

Regulatory Impact Analysis

Rule Citation: 15A NCAC 02L .0101 - .0104, .0106 - .0114

Rule Topic: Re-adoption of 02L Rules: Groundwater Classifications and Standards: General Considerations

DEQ Divisions: Division of Water Resources (DWR)

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Impact Summary:

State government:	No
NCDOT:	No
Local government:	No
Private entities:	No
Environment:	No
Substantial Impact:	No

1. Necessity for Rule Change

N.C. Gen. Stat. §150B-21.3A requires state agencies to review existing rules every 10 years, determine which rules are still necessary, and either re-adopt or repeal each rule as appropriate. The proposed rulemaking satisfies these requirements for 15A NCAC 02L .0100. All 13 rules in the proposed rulemaking are considered necessary and are therefore proposed for re-adoption.

The Division prepared draft rules and solicited input on the proposed actions from internal and external stakeholders. After a final internal draft of the rules was created, it was sent out to over 200 external stakeholders in November 2020 to review and provide comments. The rules were placed on the NC Department of Environmental Quality's (DEQ) website. A press release was also created and sent to an additional 652 people. Several external stakeholders provided feedback that the Division considered in creating a draft of the rules for pre-review by counsel to the Rules Review Commission (RRC). The RRC counsel pre-review was completed in February 2021; changes in response to those comments were incorporated into the draft rules.

2. Purpose of Rules

In accordance with Rule 15A NCAC 02L .0103(a), the purpose of the rules established in Subchapter 15A NCAC 02L is to “maintain and preserve the quality of the groundwaters,

prevent and abate pollution and contamination of the waters of the State, protect public health and permit management of the groundwaters for their best usage by the citizens of North Carolina.” Historically, the North Carolina Environmental Management Commission (EMC) has considered the best usage of groundwaters of the State to be as a source of drinking water.

The rules in 15A NCAC 02L .0100 address the requirements for site assessment and corrective action to restore groundwater quality to the standards. These are foundational rules used by Division of Waste Management (DWM) regulatory programs including Brownfields, Underground Storage Tanks, Superfund (includes Inactive Hazardous Sites and Dry-cleaning Solvent Cleanup), Solid Waste, and Hazardous Waste as well as DWR regulatory programs such as Non-Discharge and Groundwater Protection. Each of these regulatory programs have their own rules and statutes that impose additional requirements that are specific to the particular DWM program. Many of these additional requirements are based on the chemical and physical properties of the specific type of wastes that are regulated by the program. For example, the DWM Underground Storage Tank rules (15A NCAC 02N) contain sections on tank integrity testing and spill control measures requirements that go beyond those of the subject rules.

3. Regulatory Baseline

As part of the permanent rulemaking process, [North Carolina General Statute 150B-19.1](#) requires agencies to quantify to the “greatest extent possible” the costs and benefits to affected parties of a proposed rule. To understand what the costs and benefits of the proposed rule changes would be to affected parties, it is necessary to establish a regulatory baseline for comparison. For the purpose of this analysis, the following items are considered to comprise the baseline:

- the current version of rules in 15A NCAC 02L .0100 General Considerations (effective dates range from August 1, 1989 through July 1, 2016); and
- North Carolina General Statutes with specific provisions relating to groundwater corrective action:
 - G.S. 130A-310.65 Risk-Based Environmental Remediation of Sites
- G.S. 130A-310.77
 - G.S. 143-214.1 Water; water quality standards and classifications; duties of Commission.
 - G.S. 143-279.10 Recordation of contaminated sites.

4. Cost-Benefit Analysis

4.1 Proposed rule amendments

The proposed rule amendments and associated economic and environmental impacts are summarized in the following table:

Section .0100 – General Considerations

Rule	Proposed Change	Economic Impact	Environment Impact
15A NCAC 02L .0101 Purpose	Minor technical changes for consistency and clarity.	None	None
15A NCAC 02L .0102 Definitions	Add definitions to provide clarity for terms used in the 02L rules: Delete definitions that are duplicative of statute or are unused in the 02L rules. Clarify that “waters of the State” are considered a type of “receptor” that can be adversely affected by contaminants.	None	None
15A NCAC 02L .0103 Policy	Minor technical changes.	None	None
15A NCAC 02L .0104 Restricted Designation	Clarify what information is required on applications for RS designation. Identify the process for recording a Restricted designation or “RS” per G.S. 143B-279.10. Recordation of contaminated sites is already required by G.S. 143-279.10. Identify the process for removing an RS designation per G.S. 143-214.1. Minor technical changes. Reorganize and streamline for clarity.	None	None
15A NCAC 02L .0105 Adoption by Reference	Repealed Eff. Aug 1, 1989.	None	None
15A NCAC 02L .0106 Initial Response, Site Assessment, and Corrective Action	Update rule to reference risk-based remediation option as allowed in G.S. 130A Article 9 Part 8 (G.S. 130A-310.65 thru G.S. 130A-310.77; enacted in 2011; amended in 2015). Add cross references to other 02L .0100 rules for clarity. Reorganize and streamline for clarity.	None	None

15A NCAC 02L .0107 Compliance Boundary	Add cross references to other 02L .0100 rules for clarity. Reorganize and streamline for clarity. Rewording and updating terminology for clarity.	None	None
15A NCAC 02L .0108 Review Boundary	Minor technical changes.	None	None
15A NCAC 02L .0109 Delegation	Minor technical changes.	None	None
15A NCAC 02L .0110 Monitoring	Make it optional, rather than mandatory, for the Director to require a responsible party to implement a monitoring program.	Unlikely to result in additional cost savings to regulated community beyond ongoing rule implementation.	None
	Reorganize and streamline for clarity.	None	None
15A NCAC 02L .0111 Reports	Moved selected content to other rules in Section 02L .0100 for clarity. Clarify what information is required in site assessment reports.	None	None
15A NCAC 02L .0112 Analytical Procedures	Delete obsolete test method reference.	None	None
	Minor technical changes.		
15A NCAC 02L .0113 Variance	Minor technical changes.	None	None
15A NCAC 02L .0114 Notification Requirements	Streamline process for submitting a site assessment report.	Likely negligible cost savings to regulated community	None
	Minor technical changes.	None	None
15A NCAC 02L .0115 Risk-Based Assessment and Corrective Action for Petroleum Underground Storage Tanks	Recodified to 15A NCAC 02L .0400 Eff. Dec 1, 2005	None	None

4.2 Costs and Benefits to the Regulated Community

Most of the proposed amendments to the subject rules are technical in nature for the purpose of providing clarity, consistency with North Carolina General Statutes, and updating references. This should make the rules easier to understand, which should translate into less time spent by the regulated community on the application, monitoring, and reporting processes. The amount of time saved will be negligible and

will not provide a significant financial benefit; however, it is noted here for completeness.

An amendment to **15A NCAC 02L .0102(29)** adds “waters of the State” to the definition of a “receptor.” As used in these rules, a “receptor” is a term that applies broadly to anything in the environment (human, plant, animal) as well as structures that have the potential to be adversely affected by groundwater contamination. The clarification that “waters of the State” can be a receptor and can be adversely affected by groundwater contamination makes it clear that an assessment of impacts to waters of the State is expected for Comprehensive Site Assessments and Corrective Action Plans, as appropriate. As stated in Section 2 of this document, the purpose of the 15A NCAC 02L rules includes the prevention and abatement of pollution and contamination of the waters of the State. When considered as a whole, the subject rules are already being implemented such that waters of the State are protected as a potential receptor of contamination. It follows that the addition of “waters of the State” to the definition of “receptor” will not result in any changes to the implementation of the 15A NCAC 02L rules. As such, the change will not result in any new costs or benefits to the regulated community.

An amendment to **15A NCAC 02L .0104(f)** lists the information that must be included on an application for Restricted Designation (RS) of a groundwater source. This information is already required by the RS designation process and will not result in additional burdens on the regulated community.

An amendment to **15A NCAC 02L .0110(a)** makes it optional, rather than mandatory, for the Director to require a responsible party to implement a monitoring program. This change will bring the rule in line with DWR’s ongoing practice of determining on a case-by-case basis whether the risk to public health and the environment justify the expense of this type of monitoring program. Groundwater monitoring programs are required for the many of the sites that are subject to this Rule, and that is not expected to change as a result of the proposed amendment. Small-scale waste application operations such as single-family systems are the most likely to be excluded from monitoring requirements depending on the nature and amount of their waste application. The proposed rule amendment is not expected to change the types of operations that are already excluded from monitoring requirements; as such, the amendment is unlikely to result in additional cost savings or expense.

An amendment to **15A NCAC 02L .0111(b)** lists the information that must be included in a site assessment report. This information is already required as part of the corrective action reporting process and will not result in additional burdens to the regulated community.

An amendment to **15A NCAC 02L .0114(a)** streamlines the requirement for reporting a groundwater contamination event. The amendment replaces the requirement for a responsible party to create an entirely new report, instead allowing the responsible party to use the site assessment report required by Rule 15A NCAC 02L .0111(b) to satisfy this reporting requirement. This will reduce the time spent by responsible parties on extracting and repackaging information into a different format. The amount of time

saved will be negligible and will not provide a significant financial benefit; however, it is noted here for completeness.

4.3 Costs and Benefits to State and Local Government

None of the proposed changes will require DEQ or local governments to revise their existing procedures or to procure additional staff; as such, there should be no economic cost to state agencies or local governments. Changes are technical in nature for the purpose of providing clarity to the regulated community thereby making the rules easier to understand. This should translate into less time spent by DEQ regulatory staff providing technical assistance. The amount of time saved will be negligible and will not provide a significant financial benefit; however, it is noted here for completeness.

The proposed changes will not affect environmental permitting of NC Department of Transportation (NCDOT); as such, there should be no economic impact to NCDOT.

4.4 Environmental Impact

As measured from the baseline conditions, the proposed changes will maintain existing environmental protections at an equivalent level with no cost or benefit to the environment.

5. Summary

As measured from the baseline conditions, there are no economic costs associated with the proposed rules re-adoption. Some of the language removed or added has the intent to improve clarity and reduce administrative burden to the regulated community; some of the language has the intent to be in accordance with current General Statutes. While some of these revisions could have a positive economic impact to a small portion of the regulated community, any potential impact is expected to be negligible. No new environmental costs or benefits are anticipated to result from the proposed rules re-adoption.

1 **SUBCHAPTER 2L - GROUNDWATER CLASSIFICATION AND STANDARDS**

2
3 **SECTION .0100 - GENERAL CONSIDERATIONS**

4
5 **15A NCAC 02L .0101 ~~AUTHORIZATION~~PURPOSE**

6 (a) N.C. General Statute 143-214.1 directs that the Commission develop and adopt after proper study a series of
7 classifications and standards which will be appropriate for the purpose of classifying each of the waters of the ~~state~~
8 State in such a way as to promote the policy and purposes of the act. Pursuant to this statute, the ~~rules~~Rules in Sections
9 .0200 and .0300 of this Subchapter establish a series of classifications and water quality standards applicable to the
10 groundwaters of the ~~state~~State.

