon tetrachloride: 0.254 ug/l;
 - 25 (E) Chlordane: 0.8 ng/l;
 - 26 (F) Chlorinated benzenes: 488 ug/l;
 - 27 (G) DDT: 0.2 ng/l;
 - 28 (H) Dieldrin: 0.05 ng/l;
 - 29 (I) Dioxin: 0.000005 ng/l;
 - 30 (J) Heptachlor: 0.08 ng/l;
 - 31 (K) Hexachlorobutadiene: 0.44 ug/l;
 - 32 (L) Polynuclear aromatic hydrocarbons (total of all PAHs): 2.8 ng/l;
 - 33 (M) Tetrachloroethane (1,1,2,2): 0.17 ug/l;
 - 34 (N) Tetrachloroethylene: 0.7 ug/l;
 - 35 (O) Trichloroethylene: 2.5 ug/l; ug/l; and
 - 36 (P) Vinyl Chloride: 0.025 ug/l.
- 37

1 *History Note: Authority G.S. 143-214.1; 143-215.3(a)(1);*
2 *Eff. February 1, 1976;*
3 *Amended Eff. January 1, 2015; May 1, 2007; April 1, 2003; October 1, 1995; February 1, 1993;*
4 *March 1, 1991; October 1, 1989.*
5

1 15A NCAC 02B .0214 is amended with changes as published in 28:24 NCR 3004-3032 as follows:

2
3 **15A NCAC 02B .0214 FRESH SURFACE WATER QUALITY STANDARDS FOR CLASS WS-II**
4 **WATERS**

5 The following water quality standards apply to surface waters within water supply watersheds that are classified as
6 WS-II. Water quality standards applicable to Class C waters as described in Rule .0211 of this Section shall also
7 apply to Class WS-II waters.

8 (1) The best usage of WS-II waters are-shall be as follows: a source of water supply for drinking,
9 culinary, or food-processing purposes for those users desiring maximum protection for their water
10 supplies where a WS-I classification is not feasible and any best usage specified for Class C
11 waters;

12 (2) The conditions related to the best usage are-shall be as follows: waters of this class are protected
13 as water supplies which-that are in predominantly undeveloped watersheds and meet average
14 watershed development density levels as specified in Sub-Items (3)(b)(i)(A), (3)(b)(i)(B),
15 (3)(b)(ii)(A) and (3)(b)(ii)(B) of this Rule; discharges which-that qualify for a General Permit
16 pursuant to 15A NCAC 2H .0127, trout farm discharges, recycle (closed loop) systems that only
17 discharge in response to 10-year storm events and other stormwater discharges are-shall be
18 allowed in the entire watershed; new domestic and industrial discharges of treated wastewater are
19 not-shall not be allowed in the entire watershed; the waters, following treatment required by the
20 ~~Division of Environmental Health, Division,~~ shall meet the Maximum Contaminant Level
21 concentrations considered safe for drinking, culinary, and food-processing purposes which-that are
22 specified in the national drinking water regulations and in the North Carolina Rules Governing
23 Public Water Supplies, 15A NCAC 18C .1500. Sources of water pollution which-that preclude
24 any of these uses on either a short-term or long-term basis shall be considered to be violating a
25 water quality standard. The Class WS-II classification may be used to protect portions of Class
26 WS-III and WS-IV water supplies. For reclassifications of these portions of Class WS-III and
27 WS-IV water supplies occurring after the July 1, 1992 statewide reclassification, the more
28 protective classification requested by local governments shall be considered by the Commission
29 when all local governments having jurisdiction in the affected area(s) have adopted a resolution
30 and the appropriate ordinances to protect the watershed or the Commission acts to protect a
31 watershed when one or more local governments has failed to adopt necessary protection measures;

32 (3) Quality standards applicable to Class WS-II Waters are-shall be as follows:

33 (a) Sewage, industrial wastes, non-process industrial wastes, or other wastes: none shall be
34 allowed except for those specified in either Item (2) of this Rule and Rule .0104 of this
35 Subchapter; none shall be allowed that have an adverse effect on human health or that are
36 not effectively treated to the satisfaction of the Commission and in accordance with the
37 requirements of the ~~Division of Environmental Health, North Carolina Department of~~

1 ~~Environment and Natural Resources Division.~~ Any discharger ~~may~~ shall be required
2 upon request by the Commission to disclose all chemical constituents present or
3 potentially present in their wastes and chemicals ~~which that~~ could be spilled or be present
4 in runoff from their facility ~~which that~~ may have an adverse impact on downstream water
5 quality. These facilities may be required to have spill and treatment failure control plans
6 as well as perform special monitoring for toxic substances;

7 (b) Nonpoint Source and Stormwater Pollution: none that would adversely impact the waters
8 for use as a water supply or any other designated use;

9 (i) Nonpoint Source and Stormwater Pollution Control Criteria for Entire
10 Watershed:

11 (A) Low Density Option: development density ~~must~~ shall be limited to
12 either no more than one dwelling unit per acre of single family
13 detached residential development (or 40,000 square foot lot excluding
14 roadway ~~right-of-way~~ right-of-way), or 12 percent built-upon area for
15 all other residential and non-residential development in the watershed
16 outside of the critical area; stormwater runoff from the development
17 shall be transported by vegetated conveyances to the maximum extent
18 practicable;

19 (B) High Density Option: if new development exceeds the low density
20 option requirements as stated in Sub-Item (3)(b)(i)(A) of this Rule, then
21 engineered stormwater controls ~~must~~ shall be used to control runoff
22 from the first inch of rainfall; new residential and non-residential
23 development shall not exceed 30 percent built-upon area;

24 (C) Land within the watershed shall be deemed compliant with the density
25 requirements if the following condition is met: the density of all
26 existing development at the time of reclassification does not exceed the
27 density requirement when densities are averaged throughout the entire
28 watershed area at the time of classification;

29 (D) Cluster development ~~is~~ shall be allowed on a project-by-project basis as
30 follows:

31 (I) overall density of the project meets associated density or
32 stormwater control requirements of this Rule;

33 (II) buffers meet the minimum statewide water supply watershed
34 protection requirements;

35 (III) built-upon areas ~~are~~ shall be designed and located to
36 minimize stormwater runoff impact to the receiving waters,
37 minimize concentrated stormwater flow, maximize the use of

1 sheet flow through vegetated areas, and maximize the flow
2 length through vegetated areas;

3 (IV) areas of concentrated development ~~are shall be~~ located in
4 upland areas and away, to the maximum extent practicable,
5 from surface waters and drainageways;

6 (V) remainder of tract to remain in vegetated or natural state;

7 (VI) area in the vegetated or natural state may be conveyed to a
8 property owners association, a local government for
9 preservation as a park or greenway, a conservation
10 organization, or placed in a permanent conservation or
11 farmland preservation easement;

12 (VII) a maintenance agreement for the vegetated or natural area
13 shall be filed with the Register of Deeds; and

14 (VIII) cluster development that meets the applicable low density
15 option requirements shall transport stormwater runoff from the
16 development by vegetated conveyances to the maximum
17 extent practicable;

18 (E) A maximum of 10 percent of each jurisdiction's portion of the
19 watershed outside of the critical area as delineated on July 1, 1993 may
20 be developed with new development projects and expansions of
21 existing development of up to 70 percent built-upon surface area ~~(the~~
22 ~~"10/70 option")~~ in addition to the new development approved in
23 compliance with the appropriate requirements of Sub-Item (3)(b)(i)(A)
24 or Sub-Item (3)(b)(i)(B) of this Rule. For expansions to existing
25 development, the existing built-upon surface area ~~is not shall not be~~
26 counted toward the allowed 70 percent built-upon surface area. A local
27 government having jurisdiction within the watershed may transfer, in
28 whole or in part, its right to the ~~10 percent/70 percent~~ 10/70 option land
29 area to another local government within the watershed upon submittal
30 of a joint resolution and review by the Commission. When the water
31 supply watershed is composed of public lands, such as National Forest
32 land, local governments may count the public land acreage within the
33 watershed outside of the critical area in calculating the acreage allowed
34 under this provision. For local governments that do not choose to use
35 the high density option in that WS-II watershed, each project ~~must,~~
36 ~~shall,~~ to the maximum extent practicable, minimize built-upon surface
37 area, direct stormwater runoff away from surface ~~waterswaters,~~ and

