

May 2, 1992

5/2/92-03526

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NORTH CAROLINA'S GROUNDWATER
QUALITY STANDARDS

by

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* Note: Although Departmental personnel were used as sources for certain sections of this article, the views and opinions presented are those of the author and not necessarily those of the North Carolina Department of Environment, Health and Natural Resources, or of the of the Attorney General's Office.

NORTH CAROLINA'S GROUNDWATER QUALITY STANDARDS

I. INTRODUCTION

Pursuant to N.C.G.S. (G.S.) 143-214 and G.S. 143B-282(2), the North Carolina Environmental Management Commission (EMC) has been authorized to adopt classifications and accompanying standards for the waters of the State in such a way as to promote the policy and purposes of North Carolina's Water and Air Resources laws contained in Article 21 of Chapter 143 of the General Statutes. The term "waters" is defined at G.S. 143-212(6) to include any "accumulation of water, whether surface or underground." (Emphasis added). Therefore any references to water in Article 21 would apply to groundwater as well as surface water. In adopting classifications and standards for groundwater the EMC was required to consider certain factors including:

"the natural quality of the water below land surface and the condition of occurrences, recharge, movement and discharge, the vulnerability to pollution from wastewaters and other substances, and the potential for improvement of the quality and quantity of the water." G.S. 143-214.1(d)(5).

The EMC's classifications and standards for the State's groundwaters have been adopted by rule at Section .0200, Subchapter 2L of Title 15A, North Carolina Administrative

Code (NCAC). Section .0300 of Subchapter 2L contains the EMC's rules assigning classifications to the State's groundwaters. Section .0100 of Subchapter 2L contains the EMC's rules describing groundwater policy, applicability, corrective action, compliance boundaries, and variances.

Currently the Groundwater Section of the Division of Environmental Management (DEM), Department of Environment, Health and Natural Resources (DEHNR) administers and enforces the State's statutes and rules pertaining to groundwater. The Groundwater Section's Pollution Control Branch documents pollution incidents and administers the State's leaking underground storage tank (UST) cleanup reimbursement funds as well as federal grant monies used for State UST cleanups. The Section's Operations Branch is responsible for administration of the State's well construction program, enforcement of all groundwater related statutory and rule violations, and review and issuance of certain waste disposal or treatment permits. The Groundwater Section also provides staff for the EMC's Groundwater Committee.

This article will not attempt to address all the various programs related to groundwater protection in North Carolina. They are numerous indeed and include well construction, underground storage tanks and waste disposal permitting. Rather this Article will serve as a brief outline of the EMC's existing rules on groundwater classifications and standards and the management practices designed to protect groundwater and remediate any contamination. Many thanks go to DEM's Groundwater Section, whose personnel served as a source for certain portions of this article.

II. POLICY: PREVENTION AND RESTORATION

One question often asked with regard to the levels of the standards is why are some of the standards more stringent than the EPA's drinking water standards? Inevitably this question is asked by a person whose activity caused some of the standards to be exceeded and who is faced with undertaking corrective action. To explore this, a brief historical perspective of the development of groundwater strategy in North Carolina is offered.

During the 1960's and early 1970's, interest in groundwater focused on the study of existing resources and any natural influences that might affect these. Groundwater in North Carolina had basically one use and that was for drinking water. Therefore these studies were constantly used to develop and protect groundwater as a drinking water

resource. Consequently, when the standards were adopted by the EMC in 1979, they were designed to be preventive standards and represented the EMC's position on the maximum amount of degradation that would expose groundwater users to an unacceptable risk. To have adopted the drinking water regulations would have allowed degradation up to the limit for potable waters. Any additional degradation would then render the groundwater unsuitable for its best usage. Since the EMC adopted a policy that the best usage of groundwater was for drinking without further treatment, corrective action for restoration to the level of the standards has been required in the event of contamination. 15A NCAC 2L .0103(a) and -.0106(a).

The EMC has adopted six criteria for establishing the particular standards for substances in groundwater. (See 15A NCAC 2L .0202(d)). Included in these criteria (the lesser of which will establish what a standard will be), is a substance's concentration which corresponds to an incremental lifetime cancer risk of 1×10^{-6} . Consequently, some of the State's groundwater standards are more stringent than the EPA's maximum contaminant levels (MCLs) for drinking water from public water systems. MCLs are defined in the EPA's primary drinking water regulations as the maximum permissible levels of contaminants in the water of any user of a public system. Title 40, Code of Federal Regulations (CFR), Part 141, Section 2. Therefore to allow contamination to occur in a concentration up to just 1 microgram per liter (1 part per billion) below the drinking water MCL for benzene is definitely not a range of comfort suitable to the EMC for preserving and protecting the State's groundwaters for human drinking. Note however that the EPA's drinking water maximum contaminant level goal (MCLG)² for benzene is "0". 40 CFR 141.50(a).

The policy and goals of the EMC's groundwater rules therefore are prevention of any exceedances of the standards. And when polluted, the groundwater shall be restored to the level of the standards. 15A NCAC 2L .0103.

²"Maximum contaminant level goal" is defined at 40 CFR 141.2 as the "maximum level of a contaminant in drinking water at which no known or anticipated adverse effect on the health of persons would occur, and which allows an adequate margin of safety. MCLG's are nonenforcable health goals."

III. APPLICABILITY: RESPONSIBLE PARTIES AND ACTIVITIES

Although the EMC's stated policy with regard to the State's groundwaters is defined in rule 15A NCAC 2L .0103, a statement on applicability is contained in the rule citing the EMC's authority to adopt the standards and classifications. 15A NCAC 2L .0101(b) states:

"These rules are applicable to all activities or actions, intentional or accidental, which contribute to the degradation of groundwater quality, regardless of any permit issued by a governmental agency authorizing such action or activity except an innocent landowner who is a bona fide purchaser of property which contains a source of groundwater contamination, who purchased such property without knowledge or a reasonable basis for knowing that groundwater contamination had occurred, or a person whose interest or ownership in the property is based or derived from a security interest in the property, shall not be considered a responsible party."

It should be noted that the EMC's rules do not define "activities or actions" or "source". However DEM's Groundwater Section has interpreted the term "source" broadly. Included would be any "nonpoint" sources as well as "point sources". ("Point source" is defined in Article 21 at G.S. 143-213(24)). Interpretive guidance on determining an activity or a source may also be discerned from G.S. 143-215.1(a)(6) which prohibits without a permit any activities which:

"Cause or permit any waste, directly or indirectly, to be discharged to or in any manner intermixed with the waters of the State in violation of the water quality standards applicable to the assigned classifications or in violation of any effluent standards or limitations established for any point source, unless allowed as a condition of any permit, special order or other appropriate instrument issued or entered into by the Commission under the provisions of this Article;" (Emphasis Added). (See G.S. 143-213(18) for the broad definition of

"waste" as it applies to Article 21 of Chapter 143).

Other sections of the EMC's rules describe violations and remedial action for certain "activities" as follows:

"No person shall conduct or cause to be conducted, any activity which causes the concentration of any substances to exceed that specified in Rule .0202 of this Subchapter, except as authorized by the rules of this Subchapter." 15 NCAC 2L .0103(d).

and

"Any person conducting or controlling an activity ..." (applying to corrective action). 15A NCAC 2L .0106(b) and (c).

"Person" is defined in Article 21 at G.S. 143-212(4). And notwithstanding the EMC's rule definitions of "owner" and "operator" of underground storage tanks at 15A NCAC 2N .0203, a person "controlling" the existence of an underground storage tank leaking into the State's groundwaters is controlling an activity for which the EMC's groundwater rules would apply.

The term "activity" may also be interpreted liberally as applying to the control of property which is itself a source of groundwater contamination. In U.S. v. Waste Industries, Inc., 734 F.2d 159 (1984), the Fourth Circuit reversed the district court's Rule 12(b)(6) dismissal against the defendants, including landowners, and ruled that "active human conduct" is not required for liability to incur under Section 7003 of the Resource Conservation and Recovery Act (RCRA) due to the "leaking" of waste from a landfill. Waste Industries interprets the definition of "disposal" in RCRA at 42 USC 6903(3) to include such "leaking". In another RCRA case, a federal district court held that owners of contaminated property (who purchased long after any active disposal of waste had ceased) were "contributing to the disposal (i.e., leaking) of wastes merely by virtue of their studied indifference to the hazardous conditions that now exist." (Emphasis added). U.S. v. Price, 523 F. Supp. 1055, 1073 (1981), aff'd, 688 F.2d 204 (1982).