11 (b) ~~These~~The ~~rules~~Rules in Section .0100 of this Subchapter ~~are~~shall ~~applicable~~apply to all permitted and
12 unpermitted activities or actions, intentional or accidental, ~~which~~that contribute to the degradation of groundwater
13 quality, regardless of any permit issued by a governmental agency authorizing such action or ~~activity~~activity, ~~except~~
14 ~~an~~An innocent landowner who is a bona fide purchaser of property which contains a source of groundwater
15 contamination, who purchased such property without knowledge or a reasonable basis for knowing that groundwater
16 contamination had occurred, or a person whose interest or ownership in the property is based or derived from a security
17 interest in the property, shall not be considered a responsible party.

18
19 *History Note:* *Authority G.S. 143-214.1; 143-214.2; 143-215.3(a)(1); 143B-282;*
20 *Eff. June 10, 1979;*
21 *Amended Eff. August 1, 1989; July 1, 1988; September 1, 1984; December 30, 1983.*

22
23 **15A NCAC 02L .0102 DEFINITIONS**

24 The definition of any word or phrase used in ~~these~~the Rules in this Subchapter shall be the same as given in G.S.
25 143-212 and G.S. 143-213 except that the following words and phrases shall have the following meanings:

26 (1) “Active remediation” means corrective action that includes active physical, biological, or chemical
27 manipulation of groundwater or of the rock or soil media for the purpose of reducing the amount of
28 contamination or minimizing the spread of contamination.

29 (2) “Anthropogenic” means of, relating to, or resulting from the influence of human beings on nature.

30 (3) “Background threshold values” mean statistically derived values of the concentrations of substances
31 in environmental media not affected by site conditions, actions, or activities for use as a basis for
32 compliance with the Rules in this Subchapter.

33 (4) “Bedrock” means any consolidated rock encountered in the place in which it was formed or
34 deposited and which cannot be readily excavated without the use of explosives or power equipment.

35 (2) ~~“Commission” means the Environmental Management Commission as organized under G.S. 143B.~~

36 (5) “Chief administrative officer” shall be, for the purposes of this Rule, the mayor, chairman of the
37 county commissioners, the county manager, or the city manager who is responsible for
38 environmental issues in their jurisdiction.

- 1 ~~(6)~~ "Compliance boundary" means a boundary around ~~the a~~ waste disposal area of a disposal system at
2 and beyond which ~~groundwater quality~~ standards may not be exceeded and ~~only~~ applies to facilities
3 which have received ~~a an individual~~ permit issued under the authority of G.S. ~~143 215.1 or G.S.~~
4 ~~130A, 143 215.1, Article 9 of G.S. 130A, or Article 11 of G.S. 130A.~~
- 5 ~~(7)~~ "Compliance zone" means the area encompassed within the compliance boundary.
- 6 ~~(8)~~ "Constituent of interest" means any substance that is manmade or naturally occurring that is or may
7 be associated with or influenced by site activities or actions and that is of interest to the protection
8 of public health and the environment.
- 9 ~~(4)(9)~~ "Contaminant" means any substance ~~occurring that occurs~~ in groundwater as a result of
10 anthropogenic sources or activities in concentrations which exceed the ~~groundwater quality~~
11 ~~standards specified in Rule .0202 of this Subchapter.~~ standards.
- 12 ~~(10)~~ "Control" means the ability to direct, restrain, or influence sources of contamination and
13 contaminant distribution.
- 14 ~~(5)(11)~~ "Corrective action plan" means a plan for controlling or eliminating sources of groundwater
15 contamination or for restoring groundwater quality. ~~achieving groundwater quality restoration or~~
16 ~~both.~~
- 17 ~~(6)(12)~~ "Director" means Director of the Division of ~~Environmental Management~~ Water Resources or
18 Waste Management or their delegate.
- 19 ~~(7)(13)~~ "Division" means the Division of ~~Environmental Management~~ Water Resources or Waste
20 Management.
- 21 ~~(8)(14)~~ "Exposure pathway" means a course taken by a contaminant by way of a transport medium after its
22 release to the environment.
- 23 ~~(9)(15)~~ "Free product" means a non-aqueous phase liquid which may be present within the saturated zone
24 or in surface water.
- 25 ~~(10)(16)~~ "Fresh ~~groundwaters~~ waters" means those groundwaters having a chloride concentration equal to
26 or less than 250 milligrams per liter.
- 27 ~~(11)(17)~~ "Groundwaters" means ~~those~~ waters occurring in the subsurface under saturated conditions.
- 28 ~~(12)(18)~~ "Hazardous substance" means any substance as defined by ~~Section 101(14) of the Comprehensive~~
29 ~~Environmental Response, Compensation and Liability Act of 1980 (CERCLA).~~ 42 U.S.C. 9601(14).
- 30 ~~(13)(19)~~ "Licensed geologist" means a person who has been ~~duly~~ licensed as a geologist in accordance with
31 the requirements of G.S. 89E.
- 32 ~~(20)~~ "Licensed soil scientist" means a person who has been licensed as a soil scientist in accordance with
33 the requirements of G.S. 89F.
- 34 ~~(21)~~ "Lower Limit of Quantitation" means the lowest acceptable concentration used in the daily
35 calibration curve.

1 (22) "Method Detection Limit" means the minimum measured concentration of a substance that can be
2 reported with 99% confidence that the measured concentration is distinguishable from method blank
3 results.

4 ~~(14)~~(23) "Natural remediation-attenuation" means those natural processes acting to restore groundwater
5 quality, including dilution, filtration, sorption, ion-exchange, chemical transformation
6 transformation, and biodegradation.

7 (24) "Natural conditions or naturally occurring" means the physical, biological, chemical and
8 radiological conditions which occur naturally and are not a result of anthropogenic sources or
9 activities.

10 (25) "Person" shall be as defined in G.S. 130A-290(22).

11 (26) "Potable waters" means those waters suitable for drinking by humans.

12 ~~(15)~~(27) "Practical Quantitation Limit" means the lowest concentration of a given material that can be
13 reliably achieved among laboratories within specified limits of precision and accuracy by a given
14 analytical method during routine laboratory analysis.

15 ~~(16) "Natural conditions" means the physical, biological, chemical and radiological conditions which~~
16 ~~occur naturally.~~

17 ~~(17) "Potable waters" means those waters suitable for drinking by humans.~~

18 ~~(18)~~(28) "Professional Engineer" means a person who has been duly registered and licensed as a professional
19 engineer in accordance with the requirements of G.S. 89C.

20 ~~(19)~~(29) "Receptor" means any human, plant, animal, or structure which is, or has the potential to be,
21 adversely effected by the release or migration of contaminants. Any well constructed for the
22 purpose of monitoring groundwater and contaminant concentrations shall not be considered a
23 receptor is as defined in G.S. 130A-309.201 and, for the purposes of this Rule, shall also include
24 waters of the State as defined in G.S. 143-212(6).

25 ~~(20)~~(30) "Review boundary" means a boundary around a permitted waste disposal facility-area midway
26 between a waste boundary and a compliance boundary at which groundwater monitoring is may be
27 required.

28 ~~(21) "Saline groundwaters" means those groundwaters having a chloride concentration of more than 250~~
29 ~~mg/l.~~

30 ~~(22)~~(31) "Saturated zone" means that part of the subsurface below the water table in which all the
31 interconnected voids are filled with water under pressure at or greater than atmospheric. It does not
32 include the capillary fringe.

33 (32) "Secretary" means the Secretary of the Department of Environmental Quality or their delegate.

34 ~~(23)~~(33) "Standards" "Standard" or "standards" means groundwater quality standards as specified in Rule
35 .0202 of this Subchapter. Subchapter and any interim maximum allowable concentrations
36 established by the Director per Rule .0202(c) of this Subchapter.

1 ~~(24)~~(34) "Suitable for drinking" means a quality of water which does not contain substances in concentrations
2 which, either singularly or in combination if ingested into the human body, may cause death, disease,
3 behavioral abnormalities, congenital defects, genetic mutations, or result in an incremental lifetime
4 cancer risk in excess of 1×10^{-6} , or render the water unacceptable due to aesthetic qualities, including
5 taste, ~~odor~~odor, or appearance.

6 ~~(25)~~(35) "Time of travel" means the time required for contaminants in groundwater to move a unit distance.

7 ~~(26)~~(36) "Waste boundary" means the perimeter of the permitted waste disposal area.

8 ~~(37)~~ "Waste disposal area" means that portion of a disposal system permitted under authority of G.S. 143-
9 215.1, Article 9 of G.S. 130A, or Article 11 of G.S. 130A whose purpose is the temporary or
10 permanent disposal of waste.

11 ~~(27)~~(38) "Water table" means the surface of the saturated zone below which all interconnected voids are
12 filled with water and at which the pressure is atmospheric.

13
14 *History Note:* Authority G.S. 143-214.1; 143-215; 143B-282;

15 *Eff. June 10, 1979.*

16 *Amended Eff. October 1, 1993; August 1, 1989; July 1, 1988; March 1, 1985.*

17
18 **15A NCAC 02L .0103 POLICY**

19 (a) The rules established in this Subchapter are intended to maintain and preserve the quality of the groundwaters,
20 prevent and abate pollution and contamination of the waters of the state, protect public health, and permit management
21 of the groundwaters for their best usage by the citizens of North Carolina. It is the policy of the Commission that the
22 best usage of the groundwaters of the state is as a source of drinking water. These groundwaters generally are a
23 potable source of drinking water without the necessity of significant treatment. It is the intent of these Rules to protect
24 the overall high quality of North Carolina's groundwaters to the level established by the standards and to enhance and
25 restore the quality of degraded groundwaters where feasible and necessary to protect human health and the
26 environment, or to ensure their suitability as a future source of drinking water.

27 (b) ~~It is the intention of the Commission to protect all groundwaters to a level of quality at least as high as that required~~
28 ~~under the standards established in Rule .0202 of this Subchapter. In keeping with the policy of the Commission to~~
29 ~~protect, maintain, and enhance groundwater quality within the State of North Carolina, the~~ The Commission will
30 shall not approve any disposal system subject to the provisions of G.S. 143-215.1 which would result ~~in~~in any of the
31 following:

32 (1) ~~the~~The significant degradation of groundwaters which have existing quality that is better than the
33 assigned standard, unless such degradation is found to be in the best interests of the ~~citizens of North~~
34 ~~Carolinapublic~~ public based upon the projected economic benefits of the facility and ~~a determination~~ that
35 public health will be ~~protected, or~~protected.

36 (2) ~~a~~A violation of a ~~groundwater quality~~ standard beyond a designated compliance ~~boundary,~~
37 ~~or~~boundary as a result of the permitted activities.

1 (3) ~~the~~The impairment of existing groundwater uses or increased risk to ~~the public health or safety of~~
2 ~~the public~~ due to the operation of a ~~waste~~ disposal system.