1 incorporate best management ~~practices~~practices, as defined in Rule
2 .0202 of this Section, to minimize water quality impacts. If the local
3 government selects the high density development option within that
4 WS-II watershed, then engineered stormwater controls ~~must~~shall be
5 employed for the new development;

6 (F) If local governments choose the high density development option
7 ~~which~~that requires stormwater controls, then they shall assume ultimate
8 responsibility for operation and maintenance of the required controls as
9 outlined in Rule .0104 of this Subchapter;

10 (G) ~~Minimum~~ A minimum 100 foot vegetative buffer ~~is~~shall be required
11 for all new development activities that exceed the low density option
12 requirements as specified in Sub-Items (3)(b)(i)(A) and Sub-Item
13 (3)(b)(ii)(A) of this Rule, otherwise a minimum 30 foot vegetative
14 buffer for development activities ~~is~~shall be required along all perennial
15 waters indicated on the most recent versions of U.S.G.S. 1:24,000 (7.5
16 minute) scale topographic maps or as determined by local government
17 studies. Nothing in this Rule shall stand as a bar to artificial streambank
18 or shoreline stabilization;

19 (H) No new development ~~is~~shall be allowed in the buffer; water dependent
20 structures, or other structures such as flag poles, ~~signs~~ signs, and
21 security lights, which result in only de minimus increases in impervious
22 area and public projects such as road crossings and greenways may be
23 allowed where no practicable alternative exists. These activities shall
24 minimize built-upon ~~surface area, direct runoff away from the surface~~
25 ~~waters and maximize the utilization of BMPs;~~surface area and avoid
26 ~~channelizing stormwater;~~

27 (I) No ~~National Pollutant Discharge Elimination System(NPDES)~~ NPDES
28 permits shall be issued for landfills that discharge treated leachate;

29 (ii) Critical Area Nonpoint Source and Stormwater Pollution Control Criteria:

30 (A) Low Density Option: new development ~~is~~shall be limited to either no
31 more than one dwelling unit of single family detached residential
32 development per two acres (or 80,000 square foot lot excluding
33 roadway ~~right-of-way~~right-of-way), or six percent built-upon area for
34 all other residential and non-residential development; stormwater
35 runoff from the development shall be transported by vegetated
36 conveyances to the maximum extent practicable;

- 1 (B) High Density Option: if new development density exceeds the low
2 density requirements specified in Sub-Item (3)(b)(ii)(A) of this Rule,
3 then engineered stormwater controls ~~must~~ shall be used to control
4 runoff from the first inch of rainfall; new residential and non-residential
5 development density ~~not to~~ shall not exceed 24 percent built-upon area;
- 6 (C) No new permitted sites for land application of residuals or petroleum
7 contaminated soils ~~are~~ shall be allowed;
- 8 (D) No new landfills ~~are~~ shall be allowed;
- 9 (c) MBAS (Methylene-Blue Active Substances): not greater than 0.5 mg/l to protect the
10 aesthetic qualities of water supplies and to prevent foaming;
- 11 (d) Odor producing substances contained in sewage or other wastes: only such amounts,
12 whether alone or in combination with other substances or wastes, as shall not cause taste
13 and odor difficulties in water supplies ~~which~~ that cannot be corrected by treatment, impair
14 the palatability of fish, or have a deleterious effect upon any best usage established for
15 waters of this class;
- 16 (e) Chlorinated phenolic compounds: not greater than 1.0 ug/l to protect water supplies from
17 taste and odor problems from chlorinated phenols;
- 18 (f) Total hardness: not greater than 100 mg/l as calcium ~~carbonate;~~ carbonate (CaCO_3 or Ca
19 + Mg);
- 20 (g) Total dissolved solids: not greater than 500 mg/l;
- 21 (h) Toxic and other deleterious substances:
- 22 (i) Water quality standards (maximum permissible concentrations) to protect
23 human health through water consumption and fish tissue consumption for
24 non-carcinogens in Class WS-II waters:
- 25 (A) Barium: 1.0 mg/l;
- 26 (B) Chloride: 250 mg/l;
- 27 (C) ~~Manganese: 200 ug/l;~~
- 28 (D)(C) Nickel: 25 ug/l;
- 29 (E)(D) Nitrate nitrogen: 10 mg/l;
- 30 (F)(E) 2,4-D: ~~100 ug/l;~~ 70 ug/l;
- 31 (G)(F) 2,4,5-TP (Silvex): 10 ~~ug/l;~~ ug/l; and
- 32 (H)(G) Sulfates: 250 mg/l;
- 33 (ii) Water quality standards (maximum permissible concentrations) to protect
34 human health through water consumption and fish tissue consumption for
35 carcinogens in Class WS-II waters:
- 36 (A) Aldrin: 0.05 ng/l;
- 37 (B) Arsenic: 10 ug/l;

- 1 (C) Benzene: 1.19 ug/l;
- 2 (D) Carbon tetrachloride: 0.254 ug/l;
- 3 (E) Chlordane: 0.8 ng/l;
- 4 (F) Chlorinated benzenes: 488 ug/l;
- 5 (G) DDT: 0.2 ng/l;
- 6 (H) Dieldrin: 0.05 ng/l;
- 7 (I) Dioxin: 0.000005 ng/l;
- 8 (J) Heptachlor: 0.08 ng/l;
- 9 (K) Hexachlorobutadiene: 0.44 ug/l;
- 10 (L) Polynuclear aromatic hydrocarbons (total of all PAHs): 2.8 ng/l;
- 11 (M) Tetrachloroethane (1,1,2,2): 0.17 ug/l;
- 12 (N) Tetrachloroethylene: 0.7 ug/l;
- 13 (O) Trichloroethylene: 2.5 ~~ug/l; ug/l; and~~
- 14 (P) Vinyl Chloride: 0.025 ug/l.

15
16 *History Note: Authority G.S. 143-214.1; 143-215.3(a)(1);*
17 *Eff. May 10, 1979;*
18 *Amended Eff. January 1, 2015; May 1, 2007; April 1, 2003; January 1, 1996; October 1, 1995.*
19

1 15A NCAC 02B .0215 is amended with changes as published in 28:24 NCR 3004-3032 as follows:

2
3 **15A NCAC 02B .0215 FRESH SURFACE WATER QUALITY STANDARDS FOR CLASS WS-III**
4 **WATERS**

5 The following water quality standards apply to surface waters within water supply waters-watersheds ~~that are~~
6 classified as WS-III. Water quality standards applicable to Class C waters as described in Rule .0211 of this Section
7 shall also apply to Class WS-III waters.

- 8 (1) The best usage of WS-III waters ~~are shall be~~ as follows: a source of water supply for drinking,
9 culinary, or food-processing purposes for those users where a more protective WS-I or WS-II
10 classification is not feasible and any other best usage specified for Class C waters;
- 11 (2) The conditions related to the best usage ~~are shall be~~ as follows: waters of this class are protected as
12 water supplies ~~which that~~ are generally in low to moderately developed watersheds and meet
13 average watershed development density levels as specified in Sub-Items (3)(b)(i)(A), (3)(b)(i)(B),
14 (3)(b)(ii)(A) and (3)(b)(ii)(B) of this Rule; discharges that qualify for a General Permit pursuant to
15 15A NCAC 2H .0127, trout farm discharges, recycle (closed loop) systems that only discharge in
16 response to 10-year storm events, and other stormwater discharges ~~are shall be~~ allowed in the
17 entire watershed; treated domestic wastewater discharges ~~are shall be~~ allowed in the entire
18 watershed but no new domestic wastewater discharges ~~are shall be~~ allowed in the critical area; no
19 new industrial wastewater discharges except non-process industrial discharges ~~are shall be~~ allowed
20 in the entire watershed; the waters, following treatment required by the ~~Division of Environmental~~
21 ~~Health Division~~, shall meet the Maximum Contaminant Level concentrations considered safe for
22 drinking, culinary, or food-processing purposes ~~which that~~ are specified in the national drinking
23 water regulations and in the North Carolina Rules Governing Public Water Supplies, 15A NCAC
24 18C .1500. Sources of water pollution ~~which that~~ preclude any of these uses on either a short-term
25 or long-term basis shall be considered to be violating a water quality standard. The Class WS-III
26 classification may be used to protect portions of Class WS-IV water supplies. For reclassifications
27 of these portions of WS-IV water supplies occurring after the July 1, 1992 statewide
28 reclassification, the more protective classification requested by local governments shall be
29 considered by the Commission when all local governments having jurisdiction in the affected
30 area(s) have adopted a resolution and the appropriate ordinances to protect the watershed or the
31 Commission acts to protect a watershed when one or more local governments has failed to adopt
32 necessary protection measures;
- 33 (3) Quality standards applicable to Class WS-III Waters ~~are shall be~~ as follows:
- 34 (a) Sewage, industrial wastes, non-process industrial wastes, or other wastes: none shall be
35 allowed except for those specified in Item (2) of this Rule and Rule .0104 of this
36 Subchapter; none shall be allowed that have an adverse effect on human health or that are
37 not effectively treated to the satisfaction of the Commission and in accordance with the