The North Carolina Supreme Court has ruled that the act of contaminants "leaching" into underlying groundwater from a contaminated site, separate from the actual activities of

also see
NORAD, Inc. v. Horner
1992 WL 1136014 (CA-1)

dumping, in itself constitutes an "occurrence" for purposes of liability insurance coverage. Waste Management of Carolinas, Inc. v. Peerless Insurance Company, 315 N.C. 688, 340 S.E.2d 374 (1986). And the act of waste "leaching" into soil or groundwater is considered a "release" for purposes of liability under Section 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (42 USC 9607). U.S. v. Wade, 577 F. Supp. 1326, 1334 (E.D.Pa. 1983). (See CERCLA definition of "release" at 42 USC 9601(22)). Landowner liability for contributing to or controlling a preexisting source of pollution to groundwater is not a recent development. In an action brought under RCRA and the Clean Water Act (CWA), 33 USC 1251, et seq., the defendant landowner was required to take measures to abate the leaching of dioxin from its site into groundwater and nearby surface water even though the dioxin was present in the soils long before the defendant purchased the site, and even though defendant had not engaged in any activity which produced dioxin. U.S. v. Vertac Chemical Corp., 489 F. Supp. 870 (E.D. Ark. 1980).

Notwithstanding a person's violation of any other rules of the EMC, including those adopted for underground storage tanks pursuant to G.S. 143-215.3(a)(15), or for violations of the Oil Pollution and Hazardous Substances Control Act of 1978, G.S. 143-215.75, et seq., DEM's Groundwater Section may concurrently seek enforcement for violations of the EMC's groundwater standards and corrective action rules. (See G.S. 143-215.81). Enforcement procedures are defined at G.S. 143-215.6A, - 215.6B, and -215.6C.

IV. STANDARDS AND CLASSIFICATIONS

A. Underground Water Classifications

1. Assignment. The classifications that may be assigned to the groundwaters of North Carolina consist of three separate classes, Class GA, Class GSA, and Class GC. 15A NCAC 2L .0201. Each of these classes are characterized by quality, occurrence, and existing or contemplated best usage. 15A NCAC 2L .0201, -.0301.

Class GA and GSA waters both occur in the saturated zone which is defined as existing below the water table and in which all interconnected subsurface voids are filled with water under pressure at or greater than atmospheric. 15A NCAC 2L .0102(13). The best usage for both Class GA and Class GSA waters is for drinking. Class GA waters are intended for drinking in their natural

state without treatment while Class GSA waters may require some treatment to reduce concentrations of naturally occurring substances. Although both GA and GSA waters may require limited treatment for naturally occurring substances, the only significant differences are the concentrations for chloride and total dissolved solids (typically a function of chloride). Chloride concentrations in Class GA waters are equal to or less than 250 milligrams per liter (mg/l), while in Class GSA waters chloride naturally occurs in concentrations greater than 250 mg/l. 15A NCAC 2L .0201 (1) and (2), -.0302(1) and (2).

Class GC waters include groundwaters containing substances exceeding the standards for Class GA and Class GSA waters, and for which restoration efforts would not be technologically feasible or not in the best interest of the public. Class GC waters occur in the saturated zone as determined by the Director of DEM and are to be used as a water supply for purposes other than drinking. 15A NCAC 2L .0201(3). Class GC groundwaters are to be assigned by the EMC according to major river basins as set out in 15A NCAC 2L .0303 through .0318. However as of the date of this article, no groundwaters have been classified GC.

2. Reclassification. Groundwater may be reclassified to a higher or lower classification by action of the Commission upon petitioning the Director of DEM and after public hearing. 15A NCAC 2L .0319. As previously discussed, Class GC is to be assigned to those groundwaters for which efforts to restore to the standards of Class GA or Class GSA would not be technologically feasible or in the best interest of the public. 15A NCAC 2L .0201(3)(b). Criteria considered by the Director of DEM in authorizing discontinuance of restoration efforts for Class GA and Class GSA waters are discussed in Section VI below.

3. RS Designation. The Director of DEM is authorized to designate certain Class GA or Class GSA groundwaters as "RS" when standards have been exceeded due to man's activities and remedial action has been required, or where a variance has been granted. 15A NCAC 2L .0104(a). Basically the "RS" designation puts the public on notice that those groundwaters contain substances in

excess of the standards for the particular assigned class and may not be suitable for drinking without treatment. The Groundwater Section maintains records for any "RS" designated groundwaters. The designation is temporary and is removed by the Director upon restoration to the applicable standards or upon a reclassification to Class GC. 15A NCAC 2L .0104(b).

B. Underground Water Quality Standards.

The EMC's rules establishing water quality standards for substance concentrations in the State's groundwaters are located at 15A NCAC 2L .0202. As stated in this rule, the standards "are the maximum allowable concentrations resulting from any discharge of contaminants to the land or waters of the state, which may be tolerated without creating a threat to human health or which would otherwise render the groundwater unsuitable for its intended best usage." 15A NCAC 2L .0202(a).

The particular substances for which standards have been established for Class GA and Class GSA groundwaters are listed in paragraphs (g) and (h) of 15A NCAC 2L .202. Standards for Class GC groundwaters are established by procedures outlined in 15A NCAC 2L .202(i). The standard for any naturally occurring substance in the groundwater shall be the concentration at which the substance naturally occurs. 15A NCAC 2L (b)(3). And any substance that is not naturally occurring and for which no standard is specified is not permitted in any detectable concentration in either Class GA or Class GSA groundwaters. However a person may petition the Director of DEM to establish an interim standard for an unspecified substance. The petitioner must demonstrate that the concentration of the substance corresponds to each of the levels of the six criteria used in the rules to establish groundwater standards. Within ninety days of establishing an interim standard, the Director must initiate rule making procedures to formally consider the adoption of the standard. 15A NCAC 2L .0202(c).

The six criteria used to establish groundwater standards in Class GA and Class GSA waters are listed in 15A NCAC 2L .0202(d). The lesser numerical value of any of these criteria will establish the standard. Also listed in order of preference are published references to be used in determining substance concentrations which correspond to the levels of each

of the six criteria. 15A NCAC 2L .0202(e). The standards for Class GA and Class GSA groundwaters, and any interim standards are reviewed by the Groundwater Section on a biennial basis. Any necessary modifications to the standards to insure consistency with the six considered criteria are to be commenced after such reviews. 15A NCAC 2L .0202(f).

The standards for Class GSA waters are the same as those for Class GA except for chloride and total dissolved solids. Chloride is not allowed in a concentration greater than 100 percent of its naturally occurring concentration in the Class GSA groundwater. And total dissolved solids in Class GSA waters are allowed in concentrations twice as great as the standard for Class GA waters. 15A NCAC 2L .0202(h)

At the time of any classification of Class GC waters, the concentration of any substance which exceeds any standard for the previous classification shall be the standard for the Class GC classification. Therefore, no further increases in that substance's concentration are allowed. All other substances in the new Class GC waters retain the established standards for Class GA and Class GSA waters. And the substances which exceed the standards for Class GA or Class GSA waters at the time of reclassification to Class GC, are not allowed to exceed any groundwater or surface water quality standards for any adjoining waters of a different class. 15A NCAC 2L .0202(i).

V. PERMITTED ACTIVITIES

A. "Nondischarge" Permits. Any facility operating a waste "disposal system" or "treatment works" as defined in G.S. 143-213 must do so by permit. G.S. 143-215.1(d) pertains to those facilities "which do not discharge to the surface waters of the state", and therefore would include discharges to the groundwater. Stockpiled contaminated soil, remaining on a site after a reasonable time for removal has passed, is considered a "treatment works" in that it exists "for the purpose of treating, equalizing, neutralizing, stabilizing or disposing of waste." Therefore pursuant to G.S. 143-215.1, such activity would require a permit as described in G.S. 143-215.1(d). "Nondischarge" permits as they are referred to, are typically issued for waste disposal systems or treatment works including land application, spray irrigation systems, and subsurface injection systems. Rules for these permits have been adopted by the EMC at 15A NCAC 2H .0200.

Note however that the discharge of any wastes to the subsurface or groundwaters by means of a well is prohibited by statute in North Carolina. G.S. 143-214.2(b). Also the EMC has stated in its groundwater policy that no disposal system will be permitted which would result in: (1) degradation of groundwater with quality superior to the existing standards unless the system is economically or socially justifiable, or (2) any water quality standard violation beyond the boundaries of the property containing the source of pollution, or (3) impairment of existing uses of the groundwater or adverse impact on the public's health, safety or welfare. 15A NCAC 2L .0103(b).

B. Compliance Boundary.

For permitted waste disposal systems, the EMC has established a surrounding horizontal and vertical perimeter of compliance which basically establishes an area within which water quality standards may be exceeded without the assessment of civil penalties against the permittee unless the result of negligence or violations of the permit conditions. 15A NCAC 2L .0107(a)-(f). For those systems permitted after December 30, 1983, the compliance boundary shall be established 250 feet from the waste boundary, or 50 feet within the boundary of the property containing the source of the waste, whichever point is closer to the source. 15A NCAC 2L .0107(b). "Waste boundary" is defined at 15A NCAC 2L .0102(15).