3 (c) Violations of ~~the~~ standards resulting from groundwater withdrawals which are in compliance with water use
4 permits issued pursuant to G.S. 143-215.15, shall not be subject to the corrective action requirements of Rule .0106
5 of this ~~Subchapter~~Section.

6 (d) No person shall conduct or cause to be conducted, any activity which causes the concentration of any substance
7 to exceed ~~that specified in Rule .0202 of this Subchapter~~the standards, except as authorized by the rules of this
8 Subchapter.

9 (e) Work that is within the scope of the practice of geology and engineering, performed pursuant to the requirements
10 of this Subchapter, ~~which that~~ involves site assessment, the interpretation of ~~subsurface~~ geologic conditions,
11 preparation of ~~conceptual~~ corrective action ~~plans~~plans, or any work requiring detailed technical knowledge of site
12 conditions which is submitted to the Director, shall be performed by persons, ~~firms~~firms, or professional corporations
13 who are ~~duly~~ licensed to offer geological or engineering services by the appropriate occupational licensing board or
14 are exempted from such licensing by G.S. 89E-6. Work which involves design of remedial systems or specialized
15 construction techniques shall be performed by persons, ~~firms~~firms, or professional corporations who are ~~duly~~ licensed
16 to offer engineering services. Corporations that are authorized by law to perform engineering or geological services
17 and are exempt from the Professional Corporation Act, G.S. 55B, may perform these services.

18
19 *History Note:* Authority G.S. ~~143-214~~; 143-214.1; 143-214.2; ~~143-215.3(e)~~; 143-215.3(a)(1);
20 143B-282;
21 *Eff. June 10, 1979;*
22 *Amended Eff. August 1, 1989; July 1, 1988; September 1, 1984; December 30, 1983;*
23 *RRC Objection Eff. September 17, 1993, due to lack of necessity for Paragraph (e);*
24 *Amended Eff. November 4, 1993.*

25
26 **15A NCAC 02L .0104 RESTRICTED DESIGNATION ~~(RS)~~**

27 (a) The ~~RS designation~~restricted designation (RS) ~~serves as a warning means~~ that groundwater ~~so designated~~ may not
28 be suitable for use as a drinking water supply without treatment. ~~The designation is temporary and will be removed~~
29 ~~by the Director upon a determination that the quality of the groundwater so designated has been restored to the level~~
30 ~~of the applicable standards or when the groundwaters have been reclassified by the Commission. The Director is~~
31 ~~authorized to designate GA or GSA groundwaters as RS under any of the following circumstances:~~

32 (1) ~~Where, as a result of man's activities, groundwaters have been contaminated and the Director has approved~~
33 ~~a corrective action plan, or termination of corrective action, that will not result in the immediate restoration of such~~
34 ~~groundwaters to the standards established under this Subchapter.~~

35 (2) ~~Where a statutory variance has been granted as provided in Rule .0113 of this Subchapter.~~

36 (b) The Director is authorized to apply the RS to GA or GSA groundwaters, as defined under Rule .0201 of this
37 Subchapter, under any of the following circumstances:

38 (1) For sites undergoing risk-based remediation per Rule .0106(i) of this Section.

1 (2) Areas of remaining contamination where the Secretary has approved the termination of an approved
2 corrective action per Rule .0106(j) of this Section.

3 (3) Where a variance has been granted by the Commission as provided in Rule .0113 of this Section.

4 ~~(b)(c)~~ Groundwaters occurring within an area defined by a compliance boundary in a waste disposal permit are
5 deemed ~~to be designated~~ RS.

6 ~~(c)(d)~~ The boundary of ~~a designated RS~~ the RS area ~~may be approximated in the absence of analytical data sufficient~~
7 ~~to define the dimension of the area. The boundary shall be located at least 250 feet or greater away from the predicted~~
8 ~~edge boundary~~ of the contaminant ~~plume, plume~~ and shall include any areas into which the contamination is expected
9 to migrate. Predictive modeling may be used to supplement site-specific sample data in characterizing the current and
10 predicted future extent of the plume.

11 ~~(d) In areas designated RS, the person responsible for groundwater contamination shall establish and implement a~~
12 ~~groundwater monitoring system sufficient to detect changes in groundwater quality within the RS designated area.~~
13 ~~Monitoring shall be quarterly for the first year and may be reduced to semi-annually thereafter until the applicable~~
14 ~~standards have been achieved. If during the monitoring period, contaminant concentrations increase, additional~~
15 ~~remedial action or monitoring pursuant to these Rules may be required.~~

16 ~~(e) The applicant for an RS designation shall also provide written verification that all property owners within and~~
17 ~~adjacent to the proposed RS area have been notified of the requested RS designation.~~

18 (e) Where the RS area crosses, intercepts, or adjoins surface waters, the RS shall not give the right to cause or
19 contribute to an exceedance of the surface water standards established under 15A NCAC 02B .0200.

20 (f) Application for RS. The person requesting a RS shall provide to the Director a plan that includes the following:

21 (1) The person's name, address, phone number.

22 (2) The physical location of the of facility or site where the contamination originated.

23 (3) If applicable, a copy of the Secretary's approval for termination of corrective action or a variance granted
24 by the Commission as provided in Rule .0113 of this Section.

25 (4) A summary of the site assessment and corrective actions including the results of any predictive modeling
26 that estimates the time to return compliance for the RS area.

27 (5) Maps showing the current horizontal and vertical extent of any contamination and the areas where the
28 contamination is predicted or expected to migrate including the current and predicted quantities of
29 any contaminants and all current and potential future receptors within 1,500 feet of contamination.

30 (6) A map showing the proposed RS area including the county title number, county tax identification number,
31 or the property tax book and page identifiers of the properties included within the proposed RS area.

32 (7) A plan for monitoring the groundwater quality within the RS area that includes the current or proposed
33 wells to be monitored, the frequency of the monitoring, and the constituents of interest to be
34 monitored.

35 (8) If the proposed RS area extends beyond the source property's boundary, a signed statement from each
36 property owner agreeing to the proposed RS area on their property if required by programmatic
37 statute.

1 (9) If the proposed RS area crosses, intercepts, or adjoins surface waters, a plan to ensure the surface water
2 standards established under 15A NCAC 02B .0200 are not violated.

3 (g) The Director shall review the proposed plan and whether the proposed plan is protective of public health and the
4 environment for receptors within the RS and otherwise complies with requirements of this Rule.

5 ~~(f)(h)~~ Prior to approving the proposed plan in Paragraph (f) of this Rule, The the Division shall provide public notice
6 of the intent to designate any groundwater with RS in accordance with the following requirements:as follows:

7 (1) ~~Notice shall be published~~Publish notice at least 30 days prior to any proposed final action in
8 accordance with ~~G.S. 143-215.4~~. G.S. 143-215.4 ~~In addition, notice shall be provided to all property~~
9 ~~owners identified pursuant to Paragraph (e) of this Rule and to the local County Health Director and~~
10 ~~the chief administrative officer of the political jurisdiction(s) in which the contamination occurs.~~
11 and provide such notice to all property owners with signed statements per Paragraph (f)(8) of this
12 Rule, to the local County Health Director, and the chief administrative officer of the jurisdiction(s)
13 in which the contamination occurs.

14 (2) The notice shall contain the following information:

15 (A) ~~name,~~Name, address, and phone number of the agency issuing the public notice;

16 (B) A copy of the plan in Paragraph (f) of this Rule or where the plan can be obtained.

17 ~~(B) — the location and extent of the designated area;~~

18 ~~(C) — the county title number, county tax identification number, or the property tax book and~~
19 ~~page identifiers;~~

20 ~~(D) — a brief description of the action or actions which resulted in the degradation of groundwater~~
21 ~~in the area;~~

22 ~~(E) — actions or intended actions taken to restore groundwater quality;~~

23 ~~(F) — the significance of the RS designation;~~

24 ~~(G)(C)~~ conditions~~Conditions~~ applicable to removal of the RS designation; and

25 ~~(H)(D)~~ address~~Address~~ and phone number of a Division contact from whom interested parties
26 may obtain further information.

27 (3) The Director shall consider all requests for a public hearing, and if ~~he they determines~~~~determine~~
28 that there is significant public ~~interest he~~~~interest~~, he or she shall issue public notice and hold a
29 public hearing in accordance with G.S 143-215.4(b) and Rule ~~.0113(e)~~.0113(e)(2) of this Section.

30 (4) ~~These~~~~The~~ requirements of this Paragraph shall not apply to groundwaters defined in Paragraph
31 ~~(b)(c)~~ of this Rule.

32 (i) The Director shall approve the plan if the proposal complies with requirements of this Rule. Upon making a
33 determination, the Director shall provide specific findings to support their decision to approve or disapprove a
34 proposed plan and may require a person who proposes a plan to supply any additional information not provided in
35 Paragraph (f) of this Rule necessary to make their determination.

1 (j) The process for recordation, application, and removal of an approved RS area shall be in accordance with G.S.
2 143B-279.10. The land use restriction shall be that groundwater within the RS may not be suitable for drinking
3 without treatment.

4 (k) The RS shall be removed if the groundwater within the RS is reclassified by the Commission per G.S. 143-214.1.

5
6 *History Note:* Authority G.S. 143-214.1; 143-215.3(a)(1); 143B-282(2); 143B-279.9; 143B-279.10;
7 Eff. June 10, 1979;
8 Amended Eff. October 1, 1993; December 1, 1989; August 1, 1989; December 30, 1983.

9
10 **15A NCAC 02L .0105 ADOPTION BY REFERENCE**

11
12 *History Note:* Authority G.S. 143-214.1;
13 Eff. December 30, 1983;
14 Repealed Eff. August 1, 1989.

15
16 **15A NCAC 02L .0106 INITIAL RESPONSE, SITE ASSESSMENT, AND CORRECTIVE ACTION**

17 (a) Where groundwater quality has been degraded, the ~~goal of any~~ required corrective action shall be restoration to
18 the level of the standards, or as closely thereto as is economically and technologically feasible ~~as determined by the~~
19 ~~Department~~ in accordance with this Rule. The corrective action strategies addressed in this Rule can be through either
20 active remediation in Paragraph (g), natural attenuation in Paragraph (h), or risk-based remediation in Paragraph (i).
21 In all cases involving requests to the ~~Secretary, as defined in 15A NCAC 02C .0102,~~ Secretary for approval of
22 corrective action ~~plans,~~ plans or termination of corrective action, the responsibility for providing all information
23 required by this Rule lies with the person(s) making the request.

24 (b) Any person conducting or controlling an ~~activity~~ activity, permitted or unpermitted, that results in the discharge
25 of a waste or hazardous substance or oil to the ground surface, vadose zone, or groundwaters of the ~~State, or in~~
26 ~~proximity thereto,~~ State shall take action upon discovery to terminate and control the discharge, mitigate any hazards
27 resulting from exposure to the ~~pollutants-contaminants,~~ and ~~notify the Department, as defined in 15A NCAC 02C~~
28 ~~.0102, of the discharge.~~ follow the steps in Paragraphs (c), (d), or (e) of this Rule.