1 requirements of the ~~Division of Environmental Health, North Carolina Department of~~
2 ~~Environment and Natural Resources, Division~~. Any discharger may be required by the
3 Commission to disclose all chemical constituents present or potentially present in their
4 wastes and chemicals ~~which that~~ could be spilled or be present in runoff from their
5 facility ~~which that~~ may have an adverse impact on downstream water quality. These
6 facilities may be required to have spill and treatment failure control plans as well as
7 perform special monitoring for toxic substances;

8 (b) Nonpoint Source and Stormwater Pollution: none that would adversely impact the waters
9 for use as water supply or any other designated use;

10 (i) Nonpoint Source and Stormwater Pollution Control Criteria For Entire
11 Watershed:

12 (A) Low Density Option: development density ~~must shall~~ be limited to
13 either no more than two dwelling units of single family detached
14 residential development per acre (or 20,000 square foot lot excluding
15 roadway ~~right-of-way) right-of-way~~, or 24 percent built-upon area for
16 all other residential and non-residential development in watershed
17 outside of the critical area; stormwater runoff from the development
18 shall be transported by vegetated conveyances to the maximum extent
19 practicable;

20 (B) High Density Option: if new development density exceeds the low
21 density option requirements specified in Sub-Item (3)(b)(i)(A) of this
22 Rule then development ~~must shall~~ control runoff from the first inch of
23 rainfall; new residential and non-residential development shall not
24 exceed 50 percent built-upon area;

25 (C) Land within the watershed shall be deemed compliant with the density
26 requirements if the following condition is met: the density of all
27 existing development at the time of reclassification does not exceed the
28 density requirement when densities are averaged throughout the entire
29 watershed area;

30 (D) Cluster development ~~is shall be~~ allowed on a project-by-project basis as
31 follows:

32 (I) overall density of the project meets associated density or
33 stormwater control requirements of this Rule;

34 (II) buffers meet the minimum statewide water supply watershed
35 protection requirements;

36 (III) built-upon areas ~~are shall be~~ designed and located to minimize
37 stormwater runoff impact to the receiving waters, minimize

1 concentrated stormwater flow, maximize the use of sheet flow
2 through vegetated areas, and maximize the flow length
3 through vegetated areas;

4 (IV) areas of concentrated development ~~are~~ shall be located in
5 upland areas and away, to the maximum extent practicable,
6 from surface waters and drainageways;

7 (V) remainder of tract to remain in vegetated or natural state;

8 (VI) area in the vegetated or natural state may be conveyed to a
9 property owners association, a local government for
10 preservation as a park or greenway, a conservation
11 ~~organization~~ organization, or placed in a permanent
12 conservation or farmland preservation easement;

13 (VII) a maintenance agreement for the vegetated or natural area
14 shall be filed with the Register of Deeds; and

15 (VIII) cluster development that meets the applicable low density
16 option requirements shall transport stormwater runoff from the
17 development by vegetated conveyances to the maximum
18 extent practicable;

19 (E) A maximum of 10 percent of each jurisdiction's portion of the
20 watershed outside of the critical area as delineated on July 1, 1993 may
21 be developed with new development projects and expansions of
22 existing development of up to 70 percent built-upon surface area (the
23 "10/70 option") in addition to the new development approved in
24 compliance with the appropriate requirements of Sub-Item (3)(b)(i)(A)
25 or Sub-Item (3)(b)(i)(B) of this Rule. For expansions to existing
26 development, the existing built-upon surface area ~~is not~~ shall not be
27 counted toward the allowed 70 percent built-upon surface area. A local
28 government having jurisdiction within the watershed may transfer, in
29 whole or in part, its right to the ~~10 percent/70 percent~~ 10/70 option land
30 area to another local government within the watershed upon submittal
31 of a joint resolution and review by the Commission. When the water
32 supply watershed is composed of public lands, such as National Forest
33 land, local governments may count the public land acreage within the
34 watershed outside of the critical area in figuring the acreage allowed
35 under this provision. For local governments that do not choose to use
36 the high density option in that WS-III watershed, each project ~~must,~~
37 shall, to the maximum extent practicable, minimize built-upon surface

1 area, direct stormwater runoff away from surface waters, and
2 incorporate best management ~~practices-practices~~, as defined in Rule
3 .0202 of this Section, to minimize water quality impacts. If the local
4 government selects the high density development option within that
5 WS-III watershed, then engineered stormwater controls ~~must-shall~~ be
6 employed for the new development;

7 (F) If local governments choose the high density development option
8 ~~which-that~~ requires engineered stormwater controls, then they shall
9 assume ultimate responsibility for operation and maintenance of the
10 required controls as outlined in Rule .0104 of this Subchapter;

11 (G) ~~Minimum-A minimum~~ 100 foot vegetative buffer ~~is-shall be~~ required
12 for all new development activities that exceed the low density
13 requirements as specified in Sub-Item (3)(b)(i)(A) and Sub-Item
14 (3)(b)(ii)(A) of this Rule, otherwise a minimum 30 foot vegetative
15 buffer for development ~~is-shall be~~ required along all perennial waters
16 indicated on the most recent versions of U.S.G.S. 1:24,000 (7.5 minute)
17 scale topographic maps or as determined by local government studies.
18 Nothing in this Rule shall stand as a bar to artificial streambank or
19 shoreline stabilization;

20 (H) No new development ~~is-shall be~~ allowed in the buffer; water dependent
21 structures, or other structures such as flag poles, ~~signs-signs~~, and
22 security lights, which result in only de minimus increases in impervious
23 area and public projects such as road crossings and greenways may be
24 allowed where no practicable alternative exists. These activities shall
25 minimize built-upon ~~surface area, direct runoff away from surface~~
26 ~~waters and maximize the utilization of BMPs; surface area and avoid~~
27 ~~channelizing stormwater~~;

28 (I) No National Pollutant Discharge Elimination System (NPDES) NPDES
29 permits shall be issued for landfills that discharge treated leachate;

30 (ii) Critical Area Nonpoint Source and Stormwater Pollution Control Criteria:

31 (A) Low Density Option: new development ~~shall be~~ limited to either no
32 more than one dwelling unit of single family detached residential
33 development per acre (or 40,000 square foot lot excluding roadway
34 ~~right-of-way-right-of-way~~), or 12 percent built-upon area for all other
35 residential and non-residential development; stormwater runoff from
36 the development shall be transported by vegetated conveyances to the
37 maximum extent practicable;

- 1 (B) High Density Option: if new development exceeds the low density
2 requirements specified in Sub-Item (3)(b)(ii)(A) of this Rule, then
3 engineered stormwater controls ~~must~~ shall be used to control runoff
4 from the first inch of rainfall; development shall not exceed 30 percent
5 built-upon area;
- 6 (C) No new permitted sites for land application of residuals or petroleum
7 contaminated soils ~~are~~ shall be allowed;
- 8 (D) No new landfills ~~are~~ shall be allowed;
- 9 (c) MBAS (Methylene-Blue Active Substances): not greater than 0.5 mg/l to protect the
10 aesthetic qualities of water supplies and to prevent foaming;
- 11 (d) Odor producing substances contained in sewage, industrial wastes, or other wastes: only
12 such amounts, whether alone or in combination with other substances or wastes, as shall
13 not cause taste and odor difficulties in water supplies ~~which~~ that cannot be corrected by
14 treatment, impair the palatability of fish, or have a deleterious effect upon any best usage
15 established for waters of this class;
- 16 (e) Chlorinated phenolic compounds: not greater than 1.0 ug/l to protect water supplies from
17 taste and odor problems from chlorinated phenols;
- 18 (f) Total hardness: not greater than 100 mg/l as calcium ~~carbonate~~; carbonate (CaCO₃ or Ca
19 + Mg);
- 20 (g) Total dissolved solids: not greater than 500 mg/l;
- 21 (h) Toxic and other deleterious substances:
- 22 (i) Water quality standards (maximum permissible concentrations) to protect
23 human health through water consumption and fish tissue consumption for
24 non-carcinogens in Class WS-III waters:
- 25 (A) - Barium: 1.0 mg/l;
- 26 (B) Chloride: 250 mg/l;
- 27 ~~(C)~~ Manganese: 200 ug/l;
- 28 ~~(D)~~(C) Nickel: 25 ug/l;
- 29 ~~(E)~~(D) Nitrate nitrogen: 10 mg/l;
- 30 ~~(F)~~(E) 2,4-D: ~~100 ug/l~~; 70 ug/l;
- 31 ~~(G)~~(F) 2,4,5-TP (Silvex): 10 ug/l; ug/l; and
- 32 ~~(H)~~(G) Sulfates: 250 mg/l;
- 33 (ii) Water quality standards (maximum permissible concentrations) to protect
34 human health through water consumption and fish tissue consumption for
35 carcinogens in Class WS-III waters:
- 36 (A) Aldrin: 0.05 ng/l;
- 37 (B) Arsenic: 10 ug/l;