A review boundary is established at half the distance from the waste boundary to the compliance boundary. Upon a concentration of a substance equalling or exceeding any standard at the review boundary, the permittee must present specific evidence that a violation of the standards at the compliance boundary will not occur. 15A NCAC 2L .0108. The Director is authorized to require any necessary monitoring as a condition of a permit. 15A NCAC 2L .0107(g)(3) and -.0110. Cleanup of the groundwater is necessary within the compliance boundary when a violation of any standard in adjoining classified waters occurs or can reasonably be predicted to occur, or any imminent hazard or threat to public health or safety exists or can be predicted, or a violation of groundwater standards occurs in the underlying bedrock. 15A NCAC 2L .0107(g)(4).

VI. CORRECTIVE ACTION

The EMC's stated goal for any actions required to restore groundwater quality is restoration to the level of the standards as closely as is economically and technologically feasible. 15A NCAC 2L .0106(a). Corrective action by restoration to the standards is therefore consistent with the EMC's policy of protecting and restoring the quality of groundwater to preserve it for human drinking without the necessity of treatment. The groundwater corrective action rule applies to any person "conducting or controlling an activity" resulting in a discharge of waste, hazardous substance, or oil into or in proximity to the State's groundwaters, or resulting in the exceedance of any groundwater standard. 15A NCAC 2L .0106 (b) and (c).

Upon an exceedance of any of the groundwater standards, the person controlling the causing activity must basically perform three remedial steps after notifying DEHNR. First, the source of the discharge must be terminated. DEM's Groundwater Section interprets "source" to include not only any man-made sources or "active" discharges, but also saturated soils and free floating substances from which contaminants may continue to emanate into the groundwater. Second, the extent of the groundwater standard exceedances must be determined. Both the vertical and horizontal extent from a violation's origin must be determined, as well as the rate of flow of the contaminants in the groundwater. Third, a plan approved by DEM for eliminating any remaining source and for restoring groundwater quality to the standards must be implemented. 15A NCAC 2L .0106(b) and (c). In considering remedial action plans, DEM's Director must consider the technology available to restore the groundwater quality as close as economically and technologically feasible to the level of the standards. 15A NCAC 2L .0106(d). Notwithstanding geographical location of the standard exceedances, geological conditions, or the fact that the groundwater is not currently being used for drinking, the EMC's rules require remedial action that will result in significant reductions in the concentration of contaminants using the best available technology economically reasonable. 15A NCAC 2L .0106(d)-(f). (See also: 15A NCAC 2L .0113(c)(5)).

For comparison, the EPA defines "best available technology" (BAT) for treatment of drinking water for public water systems as "the best technology, treatment techniques, or other means which the Administrator finds, after examination for efficacy under field conditions and not solely under laboratory conditions, are available (taking

cost into consideration)." 40 CFR 141.2. It is interesting to note that the EPA identifies either or both the granular activated carbon (GAC) and packed tower aeration (PTA) methods as the BATs for achieving compliance with the drinking water MCLs for benzene, ethlybenzene, toluene, and xylenes. 40 CFR 141.61(b).

Upon demonstrating to DEM's Director that continuance of any remedial action would not result in any further significant reduction in the contaminant concentrations in the groundwater, the Director may authorize discontinuance of remedial action. In making such a decision, the Director must consider the feasibility of other available treatment techniques that would result in further reduction of the levels of the contaminants and the threat to groundwater users if the contaminants remained at the existing levels. 15A NCAC 2L .0106(e). If the Director does authorize such a discontinuance of remedial action, the party responsible for taking the corrective action must petition the EMC for a variance or for reclassification of the affected groundwaters. 15A NCAC 2L .0106(f).

VII. VARIANCES.

G.S. 143-215.3(e) authorizes the Commission to consider requests for variances from the rules or standards established pursuant to G.S. 143-214.1. In order to grant such a variance, the EMC must find that: (1) the contaminants in the groundwater do not endanger human health or safety, and (2) the rules or standards cannot be complied with using the "best available technology found to be economically reasonable" and that compliance "would produce serious hardship without equal or greater benefits to the public." G.S. 143-215.3(e)(1) and (2).

The EMC has established specific criteria and procedures for variances from the groundwater standards at 15A NCAC 2L .0113. Variance requests must go to public hearing in accordance with the procedures in G.S. 143-215.4(b) and 15A NCAC 2L .0113(e).

VIII. ATTACHMENT A.

Subchapter 2L, Title 15A of the Administrative Code.

IX. ATTACHMENT B.

Proposed Amendments To Subchapter 2L.

SUBCHAPTER 2L - GROUNDWATER CLASSIFICATION AND STANDARDS

SECTION .0100 - GENERAL CONSIDERATIONS

.0101 AUTHORIZATION

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

(b) These rules are applicable to all activities or actions, intentional or accidental, which contribute to the degradation of groundwater quality, regardless of any permit issued by a governmental agency authorizing such action or activity except an innocent landowner who is a bona fide purchaser of property which contains a source of groundwater contamination, who purchased such property without knowledge or a reasonable basis for knowing that groundwater contamination had occurred, or a person whose interest or ownership in the property is based or derived from a security interest in the property, shall not be considered a responsible party.

*History Note: Statutory Authority G.S. 143-214.1; 143-214.2; 143-215.3(a)(1); 143B-282;
Eff. June 10, 1979;*

Amended Eff. August 1, 1989; July 1, 1988; September 1, 1984; December 30, 1983.

.0102 DEFINITIONS

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

- (1) "Bedrock" means any consolidated rock encountered in the place in which it was formed or deposited and which cannot be readily excavated without the use of explosives or power equipment.
- (2) "Commission" means the Environmental Management Commission as organized under Chapter 143B of the General Statutes.
- (3) "Compliance boundary" means a boundary around a disposal system at and beyond which water quality standards may not be exceeded and only applies to facilities which have received a permit from the Division of Environmental Management under G.S. 143-215.1, or for disposal systems permitted by the Department of Human Resources.
- (4) "Director" means Director of the Division of Environmental Management.
- (5) "Fresh groundwaters" means those groundwaters having a chloride concentration equal to or less than 250 milligrams per liter.
- (6) "Groundwaters" means those waters in the saturated zone of the earth.
- (7) "Hazardous substance" means any substance as defined by Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).
- (8) "Limit of detectability" means the method detection limit established for the U.S. EPA approved test procedure providing the lowest method detection limit for the substance being monitored.
- (9) "Natural conditions" means the physical, biological, chemical and radiological conditions which occur naturally.
- (10) "Potable waters" means those waters suitable for drinking, by humans.
- (11) "Review boundary" means a boundary around a permitted disposal facility, midway between a waste boundary and a compliance boundary at which groundwater monitoring is required.
- (12) "Saline groundwaters" means those groundwaters having a chloride concentration of more than 250 mg/l.
- (13) "Saturated zone" means that part of the subsurface below the water table in which all the interconnected voids are filled with water under pressure at or greater than atmospheric. It does not include the capillary fringe.
- (14) "Suitable for drinking" means a quality of water which does not contain substances in concentrations which, either singularly or in combination if ingested into the human body, may cause death, disease, behavioral abnormalities, congenital defects, genetic mutations, or result in an incremental lifetime cancer risk in excess of 1×10^{-6} , or render the water unacceptable due to aesthetic qualities, including taste, odor or appearance.

- (15) "Waste boundary" means the perimeter of the permitted waste disposal area.
- (16) "Water table" means the surface of the saturated zone below which all interconnected voids are filled with water and at which the pressure is atmospheric.

*History Note: Statutory Authority G.S. 143-214.1; 143-215(a)(1); 143B-282;
 Eff. June 10, 1979.
 Amended Eff. August 1, 1989; July 1, 1988; March 1, 1985; September 1, 1984.*

.0103 POLICY

(a) The rules established in this Subchapter are intended 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. It is the policy of the Commission that the best usage of the groundwaters of the state is as a source of drinking water. These groundwaters generally are a potable source of drinking water without the necessity of treatment. It is the intent of these Rules to protect the overall high quality of North Carolina's groundwaters and to enhance and restore the quality of degraded groundwaters to the level established by the standards.

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

- (1) the significant degradation of groundwaters of which the existing quality is better than the assigned standard, unless found to be economically and socially justifiable, or
- (2) a violation of a water quality standard beyond the boundaries of the property on which the source of pollution is located, or
- (3) the impairment of existing groundwater uses or an adverse impact on the public health, safety or welfare.

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

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

*History Note: Statutory Authority G.S. 143-214; 143-214.1; 143-214.2; 143-215.3(e);
 143-215.3(a)(1); 143B-282;
 Eff. June 10, 1979;
 Amended Eff. August 1, 1989; July 1, 1988; September 1, 1984; December 30, 1983.*

.0104 RS DESIGNATION

(a) The Director is authorized to designate GA or GSA groundwaters as RS under any of the following circumstances:

- (1) Where, as a result of man's activities, groundwaters contain concentrations of substances in excess of the groundwater quality standards established under this Subchapter, and remedial action to restore groundwater quality has been required, or
- (2) Where a statutory variance has been granted as provided in Rule .0113 of this Subchapter.