29 (c) Any person conducting or controlling an activity that has not been permitted by the Department pursuant to G.S.
30 143-215.1, Article 9 of G.S. 130A, or Article 11 of G.S. 130A ~~and~~ that results in an increase in the concentration of a
31 substance in excess of the standard, other than agricultural ~~operations,~~ operations defined under G.S. 106-581.1,
32 ~~shall;~~ shall take the following steps:

- 33 (1) ~~within~~ Within 24 hours of discovery of the violation, notify the Department of the activity that has
34 resulted in the increase and the contaminant concentration ~~levels;~~ levels, if known.
- 35 (2) ~~respond~~ Respond in accordance with Paragraph (f) of this ~~Rule;~~ Rule.
- 36 (3) ~~submit a report to the Secretary assessing the cause, significance, and extent of the violation; and~~
- 37 (4) ~~implement an approved corrective action plan for restoration of groundwater quality in accordance~~
38 ~~with a schedule established by the Secretary. In establishing a schedule, the Secretary shall consider~~

1 a schedule proposed by the person submitting the plan. A report shall be made to the Health Director
2 of the county or counties in which the contamination occurs in accordance with the requirements of
3 Rule .0114(a) in this Section.

4 (3) Implement a monitoring program in accordance with Rule .0110 of this Section.

5 (4) Submit a site assessment report to the Director in accordance with Rule .0111 of this Section.

6 (5) Submit a notification in accordance with the requirements of Rule .0114(a) of this Section.

7 (6) If required, submit a corrective action plan to the Director in accordance with Rule .0111 of this
8 Section or pursue risk-based remediation per Paragraph (i) of this Rule. If a corrective action plan
9 is submitted for active remediation or natural attenuation, then:

10 (A) Submit a notification in accordance with the requirements of Rule .0114(b) of this
11 Section.

12 (B) Implement corrective action plan upon its approval by the Secretary.

13 (C) Submit a notification in accordance with the requirements of Rule .0114(c) of this
14 Section.

15 ~~Any activity not permitted pursuant to G.S. 143-215.1 or G.S. 130A-294 shall, for the purpose of this Rule, be deemed~~
16 ~~not permitted by the Department and subject to the provisions of this Paragraph.~~

17 (d) ~~For Any-any~~ person conducting or controlling an activity that is conducted under the authority of a permit ~~initially~~
18 issued by the Department ~~on or after December 30, 1983~~ pursuant to G.S. ~~143-215.1~~143-215.1, Article 9 of G.S. 130A,
19 ~~or Article 11 of G.S. 130A, or G.S. 130A-294 and~~ that results in an increase in concentration of a substance in excess
20 of the ~~standards:~~standards at or beyond the review boundary:

21 (1) ~~at or beyond a review boundary:~~ The Director may require, based on information including data
22 trends, geologic and hydrogeologic conditions, and spacing between the review and compliance
23 boundaries, that the person shall demonstrate, through predictive calculations or modeling, that one
24 or more of the following ~~natural site conditions, facility design and operational controls~~ will prevent
25 a violation of standards at the compliance ~~boundary:~~boundary:

26 (A) geologic or hydrogeologic conditions;

27 (B) facility design; or

28 (C) operational controls.

29 ~~Alternately, the person may submit a plan for alteration of existing site conditions, facility design,~~
30 ~~or operational controls that will prevent a violation at the compliance boundary, and implement that~~
31 ~~plan upon its approval by the Secretary.~~

32 (2) ~~at or beyond a compliance boundary: the person shall respond in accordance with Paragraph (f) of~~
33 ~~this Rule, assess the cause, significance and extent of the violation of standards and submit the~~
34 ~~results of the investigation, and a plan and proposed schedule for corrective action to the Secretary.~~
35 ~~The permittee shall implement the plan as approved by and in accordance with a schedule~~
36 ~~established by the Secretary. In establishing a schedule the Secretary shall consider any schedule~~
37 ~~proposed by the permittee, the scope of the project, the extent of contamination, and the corrective~~

1 ~~action being proposed. If an exceedance of the standards is predicted at or beyond the compliance~~
2 ~~boundary, the person may submit a plan for alteration of existing site conditions, facility design, or~~
3 ~~operational controls that will prevent a violation at the compliance boundary, and implement that~~
4 ~~plan upon its approval by the Director. In approving the plan, the Director shall consider geologic~~
5 ~~and hydrogeologic conditions, the nature and extent of the contamination, technical and economic~~
6 ~~feasibility, and public health impacts on all potential receptors should the contaminated plume reach~~
7 ~~them.~~

8 ~~(e) For any person conducting or controlling an activity that is conducted under the authority of a permit issued by~~
9 ~~the Department pursuant to G.S. 143-215.1, Article 9 of G.S. 130A, or Article 11 of G.S. 130A that results in an~~
10 ~~increase in concentration of a substance in excess of the standards beyond the compliance boundary or within the~~
11 ~~compliance zone as specified by Rule .0107(q) of this Section, the person shall take the following steps:~~

12 ~~(1) Within 24 hours of discovery of the initial violation, notify the Department of the activity that has~~
13 ~~resulted in the increase, the contaminants that are in exceedance, and the contaminant concentration~~
14 ~~levels.~~

15 ~~(2) Respond in accordance with Paragraph (f) of this Rule.~~

16 ~~(3) Implement a monitoring program in accordance with Rule .0110 of this Section.~~

17 ~~(4) Submit a site assessment report to the Director in accordance with Rule .0111 of this Section.~~

18 ~~(5) Submit a notification in accordance with the requirements of Rule .0114(a) of this Section.~~

19 ~~(6) If required, submit a corrective action plan to the Director in accordance with Rule .0111 of this~~
20 ~~Section or pursue risk-based remediation per Paragraph (i) of this Rule. The corrective action plan~~
21 ~~may include alteration of existing site conditions, facility design, or operational controls that will~~
22 ~~prevent a violation at the compliance boundary. If a corrective action plan is submitted for active~~
23 ~~remediation or natural attenuation, then:~~

24 ~~(A) Submit a notification in accordance with the requirements of Rule .0114(b) of this Section.~~

25 ~~(B) Implement an approved corrective action upon its approval by the Secretary.~~

26 ~~(C) Submit a notification in accordance with the requirements of Rule .0114(c) of this Section.~~

27 ~~(e) Any person conducting or controlling an activity that is conducted under the authority of a permit initially issued~~
28 ~~by the Department prior to December 30, 1983 pursuant to G.S. 143-215.1 or G.S. 130A-294, and that results in an~~
29 ~~increase in concentration of a substance in excess of the standards at or beyond the compliance boundary specified in~~
30 ~~the permit, shall:~~

31 ~~(1) within 24 hours of discovery of the violation, notify the Department of the activity that has resulted~~
32 ~~in the increase and the contaminant concentration levels;~~

33 ~~(2) respond in accordance with Paragraph (f) of this Rule;~~

34 ~~(3) submit a report to the Secretary assessing the cause, significance and extent of the violation; and~~

35 ~~(4) implement an approved corrective action plan for restoration of groundwater quality at or beyond~~
36 ~~the compliance boundary, in accordance with a schedule established by the Secretary. In establishing~~
37 ~~a schedule the Secretary shall consider any schedule proposed by the person submitting the plan. A~~

~~report shall be made to the Health Director of the county or counties where the contamination occurs in accordance with the requirements of Rule .0114(a) in this Section.~~

(f) Initial response actions required to be conducted prior to or concurrent with the site assessment required in Paragraphs ~~(e), (d), or (e)(c)~~ and (e) of this Rule shall include:

- (1) Prevention of fire, explosion, or the spread of noxious ~~fumes;~~fumes.
- (2) Abatement, containment, or control of the migration of ~~contaminants;~~contaminants.
- (3) Removal, treatment, or control of any primary pollution source such as buried waste, waste stockpiles, or surficial accumulations of free ~~products;~~products.
- (4) Removal, treatment, or control of secondary pollution sources that would be potential continuing sources of pollutants to the groundwaters, such as contaminated soils and non-aqueous phase liquids. Contaminated soils that threaten the quality of groundwaters shall be treated, contained, or disposed of in accordance with ~~rules~~Rules in this ~~Chapter~~Subchapter and in 15A NCAC 13 applicable to such activities. The treatment or disposal of contaminated soils shall be conducted in a manner that will not result in a violation of ~~the standards or North Carolina Hazardous Waste Management rules.~~ standards or 15A NCAC 13 Rules.

The initial response actions shall be documented in the site assessment report required under Rule .0111(b) of this Section. The Director may request written documentation of the response actions in advance of the site assessment report if there is an immediate threat to human health.

~~(g) The site assessment conducted pursuant to the requirements of Paragraphs (e), (d), or (e) of this Rule, shall include:~~

- ~~(1) The source and cause of contamination;~~
- ~~(2) Any imminent hazards to public health and safety, as defined in G.S. 130A-2, and any actions taken to mitigate them in accordance with Paragraph (f) of this Rule;~~
- ~~(3) All receptors and significant exposure pathways;~~
- ~~(4) The horizontal and vertical extent of soil and groundwater contamination and all significant factors affecting contaminant transport; and~~
- ~~(5) Geological and hydrogeological features influencing the movement, chemical, and physical character of the contaminants.~~

~~Reports of site assessments shall be submitted to the Department as soon as practicable or in accordance with a schedule established by the Secretary. In establishing a schedule the Secretary shall consider a proposal by the person submitting the report.~~

~~(h) Corrective action plans for restoration of groundwater quality, submitted pursuant to Paragraphs (e), (d), and (e) of this Rule shall include:~~

- ~~(1) A description of the proposed corrective action and reasons for its selection;~~
- ~~(2) Specific plans, including engineering details where applicable, for restoring groundwater quality;~~
- ~~(3) A schedule for the implementation and operation of the proposed plan; and~~
- ~~(4) A monitoring plan for evaluating the effectiveness of the proposed corrective action and the movement of the contaminant plume.~~

1 ~~(i) In the evaluation of corrective action plans, the Secretary shall consider the extent of any violations, the extent of~~
2 ~~any threat to human health or safety, the extent of damage or potential adverse impact to the environment, technology~~
3 ~~available to accomplish restoration, the potential for degradation of the contaminants in the environment, the time and~~
4 ~~costs estimated to achieve groundwater quality restoration, and the public and economic benefits to be derived from~~
5 ~~groundwater quality restoration.~~

6 ~~(j)(g) Corrective action using active remediation.~~ A corrective action plan prepared pursuant to Paragraphs ~~(e), (d),~~
7 ~~or (e)(c) or (e)~~ of this Rule shall be implemented using a remedial technology demonstrated to provide the most
8 effective means, taking into consideration geological and hydrogeological conditions at the contaminated site, for
9 restoration of groundwater quality to the level of the standards. ~~Corrective action plans prepared pursuant to~~
10 ~~Paragraphs (e) or (e) of this Rule may request an exception as provided in Paragraphs (k), (l), (m), (r), and (s) of this~~
11 ~~Rule. Corrective action plans for active remediation shall include the information in Rule .0111(c) of this Section.~~