- 1 (C) Benzene: 1.19 ug/l;
2 (D) Carbon tetrachloride: 0.254 ug/l;
3 (E) Chlordane: 0.8 ng/l;
4 (F) Chlorinated benzenes: 488 ug/l;
5 (G) DDT: 0.2 ng/l;
6 (H) Dieldrin: 0.05 ng/l;
7 (I) Dioxin: 0.000005 ng/l;
8 (J) Heptachlor: 0.08 ng/l;
9 (K) Hexachlorobutadiene: 0.44 ug/l;
10 (L) Polynuclear aromatic hydrocarbons (total of all PAHs): 2.8 ng/l;
11 (M) Tetrachloroethane (1,1,2,2): 0.17 ug/l;
12 (N) Tetrachloroethylene: 0.7 ug/l;
13 (O) Trichloroethylene: 2.5 ~~ug/l; ug/l; and~~
14 (P) Vinyl Chloride: 0.025 ug/l.
15

16 *History Note: Authority G.S. 143-214.1; 143-215.3(a)(1);*
17 *Eff. September 9, 1979;*
18 *Amended Eff. January 1, 2015; May 1, 2007; April 1, 2003; January 1, 1996; October 1, 1995;*
19 *October 1, 1989.*

1 15A NCAC 02B .0216 is amended with changes as published in 28:24 NCR 3004-3032 as follows:
2

3 **15A NCAC 02B .0216 FRESH SURFACE WATER QUALITY STANDARDS FOR WS-IV WATERS**

4 The following water quality standards apply to surface waters within water supply waters that are watersheds
5 classified as WS-IV. Water quality standards applicable to Class C waters as described in Rule .0211 of this Section
6 shall also apply to Class WS-IV waters.

7 (1) The best usage of WS-IV waters are-shall be as follows: a source of water supply for drinking,
8 culinary, or food-processing purposes for those users where a more protective WS-I, WS-II or
9 WS-III classification is not feasible and any other best usage specified for Class C waters;

10 (2) The conditions related to the best usage are-shall be as follows: waters of this class are protected
11 as water supplies which-that are generally in moderately to highly developed watersheds or
12 protected areas and meet average watershed development density levels as specified in Sub-Items
13 (3)(b)(i)(A), (3)(b)(i)(B), (3)(b)(ii)(A) and (3)(b)(ii)(B) of this Rule; discharges which-that qualify
14 for a General Permit pursuant to 15A NCAC 02H .0127, trout farm discharges, recycle (closed
15 loop) systems that only discharge in response to 10-year storm events, other stormwater
16 discharges-discharges, and domestic wastewater discharges shall be allowed in the protected and
17 critical areas; treated industrial wastewater discharges are-shall be allowed in the protected and
18 critical areas; however, new industrial wastewater discharges in the critical area shall be required
19 to meet the provisions of 15A NCAC 02B .0224(1)(b)(iv), (v) and (vii), and 15A NCAC 02B
20 .0203; new industrial connections and expansions to existing municipal discharges with a
21 pretreatment program pursuant to 15A NCAC 02H .0904 are-shall be allowed; the waters,
22 following treatment required by the Division of Environmental Health, Division, shall meet the
23 Maximum Contaminant Level concentrations considered safe for drinking, culinary, or
24 food-processing purposes which-that are specified in the national drinking water regulations and in
25 the North Carolina Rules Governing Public Water Supplies, 15A NCAC 18C .1500. Sources of
26 water pollution which-that preclude any of these uses on either a short-term or long-term basis
27 shall be considered to be violating a water quality standard. The Class WS-II or WS-III
28 classifications may be used to protect portions of Class WS-IV water supplies. For
29 reclassifications of these portions of WS-IV water supplies occurring after the July 1, 1992
30 statewide reclassification, the more protective classification requested by local governments shall
31 be considered by the Commission when all local governments having jurisdiction in the affected
32 area(s) have adopted a resolution and the appropriate ordinances to protect the watershed or the
33 Commission acts to protect a watershed when one or more local governments has failed to adopt
34 necessary protection measures;

35 (3) Quality standards applicable to Class WS-IV Waters are-shall be as follows:

36 (a) Sewage, industrial wastes, non-process industrial wastes, or other wastes: none shall be
37 allowed except for those specified in Item (2) of this Rule and Rule .0104 of this
38 Subchapter and none shall be allowed that shall have an adverse effect on human health

1 or that are not ~~effectively~~ treated to the satisfaction of the Commission and in accordance
2 with the requirements of the ~~Division of Environmental Health, North Carolina~~
3 ~~Department of Environment and Natural Resources~~. ~~Division~~. Any ~~discharges~~~~dischargers~~
4 or industrial users subject to pretreatment standards may be required by the Commission
5 to disclose all chemical constituents present or potentially present in their wastes and
6 chemicals ~~which that~~ could be spilled or be present in runoff from their facility which
7 may have an adverse impact on downstream water supplies. These facilities may be
8 required to have spill and treatment failure control plans as well as perform special
9 monitoring for toxic substances;

10 (b) Nonpoint Source and Stormwater Pollution: none shall be allowed that would adversely
11 impact the waters for use as water supply or any other designated use.

12 (i) Nonpoint Source and Stormwater Pollution Control Criteria For Entire
13 Watershed or Protected Area:

14 (A) Low Density Option: development activities ~~which that~~ require a
15 Sedimentation/Erosion Control Plan in accordance with 15A NCAC 4
16 established by the North Carolina Sedimentation Control Commission
17 or approved local government programs as delegated by the
18 Sedimentation Control Commission shall be limited to no more than
19 either: two dwelling units of single family detached development per
20 acre (or 20,000 square foot lot excluding roadway ~~right-of-way~~) ~~right-~~
21 ~~of-way~~), or 24 percent built-upon on area for all other residential and
22 non-residential development; or three dwelling units per ~~acre-acre~~, or
23 36 percent built-upon area for projects without curb and gutter street
24 systems in the protected area outside of the critical area; stormwater
25 runoff from the development shall be transported by vegetated
26 conveyances to the maximum extent practicable;

27 (B) High Density Option: if new development activities ~~which that~~ require
28 a Sedimentation/Erosion Control Plan exceed the low density
29 requirements of Sub-Item (3)(b)(i)(A) of this ~~Rule-Rule~~, then
30 development shall control the runoff from the first inch of rainfall; new
31 residential and non-residential development shall not exceed 70 percent
32 built-upon area;

33 (C) Land within the critical and protected area shall be deemed compliant
34 with the density requirements if the following condition is met: the
35 density of all existing development at the time of reclassification does
36 not exceed the density requirement when densities are averaged
37 throughout the entire area;