(b) The RS designation serves as a warning that groundwater so designated may not be suitable for use as a drinking water supply without treatment. The boundaries of areas designated RS may be approximated in the absence of analytical data sufficient to define the extent of groundwater degradation. The designation is temporary and will be removed by the Director upon a determination that the quality of the groundwater so designated has been restored to the level of the applicable standards or when reclassified GC.

*History Note: Statutory Authority G.S. 143-214.1; 143-215.3(a)(1); 143B-282(2);
 Eff. June 10, 1979;
 Amended Eff. December 1, 1989; August 1, 1989; December 30, 1983.*

.0105 ADOPTION BY REFERENCE

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

.0106 CORRECTIVE ACTION

(a) The goal of actions taken to restore groundwater quality shall be restoration to the level of the standards, or as close thereto as is economically and technologically feasible.

(b) Any person conducting or controlling an activity which results in the discharge of a waste or hazardous substance or oil to the groundwaters of the state, or in proximity thereto, shall take immediate action to terminate and control the discharge, mitigate any hazards resulting from exposure to the pollutants and notify the Department of the discharge.

(c) Any person conducting or controlling an activity which results in an increase in the concentration of a substance in excess of the groundwater standard:

(1) as the result of activities, other than agricultural operations, not permitted by the state, shall assess the cause, significance and extent of the violation; submit a plan for eliminating the source of contamination and for restoration of groundwater quality; and implement the plan in accordance with a Special Order by Consent or a Special Order of the Commission.

(2) as a result of activities conducted under the authority of a permit issued by the state, shall, where such concentrations are detected:

(A) at or beyond a review boundary, demonstrate, through predictive calculations or modeling, that natural site conditions, facility design and operational controls will prevent a violation of standards at the compliance boundary; or submit a plan for alteration of existing site conditions, facility design or operational controls that will prevent a violation at the compliance boundary, and implement that plan upon its approval by the Director.

(B) at or beyond a compliance boundary, shall, assess the cause, significance and extent of the violation of groundwater quality standards and submit the results of the investigation and a plan for groundwater quality restoration to the Director. Upon approval by the Director, the permittee shall implement the plan in accordance with a Special Order by Consent or a Special Order of the Commission.

(d) In the evaluation of remedial action plans, the Director shall consider the extent of any violations, the extent of any threat to human health or safety, the extent of damage to the environment, technology available to accomplish restoration and the public and economic benefits to be derived from groundwater quality restoration.

(e) The Director may authorize the discontinuance of remedial action to restore groundwater quality to the level of the standard upon a demonstration by the responsible party to the Director that continuance would not result in significant reduction in the concentration of contaminants. In the consideration of a request to discontinue remedial actions, the Director shall consider the duration and degree of success of remedial efforts, the feasibility of other treatment techniques which could result in further reduction of contaminant levels, and the effect on groundwater users if contaminants remain at levels existing at the time of termination of remedial action.

(f) Upon a determination by the Director that continued remedial actions would result in no significant reduction in contaminant concentrations, the responsible party shall petition for a variance or a reclassification of the impacted groundwaters.

(g) Where groundwater quality standards are exceeded as a result of the application of pesticides or other agricultural chemicals, the Director shall request the Pesticide Board or the Department of Agriculture to assist the Division of Environmental Management in determining the cause of the violation. If the violation is determined to have resulted from the use of pesticides, the Director shall request the Pesticide Board to take appropriate regulatory action to control the use of the chemical or chemicals responsible for, or contributing to, such violations, or to discontinue their use.

*History Note: Statutory Authority G.S. 143-215.2; 143-215.3(a)(1); 143B-282;
Eff. August 1, 1989.*

.0107 COMPLIANCE BOUNDARY

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

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

(c) The boundary shall be established by the Director at the time of permit issuance. Any sale or transfer of property which affects a compliance boundary shall be reported immediately to the Director and the compliance boundary re-established accordingly.

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

(e) For ground absorption sewage treatment and disposal systems which are permitted under 10 NCAC 10A .1900, the compliance boundary shall be established at the property boundary.

(f) Penalties authorized pursuant to G.S. 143-215.6(a)(1)a. will not be assessed for violations of water quality standards within a compliance boundary unless the result of violations of permit conditions or negligence in the management of the facility.

(g) The Director shall require:

- (1) that permits for all activities governed by G.S. 143-215.1 be written to protect the quality of groundwater established by applicable standards at the compliance boundary;
- (2) that recommendations be made to ensure compliance with the applicable level of standards at the compliance boundary on all permit applications received for review from other state agencies;
- (3) that necessary groundwater quality monitoring shall be conducted within the compliance boundary; and
- (4) that a contravention of standards within the compliance boundary resulting from activities conducted by the permitted facility be remedied through clean-up, recovery, containment, or other response when any of the following conditions occur:
 - (A) a violation of any standard in adjoining classified waters occurs or can be reasonably predicted to occur considering hydrogeologic conditions, modeling, or other available evidence;
 - (B) an imminent hazard or threat to the public health or safety exists or can be predicted; or
 - (C) a violation of any standard in groundwater occurring in the bedrock other than limestones found in the Coastal Plain sediments.

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

.0108 REVIEW BOUNDARY

A review boundary is established around any disposal system midway between the compliance boundary and the waste boundary. When the concentration of any substance equals or exceeds the standard at the review boundary as determined by monitoring, the permittee shall take action in accordance with the provisions of Rule .0106(c)(2)(A) of this Subchapter.

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

.0109 DELEGATION

(a) The Director is delegated the authority to enter into consent special orders under G.S. 143-215.2 for violations of the water quality standards.

(b) The Director is delegated the authority to issue a proposed special order without the consent of the person affected and to notify the affected person of the procedure set out in G.S. 150B-23 to contest the proposed special order.

(c) The Director shall give public notice of proposed special orders and consent special orders.

*History Note: Statutory Authority G.S. 143-215.2; 143-215.3(a)(1); 143-215.3(a)(4);
Eff. August 1, 1989.*

.0110 MONITORING

- (a) Any person subject to the provisions of G.S. 143-215.1 who causes, permits or has control over any discharge of waste, shall install a monitoring system, at such locations, and in such detail, as the Director may require to evaluate the effects of the discharge upon the waters of the state, including the effect of any actions taken to restore groundwater quality, as well as the efficiency of any treatment facility.
- (b) Monitoring systems shall be operated in a manner that will not result in the contamination of adjacent groundwaters of a higher quality.
- (c) Monitoring shall be conducted and results reported in a manner and at a frequency specified by the Director.

History Note: Statutory Authority G.S. 143-215.1(b); 143-215.3(a)(1); 143-215.65; 143-215.66; 143B-282; Eff. August 1, 1989.

.0111 REPORTS

Any person subject to the provisions of G.S. 143-215.1 and to the requirements for corrective action specified in Rule .0106 of this Subchapter shall submit to the Director, in such detail as the Director may require, a written report that describes:

- (1) the results of the investigation specified in Paragraphs (c)(1) and (c)(2)(B) of Rule .0106, including but not limited to:
 - (a) a description of the sampling procedures followed and methods of chemical analyses used; and
 - (b) all technical data utilized in support of any conclusions drawn or determinations made.
- (2) the results of the predictive calculations or modeling, including a copy of the calculations or model runs and all supporting technical data, used in the demonstration required in Paragraph (c)(2)(A) of Rule .0106; and
- (3) the proposed methodology and timetable associated with the restoration of groundwater quality for those situations identified in Paragraphs (c)(1) and (c)(2)(B) of Rule .0106.

History Note: Statutory Authority G.S. 143-215.1(b); 143-215.3(a)(1); 143-215.65; 143B-282; Eff. August 1, 1989.

.0112 ANALYTICAL PROCEDURES

Tests or analytical procedures to determine compliance or noncompliance with the water quality standards established in Rule .0202 of this Subchapter will be in accordance with:

- (1) The following methods or procedures for substances where the selected method or procedure provides a method detection limit value at or less than the standard:
 - (a) Standard methods for the Examination of Water and Wastewater, 16th Edition, 1985, published jointly by American Public Health Association, American Water Works Association and Water Pollution Control Federation;
 - (b) Methods for Chemical Analysis of Water and Waste, 1979, U.S. Environmental Protection Agency publication number EPA-600/4-79-020, as revised March 1983;
 - (c) Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods, 3rd Edition, 1986, U.S. Environmental Protection Agency publication number SW-846;
 - (d) Test Procedures for the Analysis of Pollutants Under the Clean Water Act, Federal Register Vol. 49, No. 209, 40 CFR Part 136, October 26, 1984;
 - (e) Methods or procedures approved by letter from the Director upon application by the regulated source.
- (2) A method or procedure approved by the Director for substances where the standard is less than the limit of detectability.

History Note: Statutory Authority G.S. 143-215.3(a)(1); 143B-282; Eff. August 1, 1989.

.0113 VARIANCE

(a) The Commission, on its own initiative or pursuant to a request under G.S. 143-215.3(e), may grant variances to water quality standards and the compliance boundary. Persons subject to the provisions of G.S. 130A-294 may apply for a variance under this Section.