12 ~~(k) Any person required to implement an approved corrective action plan for a site subject to Paragraphs (e) or (e) of~~
13 ~~this Rule may request that the Secretary approve such a plan without requiring groundwater remediation to the~~
14 ~~standards. A request submitted to the Secretary under this Paragraph shall include a description of site specific~~
15 ~~conditions, including information on the availability of public water supplies for the affected area; the technical basis~~
16 ~~for the request; and any other information requested by the Secretary to evaluate the request in accordance with~~
17 ~~Subparagraphs (1) through (7) of this Paragraph. The person making the request shall demonstrate:~~

- 18 ~~(1) that all sources of contamination and free product have been removed or controlled pursuant to~~
19 ~~Paragraph (f) of this Rule;~~
- 20 ~~(2) that the time and direction of contaminant travel can be predicted with reasonable certainty;~~
- 21 ~~(3) that contaminants have not and will not migrate onto adjacent properties, or that:~~
 - 22 ~~(A) such properties are served by an existing public water supply system dependent on surface~~
23 ~~waters or hydraulically isolated groundwater; or~~
 - 24 ~~(B) the owners of such properties have consented in writing to the request;~~
- 25 ~~(4) that the standards specified in Rule .0202 of this Subchapter will be met at a location no closer than~~
26 ~~one year time of travel upgradient of an existing or foreseeable receptor, based on travel time and~~
27 ~~the natural attenuation capacity of subsurface materials or on a physical barrier to groundwater~~
28 ~~migration that exists or will be installed by the person making the request;~~
- 29 ~~(5) that, if the contaminant plume is expected to intercept surface waters, the groundwater discharge~~
30 ~~will not possess contaminant concentrations that would result in violations of standards for surface~~
31 ~~waters contained in 15A NCAC 02B .0200;~~
- 32 ~~(6) that public notice of the request has been provided in accordance with Rule .0114(b) of this Section;~~
33 ~~and~~
- 34 ~~(7) that the proposed corrective action plan would be consistent with all other environmental laws.~~

35 ~~(h) Corrective action using natural attenuation.~~ Any person required to implement an approved corrective action
36 plan for a site subject to Paragraphs (c) or (e) of this Rule may request that the Secretary approve such a plan based
37 upon natural processes of degradation and attenuation of contaminants. ~~Corrective action plans for natural attenuation~~

1 ~~shall make the demonstration and include the information in Rule .0111(d) of this Section.~~ A request submitted to the
2 Secretary under this Paragraph shall include a description of site specific conditions, including written documentation
3 of projected groundwater use in the contaminated area based on current state or local government planning efforts;
4 the technical basis for the request; and any other information requested by the Secretary to evaluate the request in
5 accordance with Subparagraphs (1) through (10) of this Paragraph. The person making the request shall demonstrate:

6 (1) ~~that all sources of contamination and free product have been removed or controlled pursuant to~~
7 ~~Paragraph (f) of this Rule;~~

8 (2) ~~that the contaminant has the capacity to degrade or attenuate under the site specific conditions;~~

9 (3) ~~that the time and direction of contaminant travel can be predicted based on subsurface conditions~~
10 ~~and the contaminant's physical and chemical properties;~~

11 (4) ~~that contaminant migration will not result in any violation of applicable groundwater standards at~~
12 ~~any existing or foreseeable receptor;~~

13 (5) ~~that contaminants have not and will not migrate onto adjacent properties, or that:~~

14 (A) ~~such properties are served by an existing public water supply system dependent on surface~~
15 ~~waters or hydraulically isolated groundwater; or~~

16 (B) ~~the owners of such properties have consented in writing to the request;~~

17 (6) ~~that, if the contaminant plume is expected to intercept surface waters, the groundwater discharge~~
18 ~~will not possess contaminant concentrations that would result in violations of standards for surface~~
19 ~~waters contained in 15A NCAC 02B .0200;~~

20 (7) ~~that the person making the request will put in place a groundwater monitoring program that, based~~
21 ~~on subsurface conditions and the physical and chemical properties of the contaminant, will~~
22 ~~accurately track the degradation and attenuation of contaminants and contaminant by products~~
23 ~~within and down gradient of the plume and to detect contaminants and contaminant by products~~
24 ~~prior to their reaching any existing or foreseeable receptor at least one year's time of travel~~
25 ~~upgradient of the receptor and no greater than the distance the groundwater at the contaminated site~~
26 ~~is predicted to travel in five years;~~

27 (8) ~~that all necessary access agreements needed to monitor groundwater quality pursuant to~~
28 ~~Subparagraph (7) of this Paragraph have been or can be obtained;~~

29 (9) ~~that public notice of the request has been provided in accordance with Rule .0114(b) of this Section;~~
30 ~~and~~

31 (10) ~~that the proposed corrective action plan would be consistent with all other environmental laws.~~

32 (i) Corrective action using risk-based remediation. A person choosing to use risk-based remediation shall comply
33 with the requirements in G.S. 130A Article 9 Part 8.

34 ~~(m)~~(j) Termination of active remediation prior to achieving the standards. The Department or any Any person required
35 to implement an approved corrective action plan for a site subject to Paragraphs (e) or (e) Paragraph (g) of this Rule
36 may request that the Secretary approve termination of ~~corrective action~~ the active remediation. The owner and
37 operator of an active remediation system shall demonstrate that, by terminating the active remediation and then

1 implementing an approved natural attenuation corrective action under Paragraph (h) of this Rule, all potential receptors
2 will be protected.

3 (1) A request submitted to the Secretary under this Paragraph shall include:

4 (A) ~~a~~An discussion of the duration of the corrective action, the total project cost, projected
5 annual cost for ~~continuance~~continuance, and evaluation of the success of the corrective
6 ~~action;~~action.

7 (B) ~~an~~An evaluation of alternate treatment technologies that could potentially result in further
8 reduction of contaminant levels, projected capital, and annual operating costs for each
9 ~~technology;~~and technology.

10 (C) ~~the~~The effects, including public health ~~and safety~~ impacts, on groundwater users if
11 contaminant levels remain at levels existing at the time corrective action is terminated.

12 (D) The proposed contaminant concentrations to actively remediate to in the source area and
13 all predictive calculations and model runs demonstrating that the standards will be met at
14 all existing or potential receptors, based on travel time and the natural attenuation capacity
15 of subsurface materials or on a barrier to groundwater migration that exists or will be
16 installed by the person making the request.

17 (E) A demonstration that continuation of active remediation would not result in a significant
18 reduction in the concentration of contaminants. This demonstration shall show the duration
19 and degree of success of existing remedial efforts to attain the standards. For the purpose
20 of this Rule, a "significant reduction" is demonstrated by showing that the asymptotic slope
21 of the contaminant concentrations over time is less than a ratio of 1:40 over a term of one
22 year based on four consecutive quarters with sampling events spaced at least three months
23 apart.

24 (F) A natural attenuation corrective action plan for the remaining contamination in accordance
25 with Paragraph (h) of this Rule.

26 ~~(2) In addition, the person making the request shall demonstrate:~~

27 ~~(A) that continuation of corrective action would not result in a significant reduction in the~~
28 ~~concentration of contaminants. This demonstration shall show the duration and degree of~~
29 ~~success of existing remedial efforts to attain standards. For the purpose of this Part, a~~
30 ~~"significant reduction" is demonstrated by showing that the asymptotic slope of the~~
31 ~~contaminants curve of decontamination is less than a ratio of 1:40 over a term of one year~~
32 ~~based on quarterly sampling;~~

33 ~~(B) that contaminants have not and will not migrate onto adjacent properties, or that:~~

34 ~~(i) such properties are served by an existing public water supply system dependent~~
35 ~~on surface waters or hydraulically isolated groundwater; or~~

36 ~~(ii) the owners of such properties have consented in writing to the request;~~

1 ~~(C) that, if the contaminant plumes are expected to intercept surface waters, the groundwater~~
2 ~~discharge will not possess contaminant concentrations that would result in violations of~~
3 ~~standards for surface waters contained in 15A NCAC 02B .0200;~~

4 ~~(D) that public notice of the request has been provided in accordance with Rule .0114(b) of this~~
5 ~~Section; and~~

6 ~~(E) that the proposed termination would be consistent with all other environmental laws.~~

7 ~~(3)(2)~~ The Secretary shall not authorize termination of active remediation ~~corrective action~~ for any area
8 that, at the time the request is made, has been identified by a state or local groundwater use planning
9 process for resource development.

10 ~~(4)(3)~~ The Secretary may authorize the termination of active remediation, ~~corrective action~~, or amend the
11 corrective action plan after considering all the information in the request. In making the
12 authorization, the Secretary shall consider geologic and hydrogeologic conditions, the nature and
13 extent of the contamination, technical and economic feasibility, and public health and safety impacts
14 on all existing and foreseeable potential receptors should the contaminated plume reach
15 them, receptors and the impacts the contaminated plume may have if it reaches them. The Secretary
16 will review the request for completeness and may request any additional information necessary to
17 make their authorization. ~~Upon termination of corrective action, the Secretary shall require~~
18 ~~implementation of a groundwater monitoring program that, based on subsurface conditions and the~~
19 ~~physical and chemical properties of the contaminants, will accurately track the degradation and~~
20 ~~attenuation of contaminants at a location of no less than one year's predicted time of travel~~
21 ~~upgradient of any existing or foreseeable receptor. The monitoring program shall remain in effect~~
22 ~~until there is sufficient evidence that the contaminant concentrations have been reduced to the level~~
23 ~~of the standards. For the purpose of this Part, "sufficient evidence" means that sampling and~~
24 ~~analyses demonstrate that contaminant concentrations have been reduced to the level of the~~
25 ~~standards on multiple sampling events.~~

26 (k) In the evaluation of active remediation or natural attenuation corrective action plans, the Secretary shall consider
27 the extent of any violations, the extent of any threat to human health, the extent of damage or potential adverse impact
28 to the environment, technology available to accomplish restoration, the potential for degradation of the contaminants
29 in the environment, geologic and hydrogeologic conditions, the time estimated to achieve groundwater quality
30 restoration, technical and economic feasibility, and the public and economic benefits to be derived from groundwater
31 quality restoration.

32 ~~(n)(l) Upon a determination by the Secretary that~~ Where continued corrective action would result in no significant
33 reduction in contaminant ~~concentrations, concentrations as determined in Part (j)(1)(E) of this Rule, and the~~
34 ~~contaminated groundwaters can be rendered potable by treatment using technologies that are in use in other~~
35 ~~applications and shown to be effective for removal of contaminants,~~ the person may request that the Secretary may
36 designate the ~~remaining~~ area of degraded groundwater RS. ~~Where the remaining degraded groundwaters cannot be~~

1 ~~made potable by such treatment, the~~ The Secretary-Commission may also consider a request for reclassification of
2 the groundwater to a GC classification as outlined in Rule ~~.0204.0319~~ of this Subchapter.