- 1 (D) Cluster development shall be allowed on a project-by-project basis as
2 follows:
- 3 (I) overall density of the project meets associated density or
4 stormwater control requirements of this Rule;
- 5 (II) buffers meet the minimum statewide water supply watershed
6 protection requirements;
- 7 (III) built-upon areas ~~are shall be~~ designed and located to minimize
8 stormwater runoff impact to the receiving waters, minimize
9 concentrated stormwater flow, maximize the use of sheet flow
10 through vegetated areas, and maximize the flow length
11 through vegetated areas;
- 12 (IV) areas of concentrated development ~~are shall be~~ located in
13 upland areas and away, to the maximum extent practicable,
14 from surface waters and drainageways;
- 15 (V) remainder of tract to remain in vegetated or natural state;
- 16 (VI) area in the vegetated or natural state may be conveyed to a
17 property owners association, a local government for
18 preservation as a park or greenway, a conservation
19 organization, or placed in a permanent conservation or
20 farmland preservation easement;
- 21 (VII) a maintenance agreement for the vegetated or natural area
22 shall be filed with the Register of Deeds; and
- 23 (VIII) cluster development that meets the applicable low density
24 option requirements shall transport stormwater runoff from the
25 development by vegetated conveyances to the maximum
26 extent practicable;
- 27 (E) If local governments choose the high density development option
28 ~~which that~~ requires engineered stormwater controls, then they shall
29 assume ~~ultimate~~ responsibility for operation and maintenance of the
30 required controls as outlined in Rule .0104 of this Subchapter;
- 31 (F) ~~Minimum~~ A minimum 100 foot vegetative buffer ~~is shall be~~ required for
32 all new development activities that exceed the low density option
33 requirements as specified in Sub-Item (3)(b)(i)(A) or Sub-Item
34 (3)(b)(ii)(A) of this Rule, otherwise a minimum 30 foot vegetative
35 buffer for development shall be required along all perennial waters
36 indicated on the most recent versions of U.S.G.S. 1:24,000 (7.5 minute)
37 scale topographic maps or as determined by local government studies;

1 (G) No new development shall be allowed in the buffer; water dependent
2 structures, or other structures, such as flag poles, ~~signs signs~~, and
3 security lights, which result in only de minimus increases in impervious
4 area and public projects such as road crossings and greenways may be
5 allowed where no practicable alternative exists. These activities shall
6 minimize built-upon ~~surface area, divert runoff away from surface~~
7 ~~waters and maximize the utilization of BMPs; surface area and avoid~~
8 ~~channelizing stormwater.~~

9 (H) For local governments that do not use the high density option, a
10 maximum of 10 percent of each jurisdiction's portion of the watershed
11 outside of the critical area as delineated on July 1, 1995 may be
12 developed with new development projects and expansions to existing
13 development of up to 70 percent built-upon surface area (the "10/70
14 option") in addition to the new development approved in compliance
15 with the appropriate requirements of Sub-Item (3)(b)(i)(A) of this Rule.
16 For expansions to existing development, the existing built-upon surface
17 area shall not be counted toward the allowed 70 percent built-upon
18 surface area. A local government having jurisdiction within the
19 watershed may transfer, in whole or in part, its right to the ~~10~~
20 ~~percent/70 percent~~ 10/70 option land area to another local government
21 within the watershed upon submittal of a joint resolution for review by
22 the Commission. When the designated water supply watershed area is
23 composed of public land, such as National Forest land, local
24 governments may count the public land acreage within the designated
25 watershed area outside of the critical area in figuring the acreage
26 allowed under this provision. Each project shall, to the maximum
27 extent practicable, minimize built-upon surface area, direct stormwater
28 runoff away from surface waters and incorporate best management
29 ~~practices practices, as defined in Rule .0202 of this Section,~~ to
30 minimize water quality impacts;

31 (ii) Critical Area Nonpoint Source and Stormwater Pollution Control Criteria:

32 (A) Low Density Option: new development activities ~~which that~~ require a
33 Sedimentation/Erosion Control Plan in accordance with 15A NCAC 4
34 established by the North Carolina Sedimentation Control Commission
35 or approved local government programs as delegated by the
36 Sedimentation Control Commission shall be limited to no more than
37 two dwelling units of single family detached development per acre (or

- 1 20,000 square foot lot excluding roadway ~~right-of-way~~ right-of-way,
2 or 24 percent built-upon area for all other residential and non-
3 residential development; stormwater runoff from the development shall
4 be transported by vegetated conveyances to the maximum extent
5 practicable;
- 6 (B) High Density Option: if new development density exceeds the low
7 density requirements specified in Sub-Item (3)(b)(ii)(A) of this Rule,
8 engineered stormwater controls shall be used to control runoff from the
9 first inch of rainfall; new residential and non-residential development
10 shall not exceed 50 percent built-upon area;
- 11 (C) No new permitted sites for land application of residuals or petroleum
12 contaminated soils shall be allowed;
- 13 (D) No new landfills shall be allowed;
- 14 (c) MBAS (Methylene-Blue Active Substances): not greater than 0.5 mg/l to protect the
15 aesthetic qualities of water supplies and to prevent foaming;
- 16 (d) Odor producing substances contained in sewage, industrial wastes, or other wastes: only
17 such amounts, whether alone or in combination with other substances or waste, as will
18 not cause taste and odor difficulties in water supplies ~~which that can not cannot~~
19 corrected by treatment, impair the palatability of fish, or have a deleterious effect upon
20 any best usage established for waters of this class;
- 21 (e) Chlorinated phenolic compounds: not greater than 1.0 ug/l to protect water supplies from
22 taste and odor problems due to chlorinated phenols shall be allowed. Specific phenolic
23 compounds may be given a different limit if it is demonstrated not to cause taste and odor
24 problems and not to be detrimental to other best usage;
- 25 (f) Total hardness shall not exceed 100 mg/l as calcium ~~carbonate~~; carbonate (CaCO_3 or $\text{Ca} +$
26 Mg);
- 27 (g) Total dissolved solids shall not exceed 500 mg/l;
- 28 (h) Toxic and other deleterious substances:
- 29 (i) Water quality standards (maximum permissible concentrations) to protect
30 human health through water consumption and fish tissue consumption for
31 non-carcinogens in Class WS-IV waters:
- 32 (A) Barium: 1.0 mg/l;
- 33 (B) Chloride: 250 mg/l;
- 34 ~~(C)~~ Manganese: 200 ug/l;
- 35 ~~(D)~~ (C) Nickel: 25 ug/l;
- 36 ~~(E)~~ (D) Nitrate nitrogen: 10.0 mg/l;
- 37 ~~(F)~~ (E) 2,4-D: 400 ug/l; 70 ug/l;

- 1 ~~(G)~~(F) 2,4,5-TP (Silvex): 10 ~~ug/l;~~ ug/l; and
2 ~~(H)~~(G) Sulfates: 250 mg/l;
3 (ii) Water quality standards (maximum permissible concentrations) to protect
4 human health through water consumption and fish tissue consumption for
5 carcinogens in Class WS-IV waters:
6 (A) Aldrin: 0.05 ng/l;
7 (B) Arsenic: 10 ug/l;
8 (C) Benzene: 1.19 ug/l;
9 (D) Carbon tetrachloride: 0.254 ug/l;
10 (E) Chlordane: 0.8 ng/l;
11 (F) Chlorinated benzenes: 488 ug/l;
12 (G) DDT: 0.2 ng/l;
13 (H) Dieldrin: 0.05 ng/l;
14 (I) Dioxin: 0.000005 ng/l;
15 (J) Heptachlor: 0.08 ng/l;
16 (K) Hexachlorobutadiene: 0.44 ug/l;
17 (L) Polynuclear aromatic hydrocarbons (total of all PAHs): 2.8 ng/l;
18 (M) Tetrachloroethane (1,1,2,2): 0.17 ug/l;
19 (N) Tetrachloroethylene: 0.7 ug/l;
20 (O) Trichloroethylene: 2.5 ~~ug/l;~~ and
21 (P) Vinyl Chloride: 0.025 ug/l.

22
23 *History Note: Authority G.S. 143-214.1; 143-215.3(a)(1);*
24 *Eff. February 1, 1986;*
25 *Amended Eff. January 1, 2015; May 1, 2007; April 1, 2003; June 1, 1996; October 1, 1995;*
26 *August 1, 1995; June 1, 1994.*
27

1 15A NCAC 02B .0218 is amended with changes as published in 28:24 NCR 3004-3032 as follows:

2
3 **15A NCAC 02B .0218 FRESH SURFACE WATER QUALITY STANDARDS FOR CLASS WS-V**
4 **WATERS**

5 The following water quality standards apply to surface waters within water supply waters watersheds ~~that are~~
6 classified as WS-V. Water quality standards applicable to Class C waters as described in Rule .0211 of this Section
7 shall also apply to Class WS-V waters.