(b) Requests for variances are filed by letter from the applicant to the Environmental Management Commission. The application should be mailed to the chairman of the Commission in care of the Director, Division of Environmental Management, Post Office Box 27687, Raleigh, N.C. 27611.

(c) The application should contain the following information:

- (1) Applications filed by counties or municipalities must include a resolution of the County Board of Commissioners or the governing board of the municipality requesting the variance from water quality standards which apply to the area for which the variance is requested.
 - (2) A description of the past, existing or proposed activities or operations that have or would result in a discharge of contaminants to the groundwaters.
 - (3) Description of proposed area for which a variance is requested. A detailed location map, showing the orientation of the facility, potential for groundwater contaminant migration, as well as the area covered by the variance request, with reference to at least two geographic references (numbered roads, named streams, rivers, etc.) must be included.
 - (4) Supporting information to establish that the variance will not endanger the public health and safety, including health and environmental effects from exposure to the groundwater contaminants. (Location of wells and other water supply sources including details of well construction within 1/2 mile of site must be shown on a map).
 - (5) Supporting information to establish that standards cannot be achieved by providing the best available technology economically reasonable. This information must identify specific technology considered, changes in quality of the contaminant plume as demonstrated through predictive calculations approved by the Director, and technological constraints which limit restoration to the level of the standard.
 - (6) Supporting information to establish that compliance would produce serious hardship on the applicant.
 - (7) Supporting information that compliance would produce serious hardship without equal or greater public benefit.
 - (8) A copy of any Special Order that was issued in connection with the contaminants in the proposed area and supporting information that applicant has complied with the Special Order.
 - (9) A list of the names and addresses of any property owners within the proposed area of the variance as well as any property owners adjacent to the site covered by the variance.
- (d) Upon receipt of the application, the Director will review it for completeness and request additional information if necessary. When the application is complete, the Director shall give public notice of the application and schedule the matter for a public hearing in accordance with G.S. 143-215.4(b) and the procedures set out below.

(e) Notice of Public Hearing.

- (1) Notice of public hearing on any variance application shall be circulated in the geographical areas of the proposed variance by the Director at least 30 days prior to the date of the hearing:
 - (A) by publishing the notice one time in a newspaper having general circulation in said county;
 - (B) by mailing to the North Carolina Department of Human Resources, Division of Health Services, and appropriate local health agency;
 - (C) by mailing to any other federal, state or local agency upon request;
 - (D) by mailing to the local governmental unit or units having jurisdiction over the geographic area covered by the variance;
 - (E) by mailing to any property owner within the proposed area of the variance, as well as any property owners adjacent to the site covered by the variance; and
 - (F) by mailing to any person or group upon request.
- (2) The contents of public notice of any hearing shall include at least the following:
 - (A) name, address, and phone number of agency holding the public hearing;
 - (B) name and address of each applicant whose application will be considered at the meeting;
 - (C) brief summary of the proposed standard variance or modification of the perimeter of compliance being requested;
 - (D) geographic description of a proposed area for which a variance is requested;
 - (E) brief description of the activities or operations which have or will result in the discharge of contaminants to the groundwaters described in the variance application;
 - (F) a brief reference to the public notice issued for each variance application;
 - (G) information regarding the time and location for the hearing;
 - (H) the purpose of the hearing;

- (I) address and phone number of premises at which interested persons may obtain further information, request a copy of each application, and inspect and copy forms and related documents; and
- (J) a brief description of the nature of the hearing including the rules and procedures to be followed. The notice shall also state that additional information is on file with the Director and may be inspected at any time during normal working hours. Copies of the information on file will be made available upon request and payment of cost or reproduction.
- (f) All comments received within 30 days following the date of the public hearing shall be made part of the application file and shall be considered by the Commission prior to taking final action on the application.
- (g) In determining whether to grant a variance, the Commission shall consider whether the applicant has complied with any Special Order, or Special Order by Consent issued under G.S. 143-215.2.
- (h) If the Commission's final decision is unacceptable, the applicant may file a petition for a contested case in accordance with Chapter 150B of the General Statutes. If the petition is not filed within 60 days, the decision on the variance shall be final and binding.
- (i) A variance shall not operate on a defense to an action at law based upon a public or private nuisance theory or any other cause of action.

*History Note: Statutory 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;
Eff. August 1, 1989.*

SECTION .0200 - CLASSIFICATIONS AND WATER QUALITY STANDARDS

.0201 GROUNDWATER CLASSIFICATIONS

The classifications which may be assigned to the groundwaters will be those specified in the following series of classifications:

- (1) Class GA waters; usage and occurrence:
 - (a) Best Usage. Existing or potential source of drinking water supply for humans.
 - (b) Conditions Related to Best Usage. This class is intended for those groundwaters in which chloride concentrations are equal to or less than 250 mg/l, and which are considered suitable for drinking in their natural state, but which may require treatment to improve quality related to natural conditions.
 - (c) Occurrence. In the saturated zone.
- (2) Class GSA waters; usage and occurrence:
 - (a) Best Usage. Existing or potential source of water supply for potable mineral water and conversion to fresh waters.
 - (b) Conditions Related to Best Usage. This class is intended for those groundwaters in which the chloride concentrations due to natural conditions is in excess of 250 mg/l, but which otherwise may be considered suitable for use as potable water after treatment to reduce concentrations of naturally occurring substances.
 - (c) Occurrence. In the saturated zone.
- (3) Class GC waters; usage and occurrence:
 - (a) Best Usage. Source of water supply for purposes other than drinking.
 - (b) Conditions Related to Best Usage. This class includes those groundwaters that do not meet the quality criteria of waters having a higher classification and for which efforts to restore in-situ to a higher classification would not be technologically feasible, or not in the best interest of the public.
 - (c) Occurrence. In the saturated zone, as determined by the Commission on a case by case basis.

History Note: Statutory Authority G.S. 143-214.1; 143B-282(2);

Eff. June 10, 1979;

Amended Eff. August 1, 1989; September 1, 1984; December 30, 1983.

.0202 WATER QUALITY STANDARDS

(a) The water quality standards for the groundwaters of the state are those specified in this Rule. They are the maximum allowable concentrations resulting from any discharge of contaminants to the land or waters of the state, which may be tolerated without creating a threat to human health or which would otherwise render the groundwater unsuitable for its intended best usage. Where groundwater quality standards have been exceeded due to man's activities, restoration efforts shall be designed to restore groundwater quality to the level of the standard or as closely thereto as is practicable.

(b) The maximum allowable concentrations for contaminants specified in Paragraphs (g) and (h) of this Rule shall be as listed, except that:

- (1) Where the maximum allowable concentration of a substance is less than the limit of detectability, the substance shall not be permitted in detectable concentrations.
 - (2) Where two or more substances exist in combination, the Director shall consider the effects of chemical interactions and may establish maximum concentrations at values less than those established in accordance with Paragraphs (c) and (g) of this Rule. In the absence of information to the contrary, the carcinogenic risks associated with carcinogens present shall be considered additive and the toxic effects associated with non-carcinogens present shall also be considered additive.
 - (3) Where naturally occurring substances exceed the established standard, the standard will be the naturally occurring concentration as determined by the Director.
- (c) Substances which are not naturally occurring and for which no standard is specified shall not be permitted in detectable concentrations in Class GA or Class GSA groundwaters. Any person may petition the Director to establish an interim maximum allowable concentration for an unspecified substance, however, the burden of demonstrating those concentrations of the substance which correspond to the levels described in Paragraph (d) of this Rule rests with the petitioner. The petitioner shall submit all toxicological and epidemiological data, study results, and calculations necessary to establish

a standard in accordance with the procedure prescribed in Paragraph (d) of this Rule. Within three months after the establishment of an interim maximum allowable concentration for a substance by the Director, the Director shall initiate action to consider adoption of a standard for that substance.

(d) Maximum allowable concentrations for substances in Class GA and Class GSA waters are established as the lesser of:

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

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

- (1) Integrated Risk Information System (U.S. EPA).
- (2) Health Advisories (U.S. EPA Office of Drinking Water).
- (3) Other health risk assessment data published by U.S. EPA.
- (4) Other appropriate, published health risk assessment data.

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

(g) Class GA Standards. Where not otherwise indicated, the standard refers to the total concentration in milligrams per liter of any constituent.