3 ~~(m)~~ If at any time the Secretary determines that a new technology is available that would remediate the
4 contaminated groundwater to the standards specified in Rule .0202 of this Subchapter, the Secretary may require the
5 responsible party to evaluate the economic and technological feasibility of implementing the new technology in an
6 active ~~groundwater remediation~~ corrective action ~~plan in accordance with a schedule established by the~~
7 Secretary-plan. The Secretary's determination to utilize new technology at any site or for any particular contaminant
8 or constituent of interest shall include a consideration of the factors in ~~Paragraph (h) of this Rule.~~Rule .0111(c) of this
9 Section.

10 ~~(n)~~ Where the standards are exceeded as a result of the application of pesticides or other agricultural chemicals,
11 the Secretary shall request the Pesticide Board or the Department of Agriculture and Consumer Services to assist the
12 Department in determining the cause of the violation. If the violation is determined to have resulted from the use of
13 pesticides, the Secretary shall request the Pesticide Board to take appropriate regulatory action to control the use of
14 the chemical or chemicals responsible for, or contributing to, such violations, or to discontinue their use.

15 ~~(q) The approval pursuant to this Rule of any corrective action plan, or modification or termination thereof, that~~
16 ~~permits the migration of a contaminant onto adjacent property, shall not affect any private right of action by any party~~
17 ~~that may be affected by that contamination.~~

18 ~~(o)~~ If a discharge or release is not governed by the rules in Section .0400 of this Subchapter and the increase in the
19 concentration of a substance in excess of the standard resulted in whole or in part from a release from a commercial
20 or noncommercial underground storage tank as defined in G.S. 143-215.94A, any person required to implement an
21 approved corrective action plan pursuant to this Rule and seeking reimbursement for the Commercial or
22 Noncommercial Leaking Petroleum Underground Storage Tank Cleanup Funds shall implement a corrective action
23 plan meeting the requirements of Paragraph ~~(k) or (l)~~(g) or (h) of this Rule unless the person demonstrates to the
24 Secretary that:

- 25 (1) contamination resulting from the discharge cannot qualify for approval of a plan based on the
26 requirements of the Paragraphs; or
- 27 (2) the cost of making such a demonstration would exceed the cost of implementing a corrective action
28 plan submitted pursuant to ~~Paragraph (e) of this Rule.~~Rule .0111(c) of this Section.

29 ~~(p)~~ If a discharge or release is not governed by the rules in Section .0400 of this Subchapter and the increase in the
30 concentration of a substance in excess of the standard resulted in whole or in part from a release from a commercial
31 or noncommercial underground storage tank as defined in G.S. 143-215.94A, the Secretary may require any person
32 implementing or operating a previously approved corrective action plan pursuant to this Rule to:

- 33 (1) develop and implement a corrective action plan meeting the requirements of Paragraphs ~~(k) and~~
34 ~~(l)~~(g) and (h) of this Rule; or
- 35 (2) seek discontinuance of corrective action pursuant to Paragraph ~~(m)~~(j) of this Rule.

1 (q) Pursuant to this Rule, the approval of any corrective action plan, modification, or termination thereof, that permits
2 the migration of a contaminant onto adjacent property, shall not affect any private right of action by any party that
3 may be affected by that contaminant.

4
5 *History Note: Authority G.S. 143-215.1; 143-215.3; ~~143-215.94A;~~143-215.94T; 143-215.94V; 143B-282;*
6 *~~1995 (Reg. Sess. 1996) c. 648, s. 1;~~*
7 *Eff. August 1, 1989;*
8 *Amended Eff. October 1, 1993; September 1, 1992;*
9 *Temporary Amendment Eff. January 2, 1998; January 2, 1996;*
10 *Amended Eff. July 1, 2016; October 29, 1998.*

11
12 **15A NCAC 02L .0107 COMPLIANCE BOUNDARY**

13 (a) For disposal systems individually permitted prior to December 30, 1983, the compliance boundary ~~is~~shall be
14 established at a horizontal distance of 500 feet from the waste boundary or at the property boundary, whichever is
15 closer to the source.

16 (b) For disposal systems individually permitted on or after December 30, 1983, a compliance boundary shall be
17 established at a horizontal distance of 250 feet from the waste boundary, or 50 feet within the property boundary,
18 whichever point is closer to the source.

19 (c) The compliance boundary shall be established ~~by the Director, or his designee~~ at the time of permit issuance.
20 issuance and shall remain in place for the duration of the permit. Any sale or transfer of property which affects a
21 compliance boundary shall be reported immediately to the Director, or his designee. For disposal systems which are
22 not governed by Paragraphs (e) or (f) of this Rule, the compliance boundary affected by the sale or transfer of property
23 will be re-established consistent with Paragraphs (a) or (b) of this Rule, whichever is applicable.

24 ~~(d) Except as provided in Paragraph (g) of this Rule, no water supply wells shall be constructed or operated within~~
25 ~~the compliance boundary of a disposal system individually permitted or re-permitted after January 1, 1993.~~

26 (d) The compliance boundary and zone shall extend vertically from the surface through the water table to the
27 maximum depth of saturation.

28 (e) The permitted activity shall not cause or contribute to an exceedance of the surface water standards established
29 under 15A NCAC 02B .0200.

30 (f) Multiple contiguous properties under common ownership and permitted for use as a waste disposal area shall be
31 treated as a single property with regard to determination of a compliance zone and setbacks to property lines as per
32 Paragraphs (a) or (b) of this Rule.

33 (g) Where compliance zones for separately permitted waste disposal areas under the same ownership on the same
34 property intersect, the Director shall combine the compliance zones into one single compliance zone with a single
35 compliance boundary.

36 (h) The permittee shall establish a monitoring program within the compliance zone per the requirements in Rule .0110
37 of this Section.

1 (i) Except as provided in Paragraph (m) of this Rule, no new water supply wells shall be constructed within the
2 compliance zone of a disposal system individually permitted after January 1, 1993.

3 ~~(e)(j)~~ Except as provided in Paragraph ~~(g)(m)~~ of this Rule, a permittee shall not transfer land within an established
4 compliance ~~boundary-zone~~ of a disposal system permitted ~~or re-permitted~~ after January 1, 1993 unless:

- 5 (1) ~~the~~The land transferred is serviced by a community water system as ~~defined in~~regulated under 15A
6 NCAC 18C, the source of which is located outside the compliance boundary; and
- 7 (2) the deed transferring the property:
 - 8 (A) contains notice of the permit, including the permit number, a description of the type of
9 permit, and the name, address and telephone number of the permitting agency; ~~and~~
 - 10 (B) contains a restrictive covenant running with the land and in favor of the permittee and the
11 State, as a third party beneficiary, which prohibits the construction and operation of water
12 supply wells within the compliance ~~boundary-zone~~; and
 - 13 (C) contains a restrictive covenant running with the land and in favor of the permittee and the
14 State, as a third party beneficiary, which grants the right to the permittee and the State to
15 enter on such property within the compliance ~~boundary-zone~~ for groundwater monitoring
16 and remediation purposes.

17 ~~(f)(k)~~ Except as provided in Paragraph ~~(g)(m)~~ of this Rule, if at the time a permit is issued ~~or reissued~~ after- January
18 1, 1993, the permittee is not the owner of the land within the compliance ~~boundary-zone~~, it shall be a condition of the
19 permit issued or renewed that the landowner of the land within the compliance ~~boundary-zone~~, if other than the
20 permittee, execute and file in the Register of Deeds in the county in which the land is located, an easement running
21 with the land which:

- 22 (1) contains:
 - 23 (A) either a notice of the permit, including the permit number, a description of the type of
24 permit, and the name, address and telephone number of the permitting agency; or
 - 25 (B) a reference to a notice of the permit with book and page number of its recordation if such
26 notice is required to be filed by statute;
- 27 (2) prohibits the construction and operation of water supply wells within the compliance
28 ~~boundary-zone~~; and
- 29 (3) reserves the right to the permittee and the State to enter on such property within the compliance
30 ~~boundary-zone~~ for groundwater monitoring and remediation purposes. The Director shall, upon
31 request by the landowner, file a document terminating the easement with the appropriate Register
32 of Deeds. The easement may be terminated by the Director when its purpose has been fulfilled or
33 the need for the easement no longer exists. ~~Under those conditions the Director shall, upon request~~
34 ~~by the landowner, file a document terminating the easement with the appropriate Register of Deeds.~~

35 (l) Any sale or transfer of property which affects a compliance boundary shall be reported to the Director within one
36 week of the final sale or transfer. For disposal systems which are not governed by Paragraphs (j) or (k) of this Rule,
37 the compliance boundary affected by the sale or transfer of property shall be reestablished consistent with this Rule.

1 ~~(g)(m) The requirements of Paragraphs (d), (e) and (f) of this Rule are not applicable to~~For ground adsorption sewage
2 treatment and disposal systems serving four or fewer single family dwellings or multiunit dwellings of four or fewer
3 ~~units.~~units regulated under 15A NCAC 02T .0600, the requirements of Paragraphs (j) and (k) of this Rule shall not be
4 applicable.

5 ~~(h) The boundary shall form a vertical plane extending from the water table to the maximum depth of saturation.~~

6 ~~(+)(n)~~ For ground absorption sewage treatment and disposal systems which are ~~permitted~~regulated under 15A NCAC
7 02T .0600, 18A .1900, the compliance boundary shall be established at the property boundary.

8 ~~(+)(o)~~ Penalties authorized pursuant to G.S. 143-215.6A(a)(1) ~~will~~shall not be assessed for violations of the standards
9 within a compliance boundary zone unless the violations are the result of violations of permit conditions or negligence
10 in the management of the facility.

11 ~~(k) The Director shall require:~~

12 ~~(1) that permits for all activities governed by G.S. 143-215.1 be written to protect the quality of~~
13 ~~groundwater established by applicable standards, at the compliance boundary;~~

14 ~~(2) that necessary groundwater quality monitoring shall be conducted within the compliance boundary;~~
15 ~~and~~

16 ~~(3) that a violation of standards within the compliance boundary resulting from activities conducted by~~
17 ~~the permitted facility be remedied through clean up, recovery, containment, or other response when~~
18 ~~any of the following conditions occur:~~

19 ~~(A) a violation of any standard in adjoining classified groundwaters occurs or can be reasonably~~
20 ~~predicted to occur considering hydrogeologic conditions, modeling, or other available~~
21 ~~evidence;~~

22 ~~(B) an imminent hazard or threat to the public health or safety exists; or~~

23 ~~(C) a violation of any standard in groundwater occurring in the bedrock other than limestones~~
24 ~~found in the Coastal Plain sediments, unless it can be demonstrated that the violation will~~
25 ~~not adversely affect, or have the potential to adversely affect a water supply well.~~

26 (p) The Director shall require that permits for all activities governed by G.S. 143-215.1 be written in such a way to
27 protect groundwater at or beyond the compliance boundary.