- 8 (1) The best usage of WS-V waters are shall be as follows: waters that are protected as water supplies
9 which that are generally upstream and draining to Class WS-IV waters; or waters previously used
10 for drinking water supply purposes; or waters used by industry to supply their employees, but not
11 municipalities or counties, with a raw drinking water supply source, although this type of use is
12 not shall not be restricted to WS-V classification; and all Class C uses. The Commission may
13 consider a more protective classification for the water supply if a resolution requesting a more
14 protective classification is submitted from all local governments having land use jurisdiction
15 within the affected watershed;
- 16 (2) The conditions related to the best usage are shall be as follows: waters of this class are protected
17 water supplies; the waters, following treatment required by the ~~Division of Environmental~~
18 ~~Health, Division~~, shall meet the Maximum Contaminant Level concentrations considered safe for
19 drinking, culinary, or food-processing purposes which that are specified in the national drinking
20 water regulations and in the North Carolina Rules Governing Public Water Supplies, 15A NCAC
21 18C .1500; no categorical restrictions on watershed development or wastewater discharges are
22 shall be required, however, the Commission or its designee may apply management requirements
23 for the protection of waters downstream of receiving waters (15A NCAC 02B .0203). Sources of
24 water pollution which that preclude any of these uses on either a short-term or long-term basis
25 shall be considered to be violating a water quality standard;
- 26 (3) Quality standards applicable to Class WS-V Waters are shall be as follows:
- 27 (a) Sewage, industrial wastes, non-process industrial wastes, or other wastes: none shall be
28 allowed that have an adverse effect on human health or that are not effectively treated to
29 the satisfaction of the Commission and in accordance with the requirements of the
30 ~~Division of Environmental Health, North Carolina Department of Environment and~~
31 ~~Natural Resources, Division~~. Any discharges or industrial users subject to pretreatment
32 standards may shall be required by the Commission to disclose all chemical constituents
33 present or potentially present in their wastes and chemicals which that could be spilled or
34 be present in runoff from their facility which may have an adverse impact on downstream
35 water supplies. These facilities may be required to have spill and treatment failure control
36 plans as well as perform special monitoring for toxic substances;

- 1 (b) MBAS (Methylene-Blue Active Substances): not greater than 0.5 mg/l to protect the
- 2 aesthetic qualities of water supplies and to prevent foaming;
- 3 (c) Nonpoint Source and Stormwater Pollution: none that would adversely impact the waters
- 4 for use as water supply or any other designated use;
- 5 (d) Odor producing substances contained in sewage, industrial wastes, or other wastes: only
- 6 such amounts, whether alone or in combination with other substances or waste, as will
- 7 not cause taste and odor difficulties in water supplies ~~which that~~ can not cannot be
- 8 corrected by treatment, impair the palatability of fish, or have a deleterious effect upon
- 9 any best usage established for waters of this class;
- 10 (e) Chlorinated phenolic compounds: not greater than 1.0 ug/l to protect water supplies
- 11 from taste and odor problems due to chlorinated phenols; specific phenolic compounds
- 12 may be given a different limit if it is demonstrated not to cause taste and odor problems
- 13 and not to be detrimental to other best usage;
- 14 (f) Total hardness: not greater than 100 mg/l as calcium ~~carbonate;~~carbonate (CaCO₃ or Ca
- 15 + Mg);
- 16 (g) Total dissolved solids: not greater than 500 mg/l;
- 17 (h) Toxic and other deleterious substances:
- 18 (i) Water quality standards (maximum permissible concentrations) to protect
- 19 human health through water consumption and fish tissue consumption for
- 20 non-carcinogens in Class WS-V waters:
- 21 (A) Barium: 1.0 mg/l;
- 22 (B) Chloride: 250 mg/l;
- 23 ~~(C) Manganese: 200 ug/l;~~
- 24 ~~(D)~~(C) Nickel: 25 ug/l;
- 25 ~~(E)~~(D) Nitrate nitrogen: 10.0 mg/l;
- 26 ~~(F)~~(E) 2,4-D: ~~100 ug/l;~~70 ug/l;
- 27 ~~(G)~~(F) 2,4,5-TP (Silvex): 10 ug/l; ug/l; and
- 28 ~~(H)~~(G) Sulfates: 250 mg/l.
- 29 (ii) Water quality standards (maximum permissible concentrations) to protect
- 30 human health through water consumption and fish tissue consumption for
- 31 carcinogens in Class WS-V waters:
- 32 (A) Aldrin: 0.05 ng/l;
- 33 (B) Arsenic: 10 ug/l;
- 34 (C) Benzene: 1.19 ug/l;
- 35 (D) Carbon tetrachloride: 0.254 ug/l;
- 36 (E) Chlordane: 0.8 ng/l;
- 37 (F) Chlorinated benzenes: 488 ug/l;

- 1 (G) DDT: 0.2 ng/l;
2 (H) Dieldrin: 0.05 ng/l;
3 (I) Dioxin: 0.000005 ng/l;
4 (J) Heptachlor: 0.08 ng/l;
5 (K) Hexachlorobutadiene: 0.44 ug/l;
6 (L) Polynuclear aromatic hydrocarbons (total of all PAHs): 2.8 ng/l;
7 (M) Tetrachloroethane (1,1,2,2): 0.17 ug/l;
8 (N) Tetrachloroethylene: 0.7 ug/l;
9 (O) Trichloroethylene: 2.5 ~~ug/l; ug/l; and~~
10 (P) Vinyl Chloride: 0.025 ug/l.
11

12 *History Note: Authority G.S. 143-214.1; 143-215.3(a)(1);*
13 *Eff. October 1, 1989;*
14 *Amended Eff. January 1, 2015; May 1, 2007; April 1, 2003; October 1, 1995.*
15

1 15A NCAC 02B .0220 is amended with changes as published in 28:24 NCR 3004-3032 as follows:

2
3 **15A NCAC 02B .0220 TIDAL SALT WATER QUALITY STANDARDS FOR CLASS SC WATERS**

4 General. The water quality standards for all tidal salt waters are shall be the basic standards applicable to Class SC
5 waters. Additional and more stringent standards applicable to other specific tidal salt water classifications are
6 specified in Rules .0221 and .0222 of this Section. Action Levels, for purposes of National Pollutant Discharge
7 Elimination System (NPDES) [NPDES] permitting, are specified in Item (20) of this Rule.

- 8 (1) Best Usage of Waters: any usage except primary recreation or shellfishing for market purposes;
9 usages include aquatic life propagation and maintenance of biological integrity (including fishing,
10 fish and functioning PNAs), Primary Nursery Areas (PNAs), wildlife, and secondary recreation;
- 11 (2) Conditions Related to Best Usage: the waters shall be suitable for aquatic life propagation and
12 maintenance of biological integrity, wildlife, and secondary recreation. Any source of water
13 pollution which that precludes any of these uses, including their functioning as PNAs, on either a
14 short-term or a long-term basis shall be considered to be violating a water quality standard;
- 15 ~~(3) Quality standards applicable to all tidal salt waters:~~
- 16 ~~(a)(3)~~ Chlorophyll a (corrected): not greater than 40 ug/l in sounds, estuaries, and other waters subject to
17 growths of macroscopic or microscopic vegetation. The Commission or its designee may prohibit
18 or limit any discharge of waste into surface waters if, in the opinion of the Director, the surface
19 waters experience or the discharge would result in growths of microscopic or macroscopic
20 vegetation such that the standards established pursuant to this Rule would be violated or the
21 intended best usage of the waters would be impaired;
- 22 ~~(4) Cyanide: 1 ug/l;~~
- 23 ~~(b)(5)~~ Dissolved oxygen: not less than 5.0 mg/l, except that swamp waters, poorly flushed tidally
24 influenced streams or embayments, or estuarine bottom waters may have lower values if caused by
25 natural conditions;
- 26 ~~(6) Enterococcus, including *Enterococcus faecalis*, *Enterococcus faecium*, *Enterococcus avium* and~~
27 ~~*Enterococcus gallinarium*: not to exceed a geometric mean of 35 enterococci per 100 ml based~~
28 ~~upon a minimum of five samples within any consecutive 30 days. In accordance with 33 U.S.C.~~
29 ~~1313 (Federal Water Pollution Control Act) for]For purposes of beach monitoring and~~
30 ~~notification, "Coastal Recreational Waters Monitoring, Evaluation and Notification" regulations~~
31 ~~(15A NCAC 18A .3400), available free of charge at: <http://www.ncoah.com/> , are hereby~~
32 ~~incorporated by reference including any subsequent amendments;~~
- 33 ~~(e)(7)~~ Floating solids, settleable solids, or sludge deposits: only such amounts attributable to sewage,
34 industrial wastes-wastes, or other wastes, as shall not make the waters unsafe or unsuitable for
35 aquatic life and wildlife, or impair the waters for any designated uses;
- 36 ~~(d)(8)~~ Gases, total dissolved: not greater than 110 percent of saturation;