- (1) acrylamide (propenamide): 0.00001
- (2) arsenic: 0.05
- (3) barium: 1.0
- (4) benzene: 0.001
- (5) bromoform (tribromomethane): 0.00019
- (6) cadmium: 0.005
- (7) carbofuran: 0.036
- (8) carbon tetrachloride: 0.0003
- (9) chlordane: 2.7×10^{-5}
- (10) chloride: 250.0
- (11) chlorobenzene: 0.3
- (12) chloroform (trichloromethane): 0.00019
- (13) 2-chlorophenol: 0.0001
- (14) chromium: 0.05
- (15) cis-1,2-dichloroethene: 0.07
- (16) coliform organisms (total): 1 per 100 milliliters
- (17) color: 15 color units
- (18) copper: 1.0
- (19) cyanide: 0.154
- (20) 2, 4-D (2,4-dichlorophenoxy acetic acid): 0.07
- (21) 1,2-dibromo-3-chloropropane: 2.5×10^{-5}
- (22) dichlorodifluoromethane (Freon-12; Halon): 0.00019
- (23) 1,2-dichloroethane (ethylene dichloride): 0.00038
- (24) 1,1-dichloroethylene (vinylidene chloride): 0.007
- (25) 1,2-dichloropropane: 0.00056
- (26) p-dioxane (1,4-diethylene dioxide): 0.007
- (27) dioxin: 2.2×10^{-10}
- (28) dissolved solids (total): 500
- (29) endrin: 0.0002
- (30) epichlorohydrin (1-chloro-2,3-epoxypropane): 0.00354
- (31) ethylbenzene: 0.029
- (32) ethylene dibromide (EDB; 1,2-dibromoethane): 0.05×10^{-5}

- (33) ethylene glycol: 7.0
- (34) flouride: 2.0
- (35) foaming agents: 0.5
- (36) gross alpha particle activity (including radium-226 but excluding radon and uranium): 15 pCi/l
- (37) heptachlor: 7.6×10^{-5}
- (38) heptachlor epoxide: 3.8×10^{-5}
- (39) hexachlorobenzene (perchlorobenzene): 0.00002
- (40) n-hexane: 14.3
- (41) iron: 0.3
- (42) lead: 0.05
- (43) lindane: 2.65×10^{-5}
- (44) manganese: 0.05
- (45) mercury: 0.0011
- (46) metadichlorobenzene (1,3-dichlorobenzene): 0.62
- (47) methoxychlor: 0.1
- (48) methylene chloride (dichloromethane): 0.005
- (49) methyl ethyl ketone (MEK; 2-butanone): 0.17
- (50) nickel: 0.15
- (51) nitrate: (as N) 10.0
- (52) nitrite: (as N) 1.0
- (53) orthodichlorobenzene (1,2-dichlorobenzene): 0.62
- (54) oxamyl: 0.175
- (55) paradichlorobenzene (1,4-dichlorobenzene): 0.0018
- (56) pentachlorophenol: 0.22
- (57) pH: 6.5 - 8.5
- (58) radium-226 and radium-228 (combined): 5 pCi/l
- (59) selenium: 0.01
- (60) silver: 0.05
- (61) styrene (ethenylbenzene): 1.4×10^{-5}
- (62) sulfate: 250.0
- (63) tetrachloroethylene (perchloroethylene; PCE): 0.0007
- (64) toluene (methylbenzene): 1.0
- (65) toxaphene: 3.1×10^{-5}
- (66) 2, 4, 5,-TP (Silvex): 0.01
- (67) trans-1,2-dichloroethene: 0.07
- (68) 1,1,1-trichloroethane (methyl chloroform): 0.2
- (69) trichloroethylene (TCE): 0.0028
- (70) vinyl chloride (chloroethylene): 1.5×10^{-5}
- (71) xylenes (o-, m-, and p-): 0.4
- (72) zinc: 5.0

(h) Class GSA Standards. The standards for this class shall be the same as those for Class GA except as follows:

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

(i) Class GC Waters.

- (1) The concentrations of substances which, at the time of classification exceed water quality standards, shall not be permitted to increase. For all other substances, concentrations shall not be caused or permitted to exceed the established standard.
- (2) The concentrations of substances which, at the time of classification, exceed water quality standards shall not cause or contribute to the contravention of groundwater or surface water quality standards in adjoining waters of a different class.
- (3) Concentrations of specific substances, which exceed the established standard at the time of classification, shall be listed in Section .0300 of this Subchapter.

*History Note: Statutory Authority G.S. 143-214.1; 143B-282(2);
 Eff. June 10, 1979;
 Amended Eff. August 1, 1989; September 1, 1984; December 30, 1983.*

SECTION .0300 - ASSIGNMENT OF UNDERGROUND WATER CLASSIFICATIONS**.0301 CLASSIFICATIONS: GENERAL**

(a) Schedule of Classifications. The classifications are based on the quality, occurrence and existing or contemplated best usage of the groundwaters as established in Section .0200 of this Subchapter and are assigned statewide except where supplemented or supplanted by specific classification assignments by major river basins.

(b) Classifications and Water Quality Standards. The classifications and standards assigned to the groundwaters are denoted by the letters GA, GSA, or GC. These classifications refer to the classifications and standards established by Rule .0201 of this Subchapter.

*History Note: Statutory Authority G.S. 143-214.1; 143B-282(2);
Eff. December 30, 1983;
Amended Eff. August 1, 1989.*

.0302 STATEWIDE

The classifications assigned to the groundwaters located within the boundaries or under the extraterritorial jurisdiction of the State of North Carolina are:

- (1) Class GA Waters. Those groundwaters in the state naturally containing 250 mg/l or less of chloride are classified GA.
- (2) Class GSA Waters. Those groundwaters in the state naturally containing greater than 250 mg/l chloride are classified GSA.
- (3) Class GC Waters. Those groundwaters assigned the classification GC in Rules .0303 - .0318 of this Section.

*History Note: Statutory Authority G.S. 143-214.1; 143B-282(2);
Eff. December 30, 1983;
Amended Eff. August 1, 1989.*

.0303 BROAD RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

*History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.*

.0304 CAPE FEAR RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

*History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.*

.0305 CATAWBA RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

*History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.*

.0306 CHOWAN RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

*History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.*

.0307 FRENCH BROAD RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

History Note: Statutory Authority G.S. 143-214.1;

Eff. December 30, 1983.

.0308 HIWASSEE RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

*History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.*

.0309 LITTLE TENNESSEE RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

*History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.*

.0310 SAVANNAH RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

*History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.*

.0311 LUMBER RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

*History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.*

.0312 NEUSE RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

*History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.*

.0313 NEW-WATAUGA RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

*History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.*

.0314 PASQUOTANK RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

*History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.*

.0315 ROANOKE RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

*History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.*

.0316 TAR PAMLICO RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

*History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.*

.0317 WHITE OAK RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

*History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.*

.0318 YADKIN-PEE DEE RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

*History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.*

.0319 RECLASSIFICATION

The groundwater classifications as assigned may be revised by the Commission following public notice and subsequent public hearing. Changes may be to a higher or lower classification. Reclassification requests may be submitted to the Director.

*History Note: Statutory Authority G.S. 143-214.1; 143-215.3(e); 143B-282(2);
Eff. December 30, 1983;
Amended Eff. August 1, 1989.*

PROPOSED RULES

Basin has been amended effective January 1, 1992 as follows:

- (1) Little River [Index Nos. 13-25-(10) and 13-25-(19)] from Suggs Creek to Densons Creek has been reclassified from Classes WS-III and C to Classes WS-III HQW and C HQW.
- (2) Densons Creek [Index No. 13-25-20-(1)] from its source to Troy's Water Supply Intake including all tributaries has been reclassified from Class WS-III to Class WS-III HQW.
- (3) Bridgers Creek (Index No. 13-25-24) from its source to the Little River has been reclassified from Class C to Class C HQW.

(h) The Schedule of Classifications and Water Quality Standards for the New River Basin has been amended effective August 1, 1992 as follows:

- (1) Endicott Creek [Index No. 12-63-5-(1)] from its source to Raven Knob Lake and Little Endicott Creek (Index No. 12-63-5-2) from its source to Raven Knob Lake were reclassified from Class B Tr to Class B Tr HQW;
- (2) Pike Creek (Index No. 12-46-1-2) was reclassified from Class C Tr to Class C Tr ORW;
- (3) Basin Creek (Index No. 12-46-2-2) was reclassified from Class C Tr to Class C Tr ORW;
- (4) Bullhead Creek (Index No. 12-46-4-2) was reclassified from Class C Tr to Class C Tr ORW;
- (5) Rich Mountain Creek (Index No. 12-46-4-2-2) was reclassified from Class Tr to Class C Tr ORW; and
- (6) Widows Creek (Index No. 12-46-4-4) was reclassified from Class C Tr HQW to Class C Tr ORW.

Statutory Authority G.S. 143-214.1; 143-215.1; 143-215.3(a)(1).

Notice is hereby given in accordance with G.S. 150B-21.2 that the DEHNR - DEM Groundwater Section intends to amend rule(s) cited as 15A NCAC 2L .0106; .0202; and 2N .0707.

The proposed effective date of this action is May 1, 1992.

The public hearing will be conducted at 7:00 p.m. on February 3, 1992 at the Ground Floor

Hearing Room, Archdale Building, 512 North Salisbury Street, Raleigh, N.C.

Reason for Proposed Action: The proposed amendments will modify corrective action requirements for 15A NCAC 2N and 15A NCAC 2L. A groundwater standard for Methyl Tert-Butyl Ether is also proposed as an amendment to 15A NCAC 2L.