28 (q) The Director shall require that exceedances of the standards resulting from activities conducted by the permitted
29 facility within the compliance zone be remedied through clean-up, recovery, containment, facility design, or
30 operational control if any of the following occur:

31 (1) A violation of the standards occurs or is predicted to occur through groundwater modeling in
32 groundwater at or beyond the compliance boundary as a result of the permitted activities.

33 (2) A violation of the surface water standards established under 15A NCAC 02B .0200 occurs or is
34 predicted to occur through modeling as a result of the permitted activities.

35 (3) An imminent hazard as defined in G.S.130A-2 exists.

1 (4) An exceedance of the standards occurs in bedrock within the compliance boundary as a result of the
2 permitted activities unless it can be demonstrated that the violation will not adversely affect any
3 receptor.

4
5 *History Note: Authority G.S. ~~143-215.1(b); 143-215.1~~; 143-215.3(a)(1); -143B-282;*
6 *Eff. August 1, 1989;*
7 *Amended Eff. October 1, 1993; November 2, 1992.*

8
9 **15A NCAC 02L .0108 REVIEW BOUNDARY**

10 A review boundary is established around any waste disposal ~~system area~~ midway between the compliance boundary
11 and the waste boundary. When the concentration of any substance equals or exceeds the standard at the review
12 boundary as determined by monitoring, the permittee shall be required to take action in accordance with the provisions
13 of Rule ~~.0106(e)(2)(A)~~, 0106(d) of this ~~Subchapter~~. Section.

14
15 *History Note: Authority G.S. 143-215.1(b); 143-215.3(a)(1); 143B-282;*
16 *Eff. August 1, 1989.*

17
18 **15A NCAC 02L .0109 DELEGATION**

19 (a) The Director is delegated the authority to enter into consent special orders under G.S. 143-215.2 for violations of
20 the standards except when a public meeting is required as provided in 15A NCAC ~~2H02H~~ .1203.

21 (b) The Director is delegated the authority to prepare a proposed special order to be issued by the Commission without
22 the consent of the person affected and to notify the affected person of that proposed order and of the procedure set out
23 in G.S. 150B-23 to contest the proposed special order.

24 (c) The ~~Director, or his designee~~ Director shall give public notice of proposed consent special orders as specified in
25 15A NCAC ~~2H02H~~ .1203.

26
27 *History Note: Authority G.S. 143-215.2; 143-215.3(a)(1); 143-215.3(a)(4);*
28 *Eff. August 1, 1989;*
29 *Amended Eff. October 1, 1993; October 1, 1990.*

30
31 **15A NCAC 02L .0110 MONITORING**

32 (a) Except where exempted by statute or this Subchapter, the Director may require any person who causes, ~~permits~~
33 permits, or has control over any discharge of ~~waste, waste~~ or ~~groundwater~~ cleanup program, ~~shall install and to~~
34 implement a monitoring program ~~system, at such locations, and~~ in such ~~detail, detail~~ as ~~the Director, or his designee~~
35 may require ~~required~~ to evaluate the effects of the discharge upon the environment or waters of the ~~state, State,~~
36 including the effect of any actions taken to restore groundwater quality, as well as the efficiency of any treatment
37 facility. The Director shall consider information including the geologic and hydrogeologic conditions, potential
38 receptors, and risks to public health and the environment in determining the nature and extent of any required
39 monitoring program. The monitoring program plan shall be prepared under the ~~responsible~~ charge of a Professional

1 ~~professional Engineer-engineer or Licensed-licensed Geologist-geologist~~ and bear the seal of the ~~same-same if required~~
2 ~~under G.S. 89C or G.S. 89E.~~

3 (b) Monitoring systems ~~within the monitoring program~~ shall be constructed ~~and operated~~ in a manner that will not
4 result in the contamination of ~~adjacent groundwaters of a higher quality-waters of the State.~~

5 ~~(c) The Director may require modification of a monitoring program or system or require additional monitoring of a~~
6 ~~contaminant or constituent of interest if it is determined to be in the best interest to public health and the environment.~~

7 ~~(d) Monitoring systems within the monitoring program shall be able to:~~

8 ~~(1) Track the migration, degradation, and attenuation of contaminants and contaminant by-products~~
9 ~~within a source area and within and down gradient of a contaminant plume.~~

10 ~~(2) Detect contaminants and contaminant by-products prior to their reaching any potential receptor.~~

11 ~~(3) Detect if a groundwater contaminant plume is causing or contributing to exceedances of the surface~~
12 ~~water standards established under 15A NCAC 02B .0200.~~

13 ~~(e) Monitoring shall be conducted and results reported in a manner and at a frequency specified by the Director,~~
14 ~~or his designee-Director based on information including the geologic and hydrogeologic conditions, potential~~
15 ~~receptors, and risks to public health and the environment.~~

16 ~~(f) Monitoring programs shall remain in effect until it is demonstrated that the contaminant concentrations resulting~~
17 ~~from site activities or actions have been reduced to a level at or below the standards for a minimum of four consecutive~~
18 ~~quarters with monitoring events spaced at least three months apart. The Director may require an extension of~~
19 ~~monitoring if the Director determines that concentrations are fluctuating at or near the standards or the data trends~~
20 ~~suggest that concentrations may be increasing. Once the Director is satisfied that the standards have been met or that~~
21 ~~corrective action is no longer necessary to ensure compliance with the Rules of this Subchapter, the Director shall~~
22 ~~furnish a letter stating that no further action is required. The Director shall also require a plan be submitted for~~
23 ~~maintaining or abandoning the monitoring wells in accordance with 15A NCAC 02C .0100.~~

24
25 *History Note: Authority G.S. 143-215.1(b); 143-215.3(a)(1); 143-215.65; 143-215.66; 143B-282;*
26 *Eff. August 1, 1989;*
27 *Amended Eff. October 1, 1993.*

28 29 **15A NCAC 02L .0111 REPORTS**

30 (a) Any person subject to the requirements ~~for corrective action specified in Rule .0106 of this Section-Subchapter~~
31 ~~shall submit to the Director, in such detail as the Director may require, a written report that describes plans or reports~~
32 ~~including those associated with initial response, site assessment, and corrective action. Reports shall be submitted in~~
33 ~~accordance with a schedule established by the Director. In establishing a schedule, the Director shall consider a~~
34 ~~proposal by the person submitting the plan or report.~~

35 ~~(1) the results of the investigation specified in Paragraphs (c) and (d) of Rule .0106 of this Section,~~
36 ~~including but not limited to:~~

37 ~~(A) a description of the sampling procedures followed and methods of chemical analyses used;~~
38 ~~and~~

- 1 ~~(B) — all technical data utilized in support of any conclusions drawn or determinations made.~~
2 ~~(2) — the results of the predictive calculations or modeling, including a copy of the calculations or model~~
3 ~~runs and all supporting technical data, used in the demonstration required in Paragraph (d) of Rule~~
4 ~~.0106 of this Section; and~~
5 ~~(3) — the proposed methodology and timetable associated with the corrective action for those situations~~
6 ~~identified in Paragraphs (c) and (d) of Rule .0106 of this Section.~~

7 ~~(b) The report shall be prepared under the responsible charge of a Professional Engineer or Licensed Geologist and~~
8 ~~bear the seal of the same as specified in Rule .0106(d) of this Section.~~

9 (b) A site assessment conducted pursuant to the requirements of Paragraphs (c) or (e) in Rule .0106 of this Section
10 shall include:

- 11 (1) a description of the site including current and historical operations at the facility and all current and
12 historical waste streams;
13 (2) the source and cause of contamination;
14 (3) any imminent hazards to public health and any actions taken to mitigate them;
15 (4) a description of the initial response actions taken in accordance with Rule .0106(f) of this Section.
16 (5) all potential receptors and expected exposure pathways;
17 (6) the horizontal and vertical extent of soil and groundwater contamination and all significant factors
18 affecting contaminant transport;
19 (7) background threshold values for affected media;
20 (8) geological and hydrogeological features influencing the movement, chemical, and physical
21 character of the contaminants;
22 (9) the nature and extent of any surface water or sediment contamination resulting from interactions
23 with contaminated soil or groundwater;
24 (10) a description of the sampling procedures followed, and methods of chemical analyses used;
25 (11) all technical data utilized in support of any interpretations, conclusions, determinations, or
26 evaluations made; and
27 (12) the results of predictive calculations or modeling, including a copy of the calculations or model runs
28 and all supporting technical data.

29 (c) Corrective action plans submitted pursuant to Paragraphs (c) or (e) in Rule .0106 of this Section for active
30 remediation shall include:

- 31 (1) a summary of the results of the site assessment submitted in accordance with Paragraph (b) of this
32 Rule;
33 (2) the technical basis for the requested corrective action;
34 (3) an evaluation of risk to receptors within the contaminant plume and in areas where the plume is
35 predicted to migrate through modeling;
36 (4) an evaluation of projected groundwater use within 1,500 feet of the predicted impacted area based
37 on current State or local government planning efforts;

1 (5) a summary of the available technology that could feasibly be used as a potential remedial strategy
2 based on the specific site conditions and nature and extent of the contamination that includes the
3 predicted time to return to compliance with the standards and the estimated costs to implement each
4 potential strategy;

5 (6) the proposed remedial technology that the person proposes to implement that includes:

6 (A) the rationale for selecting the proposed technology;

7 (B) plans and specifications, including engineering details;

8 (C) a schedule for implementation and operation of the technology;

9 (D) the predicted time to return to compliance with the standards;

10 (E) the estimated costs to implement and operate the technology;

11 (D) a monitoring plan that evaluates the effectiveness of the technology; and

12 (E) the results of any modeling that shows the projected movement of the contaminant plume
13 until the predicted time to return to compliance with the standards;

14 (7) all technical data utilized in support of any interpretations, conclusions, determinations, or
15 evaluations made; and

16 (8) the results of predictive calculations or modeling, including a copy of the calculations or model runs
17 and all supporting technical data.

18 (d) Corrective action plans submitted pursuant to Paragraphs (c) or (e) in Rule .0106 of this Section for natural
19 attenuation shall include all of the information required in Paragraph (c) of this Rule and demonstrate that:

20 (1) all sources of contamination and free product have been removed or controlled pursuant to Rule
21 .0106(f) of this Section;

22 (2) the contaminant has the capacity to degrade or attenuate under the site-specific conditions;

23 (3) the time and direction of contaminant travel can be predicted based on subsurface conditions and
24 the contaminant's physical and chemical properties;

25 (4) contaminant migration will not result in any violation of applicable standards at any existing or
26 potential receptor;

27 (5) contaminants have not and will not migrate onto adjacent properties, or that:

28 (A) such properties are served by an existing public water supply system dependent on surface
29 waters or hydraulically isolated groundwater; or

30 (B) the owners of such properties have consented in writing to the request;

31 (6) if the contaminant plume is expected to intercept surface waters, the groundwater discharge will not
32 possess contaminant concentrations that would result in violations of the surface water standards
33 established under 15A NCAC 02B .0200;

34 (7) the person making the request will put in place a groundwater monitoring program in conformance
35 with Rule .0110 of this Section;

36 (8) all necessary access agreements needed to monitor groundwater quality have been or can be
37 obtained;

1 (9) public notice of the request has been provided in accordance with Rule .0114(b) of this Section; and

2 (10) the proposed corrective action plan would be consistent with all other environmental laws.