1 (e) ~~Enterococcus, including *Enterococcus faecalis*, *Enterococcus faecium*, *Enterococcus avium* and~~
2 ~~*Enterococcus gallinarum*; not to exceed a geometric mean of 35 enterococci per 100 ml based~~
3 ~~upon a minimum of five samples within any consecutive 30 days. In accordance with 33 U.S.C.~~
4 ~~1313 (Federal Water Pollution Control Act) for purposes of beach monitoring and notification,~~
5 ~~"Coastal Recreational Waters Monitoring, Evaluation and Notification" regulations (15A NCAC~~
6 ~~18A .3400) are hereby incorporated by reference including any subsequent amendments;~~

7 (9) Metals:

8 (a) With the exception of mercury and selenium, tidal salt water quality standards for metals
9 shall be based upon measurement of the dissolved fraction of the metals. Mercury and
10 ~~[Selenium] selenium [must] shall be based upon measurement of the total recoverable~~
11 ~~[metal.] metal; [Alternative site specific standards can be developed where studies are~~
12 ~~designed according to the "Water Quality Standards Handbook: Second Edition"~~
13 ~~published by the US Environmental Protection Agency (EPA 823-B-94-005a) hereby~~
14 ~~incorporated by reference, including any subsequent amendments;]~~

15 (b) Compliance with acute instream metals standards shall only be evaluated using an
16 average of two or more samples collected within one hour. Compliance with chronic
17 instream metals standards shall only be evaluated using averages of a minimum of four
18 samples taken on consecutive days, or as a 96-hour average;

19 ~~[(c) With the exception of mercury and selenium, demonstrated attainment of the applicable~~
20 ~~aquatic life use in a waterbody will take precedence over the application of the aquatic~~
21 ~~life criteria established for metals associated with these uses. An instream exceedence of~~
22 ~~the numeric criterion for metals shall not be considered to have caused an adverse impact~~
23 ~~to the instream aquatic community if biological monitoring has demonstrated attainment~~
24 ~~of biological integrity;]~~

25 (c) Metals criteria ~~[will]~~ shall be used for proactive environmental management. An instream
26 exceedence of the numeric criterion for metals shall not be considered to have caused an
27 adverse impact to the aquatic community without biological confirmation and a
28 comparison of all available monitoring data and applicable water quality standards. This
29 weight of evidence evaluation ~~[will]~~ shall take into account data quality and the overall
30 confidence in how representative the sampling is of conditions in the waterbody segment
31 before an assessment of aquatic life use attainment, or non-attainment, is made by the
32 Division. Recognizing the synergistic and antagonistic complexities of other water
33 quality variables on the actual toxicity of metals, with the exception of mercury and
34 selenium, biological monitoring ~~[will]~~ shall be used to validate, by direct measurement,
35 whether or not the aquatic life use is supported.

36 (d) Acute and chronic tidal salt water quality metals standards are as follows:

37 (i) Arsenic, acute: WER: 69 ug/l;

- (ii) Arsenic, chronic: WER 36 ug/l;
- (iii) Cadmium, acute: WER 40 ug/l;
- (iv) Cadmium, chronic: WER 8.8 ug/l;
- (v) Chromium VI, acute: WER 1100 ug/l;
- (vi) Chromium VI, chronic: WER 50 ug/l;
- (vii) Copper, acute: WER 4.8 ug/l;
- (viii) Copper, chronic: WER 3.1 ug/l;
- (ix) Lead, acute: WER 210 ug/l;
- (x) Lead, chronic: WER 8.1 ug/l;
- (xi) Mercury, total recoverable, chronic: 0.025 ug/l;
- (xii) Nickel, acute: WER 74 ug/l;
- (xiii) Nickel, chronic: WER 8.2 ug/l;
- (xiv) Selenium, total recoverable, chronic: 71 ug/l;
- (xv) Silver, acute: WER 1.9 ug/l;
- (xvi) Silver, chronic: WER 0.1 ug/l;
- (xvii) Zinc, acute: WER 90 [ug/l;]ug/l; and
- (xviii) Zinc, chronic: WER 81 ug/l;

With the exception of mercury and selenium, acute and chronic tidal saltwater quality aquatic life standards for metals listed above apply to the dissolved form of the metal and apply as a function of the pollutant's water effect ratio (WER). A WER [is a factor that] expresses the difference between the measures of the toxicity of a substance in laboratory waters and the toxicity in site water. The WER [is] shall be assigned a value equal to one [(1)] unless any person demonstrates to the [Department's] Division's satisfaction in a permit proceeding that another value is [appropriately] developed in accordance with the "Water Quality Standards Handbook: Second Edition" published by the US Environmental Protection Agency (EPA-823-B-12-002), free of charge, at <http://water.epa.gov/scitech/swguidance/standards/handbook/>, hereby incorporated by reference including any subsequent amendments. Alternative site-specific standards [can] may also be developed when any person submits values that demonstrate to the Commissions' satisfaction that they were derived in accordance with the "Water Quality Standards Handbook: Second Edition, Recalculation Procedure or the Resident Species [Procedure".] Procedure", hereby incorporated by reference including subsequent amendments at <http://water.epa.gov/scitech/swguidance/standards/handbook/>.

This material is available free of charge:

~~(10)~~ Oils, deleterious substances, ~~colored~~ colored, or other wastes: only such amounts as shall not render the waters injurious to public health, secondary ~~recreation~~ recreation, or aquatic ~~life~~ life, and wildlife or adversely affect the palatability of fish,

1 aesthetic ~~quality~~ quality, or impair the waters for any designated uses. For the purpose of
2 implementing this Rule, oils, deleterious substances, ~~colored~~ colored, or other wastes shall
3 include ~~but not be limited to~~ substances that cause a film or sheen upon or discoloration of
4 the surface of the water or adjoining shorelines pursuant to 40 CFR 110.3;

5 (11) Pesticides:

- 6 (a) Aldrin: 0.003 ug/l;
- 7 (b) Chlordane: 0.004 ug/l;
- 8 (c) DDT: 0.001 ug/l;
- 9 (d) Demeton: 0.1 ug/l;
- 10 (e) Dieldrin: 0.002 ug/l;
- 11 (f) Endosulfan: 0.009 ug/l;
- 12 (g) Endrin: 0.002 ug/l;
- 13 (h) Guthion: 0.01 ug/l;
- 14 (i) Heptachlor: 0.004 ug/l;
- 15 (j) Lindane: 0.004 ug/l;
- 16 (k) Methoxychlor: 0.03 ug/l;
- 17 (l) Mirex: 0.001 ug/l;
- 18 (m) Parathion: 0.178 [ug/l;]ug/l; and
- 19 (n) Toxaphene: 0.0002 ug/l;

20 ~~(g)~~(12) pH: shall be normal for the waters in the area, which ~~generally shall~~ range between 6.8 and ~~8.5~~
21 ~~8.5~~, except that swamp waters may have a pH as low as 4.3 if it is the result of natural conditions;

22 ~~(h)~~(13) Phenolic compounds: only such levels as shall not result in fish-flesh tainting or impairment of
23 other best usage;

24 (14) Polychlorinated biphenyls: (total of all PCBs and congeners identified) 0.001 ug/l;

25 ~~(i)~~(15) Radioactive substances:

26 ~~(i)~~(a) Combined radium-226 and radium-228: The ~~maximum~~ average annual activity level
27 (based on at least ~~one sample collected per quarter~~four samples collected quarterly) for
28 combined radium-226, and radium-228 shall not exceed five picoCuries per liter;

29 ~~(ii)~~(b) Alpha Emitters. The average annual gross alpha particle activity (including radium-226,
30 but excluding radon and uranium) shall not exceed 15 picoCuries per liter;