Comment Procedures: Interested persons may contact Randy Prillaman at (919) 733-3221 for more information regarding these rules. Written comments will be received for 30 days after publication of the notice. Mail written comments to: Randy Prillaman, DEHNR-DEM Groundwater Section, P.O. Box 29535, Raleigh, N.C. 27626-0535.

CHAPTER 2 - ENVIRONMENTAL MANAGEMENT

SUBCHAPTER 2L - GROUNDWATER CLASSIFICATION AND STANDARDS

SECTION .0100 - GENERAL CONSIDERATIONS

.0106 CORRECTIVE ACTION

(a) The goal of actions taken to restore groundwater quality shall be restoration to the level of the standards, or as close thereto as is economically and technologically feasible.

(b) Any person conducting or controlling an activity which results in the discharge of a waste or hazardous substance or oil to the groundwaters of the state, or in proximity thereto, shall take immediate action to terminate and control the discharge, mitigate any hazards resulting from exposure to the pollutants and notify the Department of the discharge.

(c) Any person conducting or controlling an activity which results in an increase in the concentration of a substance in excess of the groundwater standard:

- (1) as the result of activities, other than agricultural operations, not permitted by the state, shall assess the cause, significance and extent of the violation; submit a plan for eliminating the source of contamination and for restoration of groundwater quality; and implement the plan in accordance with a Special Order by Consent or a Special Order of the Commission as approved by, and in accordance with a schedule and format established by, the Director.
- (2) as a result of activities conducted under the authority of a permit issued by the state,

shall, where such concentrations are detected:

- (A) at or beyond a review boundary, demonstrate, through predictive calculations or modeling, that natural site conditions, facility design and operational controls will prevent a violation of standards at the compliance boundary; or submit a plan for alteration of existing site conditions, facility design or operational controls that will prevent a violation at the compliance boundary, and implement that plan upon its approval by the Director.
- (B) at or beyond a compliance boundary, shall, assess the cause, significance and extent of the violation of groundwater quality standards and submit the results of the investigation and a plan for groundwater quality restoration to the Director. ~~Upon approval by the Director, the~~ The permittee shall implement the plan ~~in accordance with a Special Order by Consent or a Special Order of the Commission, as approved by, and in accordance with a schedule and format established by, the Director.~~
- (d) In the evaluation of remedial action plans, the Director shall consider the extent of any violations, the extent of any threat to human health or safety, the extent of damage to the environment, technology available to accomplish restoration and the public and economic benefits to be derived from groundwater quality restoration.
- (e) The Director may authorize the discontinuance of remedial action to restore groundwater quality to the level of the standard upon a dem-

onstration by the responsible party to the Director that continuance would not result in significant reduction in the concentration of contaminants. In the consideration of a request to discontinue remedial actions, the Director shall consider the duration and degree of success of remedial efforts, the feasibility of other treatment techniques which could result in further reduction of contaminant levels, and the effect on groundwater users if contaminants remain at levels existing at the time of termination of remedial action.

(f) Upon a determination by the Director that continued remedial actions would result in no significant reduction in contaminant concentrations, the responsible party shall petition for a variance or a reclassification of the impacted groundwaters.

(g) Where groundwater quality standards are exceeded as a result of the application of pesticides or other agricultural chemicals, the Director shall request the Pesticide Board or the Department of Agriculture to assist the Division of Environmental Management in determining the cause of the violation. If the violation is determined to have resulted from the use of pesticides, the Director shall request the Pesticide Board to take appropriate regulatory action to control the use of the chemical or chemicals responsible for, or contributing to, such violations, or to discontinue their use.

Statutory Authority G.S. 143-215.2; 143-215.3(a)(1); 143B-282.

SECTION .0200 - CLASSIFICATIONS AND WATER QUALITY STANDARDS

.0202 WATER QUALITY STANDARDS

(a) The water quality standards for the groundwaters of the state are those specified in this Rule. They are the maximum allowable concentrations resulting from any discharge of contaminants to the land or waters of the state, which may be tolerated without creating a threat to human health or which would otherwise render the groundwater unsuitable for its intended best usage. Where groundwater quality standards have been exceeded due to man's activities, restoration efforts shall be designed to restore groundwater quality to the level of the standard or as closely thereto as is practicable.

(b) The maximum allowable concentrations for contaminants specified in Paragraphs (g) and (h) of this Rule shall be as listed, except that:

- (1) Where the maximum allowable concentration of a substance is less than the limit of detectability, the substance shall not be permitted in detectable concentrations.
- (2) Where two or more substances exist in combination, the Director shall consider the effects of chemical interactions and may establish maximum concentrations at values less than those established in accordance with Paragraphs (c) and (g) of this Rule. In the absence of information to the contrary, the carcinogenic risks associated with carcinogens present shall be considered additive and the toxic effects associated with non-carcinogens present shall also be considered additive.
- (3) Where naturally occurring substances exceed the established standard, the standard will be the naturally occurring concentration as determined by the Director.

PROPOSED RULES

(c) Substances which are not naturally occurring and for which no standard is specified shall not be permitted in detectable concentrations in Class GA or Class GSA groundwaters. Any person may petition the Director to establish an interim maximum allowable concentration for an unspecified substance, however, the burden of demonstrating those concentrations of the substance which correspond to the levels described in Paragraph (d) of this Rule rests with the petitioner. The petitioner shall submit all toxicological and epidemiological data, study results, and calculations necessary to establish a standard in accordance with the procedure prescribed in Paragraph (d) of this Rule. Within three months after the establishment of an interim maximum allowable concentration for a substance by the Director, the Director shall initiate action to consider adoption of a standard for that substance.

(d) Maximum allowable concentrations for substances in Class GA and Class GSA waters are established as the lesser of:

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

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

- (1) Integrated Risk Information System (U.S. EPA).
- (2) Health Advisories (U.S. EPA Office of Drinking Water).
- (3) Other health risk assessment data published by U.S. EPA.
- (4) Other appropriate, published health risk assessment data.

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

(g) Class GA Standards. Where not otherwise indicated, the standard refers to the total concentration in milligrams per liter of any constituent.

- (1) acrylamide (propenamide): 0.00001
- (2) arsenic: 0.05
- (3) barium: 1.0
- (4) benzene: 0.001
- (5) bromoform (tribromomethane): 0.00019
- (6) cadmium: 0.005
- (7) carbofuran: 0.036
- (8) carbon tetrachloride: 0.0003
- (9) chlordane: 2.7×10^{-5}
- (10) chloride: 250.0
- (11) chlorobenzene: 0.3
- (12) chloroform (trichloromethane): 0.00019
- (13) 2-chlorophenol: 0.0001
- (14) chromium: 0.05
- (15) cis-1,2-dichloroethene: 0.07
- (16) coliform organisms (total): 1 per 100 milliliters
- (17) color: 15 color units
- (18) copper: 1.0
- (19) cyanide: 0.154
- (20) 2, 4-D (2,4-dichlorophenoxy acetic acid): 0.07
- (21) 1,2-dibromo-3-chloropropane: 2.5×10^{-5}
- (22) dichlorodifluoromethane (Freon-12; Halon): 0.00019
- (23) 1,2-dichloroethane (ethylene dichloride): 0.00038
- (24) 1,1-dichloroethylene (vinylidene chloride): 0.007
- (25) 1,2-dichloropropane: 0.00056
- (26) p-dioxane (1,4-diethylene dioxide): 0.007

PROPOSED RULES

- (27) dioxin: 2.2×10^{-10}
- (28) dissolved solids (total): 500
- (29) endrin: 0.0002
- (30) epichlorohydrin (1-chloro-2,3-epoxypropane): 0.00354
- (31) ethylbenzene: 0.029
- (32) ethylene dibromide (EDB; 1,2-dibromoethane): 0.05×10^{-5}
- (33) ethylene glycol: 7.0
- (34) flouride: 2.0
- (35) foaming agents: 0.5
- (36) gross alpha particle activity (including radium-226 but excluding radon and uranium): 15 pCi/l
- (37) heptachlor: 7.6×10^{-5}
- (38) heptachlor epoxide: 3.8×10^{-5}
- (39) hexachlorobenzene (perchlorobenzene): 0.00002
- (40) n-hexane: 14.3
- (41) iron: 0.3
- (42) lead: 0.05
- (43) lindane: 2.65×10^{-5}
- (44) manganese: 0.05
- (45) mercury: 0.0011
- (46) metadichlorobenzene (1,3-dichlorobenzene): 0.62
- (47) methoxychlor: 0.1
- (48) methylene chloride (dichloromethane): 0.005
- (49) methyl ethyl ketone (MEK; 2-butanone): 0.17
- (50) methyl tert-butyl ether: 0.05
- (51) ~~(50)~~ nickel: 0.15
- (52) ~~(51)~~ nitrate: (as N) 10.0
- (53) ~~(52)~~ nitrite: (as N) 1.0
- (54) ~~(53)~~ orthodichlorobenzene (1,2-dichlorobenzene): 0.62
- (55) ~~(54)~~ oxamyl: 0.175
- (56) ~~(55)~~ paradichlorobenzene (1,4-dichlorobenzene): 0.0018
- (57) ~~(56)~~ pentachlorophenol: 0.22
- (58) ~~(57)~~ pH: 6.5 - 8.5
- (59) ~~(58)~~ radium-226 and radium-228 (combined): 5 pCi/l
- (60) ~~(59)~~ selenium: 0.01
- (61) ~~(60)~~ silver: 0.05
- (62) ~~(61)~~ styrene (ethenylbenzene): 1.4×10^{-5}
- (63) ~~(62)~~ sulfate: 250.0
- (64) ~~(63)~~ tetrachloroethylene (perchloroethylene; PCE): 0.0007
- (65) ~~(64)~~ toluene (methylbenzene): 1.0
- (66) ~~(65)~~ toxaphene: 3.1×10^{-5}
- (67) ~~(66)~~ 2, 4, 5,-TP (Silvex): 0.01
- (68) ~~(67)~~ trans-1,2-dichloroethene: 0.07
- (69) ~~(68)~~ 1,1,1-trichloroethane (methyl chloroform): 0.2
- (70) ~~(69)~~ trichloroethylene (TCE): 0.0028
- (71) ~~(70)~~ vinyl chloride (chloroethylene): 1.5×10^{-5}
- (72) ~~(71)~~ xylenes (o-, m-, and p-): 0.4
- (73) ~~(72)~~ zinc: 5.0