3 (e) All reports and plans shall be prepared under the charge of a professional engineer, licensed soil scientist, or
4 licensed geologist if required under G.S. 89C, G.S. 89E, or G.S. 89F.

5
6 *History Note: Authority G.S. 143-215.1(b); 143-215.3(a)(1); 143-215.65; 143B-282;*
7 *Eff. August 1, 1989;*
8 *Amended Eff. October 1, 1993.*

9
10 **15A NCAC 02L .0112 ANALYTICAL PROCEDURES**

11 Tests or analytical procedures to determine compliance or noncompliance with the standards established in Rule .0202
12 of this Subchapter ~~will~~ shall be in accordance ~~with~~ with 15A NCAC 02H .0805(a)(1).

13 ~~(1) The most sensitive of the following methods or procedures for substances where the standard is at~~
14 ~~or above the method detection limit value:~~

15 ~~(a) The most recent version of Standard Methods for the Examination of Water and~~
16 ~~Wastewater, published jointly by American Public Health Association, American Water~~
17 ~~Works Association and Water Pollution Control Federation;~~

18 ~~(b) Methods for Chemical Analysis of Water and Waste, 1979, U.S. Environmental Protection~~
19 ~~Agency publication number EPA-600/4-79-020, as revised March 1983;~~

20 ~~(c) Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods, 3rd Edition, 1986,~~
21 ~~U.S. Environmental Protection Agency publication number SW-846;~~

22 ~~(d) Test Procedures for the Analysis of Pollutants Under the Clean Water Act, Federal Register~~
23 ~~Vol. 49, No. 209, 40 CFR Part 136, October 26, 1984;~~

24 ~~(e) Methods or procedures approved by letter from the Director upon application by the~~
25 ~~regulated source; or~~

26 ~~(2) A method or procedure approved by the Director for substances where the standard is less than the~~
27 ~~method detection limit value.~~

28
29 *History Note: Authority G.S. 143-215.3(a)(1); 143B-282;*
30 *Eff. August 1, 1989;*
31 *Amended Eff. October 1, 1993.*

32
33 **15A NCAC 02L .0113 VARIANCE**

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

36 (b) Requests for variances are ~~filed by letter from~~ submitted by the applicant to the Environmental Management
37 Commission. The application shall be ~~mailed~~ submitted in writing to the chairman of the Commission in care of the
38 Director, Division of Environmental Management, Post Office Box 29535, Raleigh, N.C. 27626-0535, Director.

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

- 1 (1) Applications filed by counties or municipalities ~~must~~shall include a resolution of the County Board
2 of Commissioners or the governing board of the municipality requesting the variance.
- 3 (2) A description of the past, ~~existing~~existing, or proposed activities or operations that have or would
4 result in a discharge of contaminants to the groundwaters.
- 5 (3) Description of the proposed area for which a variance is requested. A ~~detailed~~ location ~~map~~map
6 showing the orientation of the facility, potential for groundwater contaminant migration, as well as
7 the area covered by the variance request, with reference to at least two geographic references
8 including (numbered)numbered roads, named streams/rivers, etc.)etc. mustshall be included.
- 9 (4) Supporting information to establish that the variance will not endanger the public ~~health and~~
10 ~~safety~~health, including health and environmental effects from exposure to groundwater
11 contaminants. (~~Location~~Location of wells and other water supply sources including details of well
12 construction, if known, within 1/2 mile of site ~~must~~shall be shown on a ~~map~~map.
- 13 (5) Supporting information to establish that requirements of this Rule cannot be achieved by providing
14 the best available technology economically reasonable. This information ~~must~~shall identify specific
15 technology considered, ~~and~~ the costs of implementing the ~~technology~~technology, and the impact of
16 the costs on the applicant.
- 17 (6) Supporting information to establish that compliance would produce serious financial hardship on
18 the applicant.
- 19 (7) Supporting information that compliance would produce serious financial hardship without equal or
20 greater public benefit.
- 21 (8) A copy of any Special Order that was issued in connection with contaminants in the proposed area
22 and supporting information that applicant has complied with the Special Order.
- 23 (9) A list of the names and addresses of any property owners within the proposed area of the ~~variance~~
24 variance, as well as ~~any~~ property owners adjacent to the site covered by the variance.
- 25 (d) Upon receipt of the application, the Director ~~will~~shall review it for completeness and request additional
26 information if ~~necessary~~incomplete. When the application is complete, the Director shall give public notice of the
27 application and schedule the matter for a public hearing in accordance with G.S. 143-215.4(b) and the procedures set
28 out in Paragraph (e) of this Rule.
- 29 (e) Notice of Public Hearing:
- 30 (1) Notice of public hearing on any variance application shall be circulated in the geographical areas of
31 the proposed ~~variance~~variance. ~~by the Director at~~At least ~~30~~20 days prior to the date of the
32 ~~hearing~~hearing, the Director shall:
- 33 (A) ~~by publishing~~publish the notice one time in a newspaper having general circulation in said
34 county;
- 35 (B) ~~by mailings~~submit the notice to the North Carolina Department of ~~Environment, Health,~~
36 ~~and Natural Resources, Health and Human Services, Division of~~ Environmental Health
37 Section and appropriate local ~~health agency~~health director;

- 1 (C) ~~by mailings~~submit the notice to any other federal, state or local agency upon request;
- 2 (D) ~~by mailings~~submit the notice to the local governmental unit or units having jurisdiction over
- 3 the geographic area covered by the variance;
- 4 (E) ~~by mailings~~submit the notice to any property owner within the proposed area of the
- 5 variance, as well as any property owners adjacent to the site covered by the ~~variance;~~
- 6 ~~and variance;~~
- 7 (F) ~~by mailings~~submit the notice to any person or group upon ~~request; request; and~~
- 8 ~~(G) _____~~ post the notice on the Department website.

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

- 10 (A) ~~name; name,~~ address, and phone number of agency holding the public hearing;
- 11 (B) ~~name - name~~ and address of each applicant whose application will be considered at the
- 12 meeting;
- 13 (C) a brief summary of the variance request;
- 14 (D) a geographic description of a proposed area for which a variance is requested;
- 15 (E) a brief description of activities or operations which have or will result in the discharge of
- 16 contaminants to the ~~groundwaters-~~waters of the State described in the variance application;
- 17 (F) a brief reference to the public notice issued for each variance application;
- 18 (G) information regarding the time and location for the hearing;
- 19 (H) the purpose of the hearing;
- 20 (I) the address and phone number of premises at which interested persons may obtain further
- 21 information, request a copy of each application, and inspect and copy forms and related
- 22 documents; and
- 23 (J) a brief description of the nature of the hearing including the rules and procedures to be
- 24 followed. The notice shall also state that additional information is on file with the Director
- 25 and may be inspected at any time during normal working hours. Copies of the information
- 26 on file will be made available upon request and payment of cost or reproduction.

27 (f) All comments received within 30 days following the date of ~~the public hearing~~publication in the newspaper in Part

28 (e)(1)(a) of this Rule shall be made part of the application file and shall be considered by the Commission prior to

29 taking final action on the application.

30 (g) In determining whether to grant a variance, the Commission shall consider whether the applicant has complied

31 with any Special ~~Order; Order~~ or Special Order by Consent issued under G.S. 143-215.2.

32 (h) If the Commission's final decision is unacceptable, the applicant may file a petition for a contested case in

33 accordance with Chapter 150B of the General Statutes. If the petition is not filed within 60 days, the decision on the

34 variance shall be final and binding.

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

36 other cause of action.

37 *History Note: Authority G.S. 143-215.3(a)(1); 143-215.3(a)(3); 143-215.3(a)(4); 143-215.3(e); 143-215.4;*

1 *Eff. August 1, 1989;*
2 *Amended Eff. October 1, 1993.*

3
4 **15A NCAC 02L .0114 NOTIFICATION REQUIREMENTS**

5 (a) Any person subject to the requirements of Rule .0106(c) or (e) of this Section shall submit to the local ~~Health~~
6 ~~health Director,director~~ and the chief administrative officer of the ~~political~~-jurisdictions in which the groundwater
7 contamination has occurred, a ~~report that describes:~~

8 ~~(1) — The area extent of the contaminant plume;~~

9 ~~(2) — The chemical constituents in the groundwater which exceed the standards described in Rule .0202 of this~~
10 ~~Subchapter;~~

11 ~~(3) — Actions taken and intended to mitigate threats to human health;~~

12 ~~(4) — The location of any wells installed for the purpose of monitoring the contaminant plume and the frequency~~
13 ~~of sampling.~~

14 ~~The report described in this Rule shall be submitted no later than five working days after submittal of the completed~~
15 ~~copy of the site assessment report assessing the cause, significance and extent of the violation as required by Rule~~
16 ~~.0106(e)-.0111(b) of this Section.~~

17 (b) Any person who submits a request under Rule ~~.0106(k), (l), or (m).~~0106(g) or (h) of this Section shall notify the
18 local ~~Health Director~~health director and the chief administrative officer of the ~~political~~-jurisdictions in which the
19 contaminant plume occurs, and all property owners and occupants within or contiguous to the area underlain by the
20 contaminant plume, and under the areas where it is expected to migrate, ~~of the nature~~a summary of the request and
21 reasons supporting it. Notification shall be made by certified mail concurrent with the submittal of the request to the
22 Director. A final decision by the Director shall be postponed for a period of 30 days following receipt of the request
23 so that the Director may consider comments submitted by individuals interested in the request.

24 (c) Any person whose request under Rule ~~.0106(k), (l), or (m).~~0106(g) or (h) of this Section is granted by the Director
25 shall notify parties specified in Paragraph (b) of this Rule of the Director's ~~decision.~~decision and a summary of the
26 actions to be taken. Notification shall be made by certified mail within 30 days of receipt of the Director's decision.

27
28 *History Note: Authority G.S. 143-214.1; 143-215.3(a)(1); 143B-282(2)b;*
29 *Eff. October 1, 1993.*

30
31 **15A NCAC 02L .0115 RISK-BASED ASSESSMENT AND CORRECTIVE ACTION FOR PETROLEUM**
32 **UNDERGROUND STORAGE TANKS**

33
34 *History Note: Authority G.S. 143-215.2; 143-215.3(a)(1); 143-215.94A; 143-215.94E; 143-215.94T; 143-*
35 *215.94V; 143B-282; 1995 (Reg. Sess. 1996) c. 648,s. 1;*
36 *Temporary Adoption Eff. January 2, 1998;*
37 *Eff. October 29, 1998;*
38 *Recodified to 15A NCAC 02L .0400 Eff. December 1, 2005.*