31 ~~(iii)~~(c) Beta Emitters. The ~~maximum~~ average annual activity level (based on at least ~~one sample~~
32 ~~collected per quarter~~four samples collected quarterly) for strontium-90 shall not exceed
33 eight picoCuries per liter; nor shall the average annual gross beta particle activity
34 (excluding potassium-40 and other naturally occurring ~~radio-nuclides~~ radionuclides
35 exceed 50 picoCuries per liter; nor shall the ~~maximum~~ average annual activity level for
36 tritium exceed 20,000 picoCuries per liter;

1 (16) Salinity: changes in salinity due to hydrological modifications shall not result in removal of the
2 functions of a PNA. Projects that are determined by the Director to result in modifications of
3 salinity such that functions of a PNA are impaired ~~will~~ shall be required to employ water
4 management practices to mitigate salinity impacts;

5 (17) Temperature: shall not be increased above the natural water temperature by more than 0.8 degrees
6 C (1.44 degrees F) during the months of June, July, and August nor more than 2.2 degrees C (3.96
7 degrees F) during other months and in no cases to exceed 32 degrees C (89.6 degrees F) due to the
8 discharge of heated liquids;

9 (18) ~~Trialkyltin compounds: 0.007 ug/l expressed as tributyltin;~~

10 (19) Turbidity: the turbidity in the receiving water shall not exceed 25 ~~Nephelometric Turbidity Units~~
11 ~~(NTU); NTU~~; if turbidity exceeds this level due to natural background conditions, the existing
12 turbidity level shall not be increased. Compliance with this turbidity standard can be met when
13 land management activities employ Best Management Practices (BMPs) [as defined by Rule .0202
14 of this Section] recommended by the Designated Nonpoint Source Agency (as defined by Rule
15 .0202 of this Section). BMPs ~~must~~ shall be in full compliance with all specifications governing
16 the proper design, installation, ~~operation~~ operation, and maintenance of such BMPs;

17 (m) ~~— Toxic substances: numerical water quality standards (maximum permissible levels) to~~
18 ~~protect aquatic life applicable to all tidal saltwaters:~~

19 (i) ~~— Arsenic, total recoverable: 50 ug/l;~~

20 (ii) ~~— Cadmium: 5.0 ug/l; attainment of these water quality standards in surface~~
21 ~~waters shall be based on measurement of total recoverable metals concentrations~~
22 ~~unless appropriate studies have been conducted to translate total recoverable~~
23 ~~metals to a toxic form. Studies used to determine the toxic form or translators~~
24 ~~must be designed according to the "Water Quality Standards Handbook Second~~
25 ~~Edition" published by the Environmental Protection Agency (EPA 823-B-94-~~
26 ~~005a) or "The Metals Translator: Guidance For Calculating a Total Recoverable~~
27 ~~Permit Limit From a Dissolved Criterion" published by the Environmental~~
28 ~~Protection Agency (EPA 823-B-96-007) which are hereby incorporated by~~
29 ~~reference including any subsequent amendments. The Director shall consider~~
30 ~~conformance to EPA guidance as well as the presence of environmental~~
31 ~~conditions that limit the applicability of translators in approving the use of metal~~
32 ~~translators;~~

33 (iii) ~~— Chromium, total: 20 ug/l;~~

34 (iv) ~~— Cyanide: 1.0 ug/l;~~

35 (v) ~~— Mercury: 0.025 ug/l;~~

36 (vi) ~~— Lead, total recoverable: 25 ug/l; collection of data on sources, transport and fate~~
37 ~~of lead shall be required as part of the toxicity reduction evaluation for~~

1 dischargers that are out of compliance with whole effluent toxicity testing
2 requirements and the concentration of lead in the effluent is concomitantly
3 determined to exceed an instream level of 3.1 ug/l from the discharge;

4 (vii) ~~Nickel: 8.3 ug/l; attainment of these water quality standards in surface waters~~
5 ~~shall be based on measurement of total recoverable metals concentrations unless~~
6 ~~appropriate studies have been conducted to translate total recoverable metals to~~
7 ~~a toxic form. Studies used to determine the toxic form or translators must be~~
8 ~~designed according to the "Water Quality Standards Handbook Second Edition"~~
9 ~~published by the Environmental Protection Agency (EPA 823-B-94-005a) or~~
10 ~~"The Metals Translator: Guidance For Calculating a Total Recoverable Permit~~
11 ~~Limit From a Dissolved Criterion" published by the Environmental Protection~~
12 ~~Agency (EPA 823-B-96-007) which are hereby incorporated by reference~~
13 ~~including any subsequent amendments. The Director shall consider~~
14 ~~conformance to EPA guidance as well as the presence of environmental~~
15 ~~conditions that limit the applicability of translators in approving the use of metal~~
16 ~~translators;~~

17 (viii) ~~Pesticides:~~

- 18 (A) ~~Aldrin: 0.003 ug/l;~~
- 19 (B) ~~Chlordane: 0.004 ug/l;~~
- 20 (C) ~~DDT: 0.001 ug/l;~~
- 21 (D) ~~Demeton: 0.1 ug/l;~~
- 22 (E) ~~Dieldrin: 0.002 ug/l;~~
- 23 (F) ~~Endosulfan: 0.009 ug/l;~~
- 24 (G) ~~Endrin: 0.002 ug/l;~~
- 25 (H) ~~Guthion: 0.01 ug/l;~~
- 26 (I) ~~Heptachlor: 0.004 ug/l;~~
- 27 (J) ~~Lindane: 0.004 ug/l;~~
- 28 (K) ~~Methoxychlor: 0.03 ug/l;~~
- 29 (L) ~~Mirex: 0.001 ug/l;~~
- 30 (M) ~~Parathion: 0.178 ug/l;~~
- 31 (N) ~~Toxaphene: 0.0002 ug/l;~~

32 (ix) ~~Polychlorinated biphenyls: (total of all PCBs and congeners identified) 0.001~~
33 ~~ug/l;~~

34 (x) ~~Selenium: 71 ug/l;~~

35 (xi) ~~Trialkyltin compounds: 0.007 ug/l expressed as tributyltin.~~

36 (4)(20) Action Levels for Toxic Substances: Substances Applicable to NPDES Permits:

37 (a) ~~Copper: Copper, dissolved, chronic: 3 ug/l; 3.1 ug/l;~~

1 (b) ~~Silver~~;Silver, dissolved, chronic: 0.1 ug/l;

2 (c) ~~Zinc~~;Zinc, dissolved, chronic: ~~86 ug/l~~;81 ug/l

3 If the [~~chronic~~] ~~Action Levels~~—action levels for any of the substances listed in this
4 SubparagraphItem (which are generally not bioaccumulative and have variable toxicity to aquatic
5 life because of chemical form, solubility, stream ~~characteristics~~—characteristics, or associated
6 waste characteristics) ~~are shall be~~ determined by the waste load allocation to be exceeded in a
7 receiving water by a discharge under the ~~specified low~~7Q10 flow criterion for toxic substances
8 (~~Rule .0206 in this Section~~);substances, the discharger shall ~~be required to~~ monitor the chemical or
9 biological effects of the discharge; efforts shall be made by all dischargers to reduce or eliminate
10 these substances from their effluents. Those substances for which ~~Action Levels~~—action levels are
11 listed in this SubparagraphItem ~~may~~shall be limited as appropriate in the NPDES permit if
12 sufficient information (to be determined for metals by measurements of that portion of the
13 dissolved instream concentration of the ~~Action Level~~—action level parameter attributable to a
14 specific NPDES permitted discharge) exists to indicate that any of those substances may be a
15 causative factor resulting in toxicity of the effluent. ~~NPDES permit limits may be based on~~
16 ~~translation of the toxic form to total recoverable metals. Studies used to determine the toxic form~~
17 ~~or translators must be designed according to: "Water Quality Standards Handbook Second~~
18 ~~Edition" published by the Environmental Protection Agency (EPA 823-B-94-005a) or "The Metals~~
19 ~~Translator: Guidance For Calculating a Total Recoverable Permit Limit From a Dissolved~~
20 ~~Criterion" published by the Environmental Protection Agency (EPA 823-B-96-007) which are~~
21 ~~hereby incorporated by reference including any subsequent amendments. The Director shall~~
22 ~~consider conformance to EPA guidance as well as the presence of environmental conditions that~~
23 ~~limit the applicability of translators in approving the use of metal translators.~~

24
25 *History Note: Authority G.S. 143-214.1; 143-215.3(a)(1);*

26 *Eff. October 1, 1995;*

27 *Amended Eff. January 1, 2015; May 1, 2007; August 1, 2000.*

28