(h) Class GSA Standards. The standards for this class shall be the same as those for Class GA except as follows:

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

(i) Class GC Waters.

- (1) The concentrations of substances which, at the time of classification exceed water quality standards, shall not be permitted to increase. For all other substances, concentrations shall not be caused or permitted to exceed the established standard.
- (2) The concentrations of substances which, at the time of classification, exceed water quality standards shall not cause or contribute to the contravention of groundwater or surface water quality standards in adjoining waters of a different class.

PROPOSED RULES

- (3) Concentrations of specific substances, which exceed the established standard at the time of classification, shall be listed in Section .0300 of this Subchapter.

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

SUBCHAPTER 2N - UNDERGROUND STORAGE TANKS

SECTION .0700 - RELEASE RESPONSE AND CORRECTIVE ACTION FOR UST SYSTEMS CONTAINING PETROLEUM OR HAZARDOUS SUBSTANCES

.0707 CORRECTIVE ACTION PLAN

The provisions for a "Corrective action plan" contained in 40 CFR 280.66 (Subpart F) have been adopted incorporated by reference including any subsequent amendments and editions with the exception of the following Paragraph. This material is available for inspection at the Department of Environment, Health, and Natural Resources, Division of Environmental Management, Groundwater Section, 512 North Salisbury Street, Raleigh, North Carolina. Copies of 40 CFR Parts 260 to 299 may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 at a cost of thirty one dollars (\$31.00). in accordance with G.S. 150B-14(e), except that:

(1) 40 CFR 280.66(a) has been rewritten to read: "At any point after reviewing the information submitted in compliance with 40 CFR 280.61 through 40 CFR 280.63, the Division may require owners and operators to submit additional information or to develop and submit a corrective action plan for responding to contaminated soils and groundwater. If a plan is required, owners and operators must prepare a plan in accordance with the requirements specified in 15A NCAC 2L .0106, and submit it according to a schedule and format established by the Division. Owners and operators are responsible for submitting a plan that provides for adequate protection of human health and the environment as determined by the Division, and must modify their plan as necessary to meet this standard". and

(2) In 40 CFR 280.66(e) the words "schedule and in a format established by the implementing agency," are replaced by the words "special order, consent special order, or similar document."

Statutory Authority G.S. 143-215.3(a)(15); 143B-282(2)(h).

Notice is hereby given in accordance with G.S. 150B-21.2 that the EIHR - Environmental Management Commission intends to amend rule(s) cited as 15A NCAC 2M .0102; .0303; .0602 - .0604; .0701 - .0702.

The proposed effective date of this action is June 1, 1992.

The public hearing will be conducted at 2:00 p.m. on February 27, 1992 at the Archdale Building, Ground Floor Hearing Room, 512 N. Salisbury Street, Raleigh, NC.

Reason for Proposed Action: These rules are being amended to implement S.B. 344 which transferred the Clean Water Revolving Loan and Grant Program to the Department of Environment, Health, and Natural Resources; to update the name of the receiving agency; and to provide clarification of text.

Comment Procedures: Any person or organization desiring to make oral comments at the hearing should register to do so at the hearing. Statements will be limited to 10 minutes, and one typewritten copy of any such statement should be submitted to the panel conducting the hearing. Any additional comments should be forwarded to the Division of Environmental Management by March 4, 1992 at the following address:

Division of Environmental Management
Attention: Coy M. Batten
P. O. Box 29535
Raleigh, North Carolina 27626-0535
Telephone: (919) 733-6900

CHAPTER 2 - ENVIRONMENTAL MANAGEMENT

SUBCHAPTER 2M - NORTH CAROLINA WATER POLLUTION CONTROL REVOLVING FUND

SECTION .0100 - GENERAL PROVISIONS

.0102 DEFINITIONS

In addition to the definitions in G.S. 159G-3, the following definitions will apply to this Chapter:

PROPOSED RULES

- (1) "Act" means North Carolina Clean Water Revolving Loan and Grant Act of 1987, G.S. 159G.
- (2) "Award" means the offer by the receiving agency to enter into a loan commitment for a specified amount.
- (3) "Award of contract" means the award by the loan recipient to a contractor of a contract to construct the project as bid.
- (4) "Bid" means the amount of money for which a contractor offers to construct a project.
- (5) "Contingency costs" means unforeseen costs or situations not included in the estimate of project costs.
- (6) "Commitment" means a binding agreement to pay loan funds at intervals as expenses are incurred.
- (7) "Date of Completion" means the date on which operations of the treatment works are initiated or capable of being initiated, whichever is earlier.
- (8) "Environmental Protection Agency" means the Federal agency established pursuant to Reorganization Plan No. 3 of 1970, effective December 1, 1970.
- (9) "Federal capitalization grant" means a grant by the Environmental Protection Agency to the state for the purpose of providing loan funds to finance publicly owned wastewater facilities.
- (10) "Federal Clean Water Act" (CWA) means the Act of Congress designated as P.L. 92-500, approved October 18, 1972, as amended from time to time.
- (11) "Inspection" means inspection or inspections of a project to determine percentage completion of the project; conformance with plans and specifications; and compliance with applicable federal, state, and local laws.
- (12) "Intended Use Plan" means an annual plan to identify the proposed uses of the amounts available in the Water Pollution Control Revolving Fund.
- (13) "Project" means the work described in the application for a loan under this Chapter.
- (14) "Receiving Agency" means the Construction Grants and Loans Section of the Division of Environmental Management.

Statutory Authority G.S. 159G-3; 159G-15.

SECTION .0300 - ELIGIBILITY REQUIREMENTS

.0303 LIMITATION OF LOANS

The maximum principal amount of loan from any fiscal year's allocation made to any one local government unit during any fiscal year shall be seven and one-half million dollars (\$7,500,000).

Statutory Authority G.S. 159G-5(c); 159G-15.

SECTION .0600 - LOAN AWARD: COMMITMENT: AND DISBURSEMENT OF LOANS

.0602 CERTIFICATION OF ELIGIBILITY

- (a) The receiving agency shall ~~forward to the Office of State Budget and Management~~ create a certificate of eligibility ~~and notification of commitment~~ for each application for which a loan commitment has been made.
- (b) The certificate of eligibility shall indicate that the applicant meets all eligibility criteria and that all other requirements of the Act and of the rules governing the account have been met.
- (c) The ~~notification of commitment~~ certificate of eligibility shall also indicate the amount and the fiscal year of the loan commitment.

Statutory Authority G.S. 159G-12; 159G-15.

.0603 CRITERIA FOR LOAN ADJUSTMENTS

- (a) Upon receipt of bids the debt instrument is negotiated. It may adjust the loan commitment as follows:
 - (1) The loan commitment may be decreased, ~~provide~~ provided the project cost as bid is less than the estimated project cost, and the receiving agency approves the loan commitment decrease.
 - (2) Loan commitments may be increased, to a maximum of ~~10 percent or five hundred thousand dollars (\$500,000), whichever is greater,~~ provided:
 - (a) ~~(A)~~ the project cost as bid is greater than the estimated project cost;
 - (b) ~~(B)~~ the project as bid is in accordance with the project for which the loan commitment was made;
 - (c) ~~(C)~~ the receiving agency has reviewed the bids and determined that substantial cost savings would not be available through project revisions without jeopardizing the integrity of the project; and
 - (d) ~~(D)~~ adequate funds are available in the account from which the loan was awarded;
 - (e) ~~(E)~~ increases greater than 10 percent of the loan commitment shall be approved by the Local Government Commission and the ~~Office of State Budget and Management.~~ Environmental Management Commission.