

**GENERAL ASSEMBLY OF NORTH CAROLINA**  
**SESSION 2005**

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**HOUSE DRH50398-LDf-142A (5/4)**

Short Title: Risk-Based Environmental Remediation/Fund. (Public)

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Sponsors: Representatives Gibson and LaRoque (Primary Sponsors).

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Referred to:

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A BILL TO BE ENTITLED

AN ACT TO EXPAND AND MAKE CONSISTENT THE CIRCUMSTANCES  
UNDER WHICH THE DEPARTMENT OF ENVIRONMENT AND NATURAL  
RESOURCES SHALL ALLOW FOR RISK-BASED REMEDIAL ACTIONS.

Whereas, the General Assembly finds that there are contaminated areas in North Carolina, including land and other property, surface water, and groundwater, that are adversely affected by environmental contamination due to the presence of drilling waste; hazardous and toxic materials, substances, and wastes; solid waste; oil; and other wastes, contaminants, and regulated substances; and

Whereas, the General Assembly finds that the presence of environmental contamination on these areas creates both potential and actual harm to public health, safety, and welfare, and to the environment; and

Whereas, the General Assembly finds that this potential and actual harm results in substantial economic losses, including reduced property values and tax revenues; decreased ability to develop and expand the beneficial use of these areas; and other opportunity costs because of the uncertainties and concerns that result from the environmental contamination of these areas; and

Whereas, the General Assembly finds that it is in the public interest that contaminated areas are cleaned up or managed in a manner that protects public health, safety, and welfare and the environment using procedures that are based in sound science and that can be voluntarily and independently implemented in a timely and practical fashion without overburdening State resources; and

Whereas, the General Assembly finds that North Carolina has numerous and varied State-managed remediation programs to address environmental contamination, including the Inactive Hazardous Sites Response Act of 1987, the hazardous waste management program administered by the State pursuant to the federal Resource Conservation and Recovery Act of 1976, the Leaking Petroleum Underground Storage

1 Tank Cleanup Act of 1988, the Brownfields Property Reuse Act of 1997, the  
2 Dry-Cleaning Solvent Cleanup Act of 1997, the federal Superfund program  
3 administered in part by the State pursuant to the Comprehensive Environmental  
4 Response, Compensation, and Liability Act of 1980 and the Superfund Amendments  
5 and Reauthorization Act of 1986, and the groundwater protection rules adopted by the  
6 Environmental Management Commission; and

7         Whereas, the General Assembly finds that these remediation programs utilize  
8 varying standards, levels, protocols, means, methods, techniques, interpretations, and  
9 other requirements and apply various federal regulations and State rules applicable to  
10 testing, monitoring, assessing, prioritizing, characterizing, and cleanup or remediation  
11 of contaminated areas; and

12         Whereas, the General Assembly finds that these varying standards cause  
13 confusion and delay and create the potential for inappropriate levels of remediation,  
14 including both the possibility that inadequate remediation at some sites may result in  
15 potential or actual harm to public health, safety, or welfare or the environment, and the  
16 possibility that unnecessary remediation at other sites may result in excessive and  
17 wasteful expenditure of public and private resources; and

18         Whereas, the General Assembly finds that the expenditure of public and  
19 private resources on unnecessary remediation could better be channeled to other  
20 purposes, including new development, renovation and repair, research and development,  
21 training and education, and other activities that maintain and enhance North Carolina's  
22 competitive position in the world and the excellent quality of life enjoyed by the citizens  
23 of North Carolina; and

24         Whereas, the General Assembly finds that public health, safety, and welfare  
25 and the environment can best be protected by implementing a uniform remediation  
26 process that requires that contaminated areas be cleaned up to a level that is sufficient to  
27 ensure protection of public health, safety, and welfare and the environment without  
28 excessive expenditure of public or private resources; and

29         Whereas, the General Assembly finds that this remediation process should be  
30 based on an objective, scientific, and uniform approach to the evaluation of the risk  
31 posed by each contaminated area and to the determination of the appropriate level of  
32 remediation to address contamination in a manner that is protective of public health,  
33 safety, and welfare and the environment; and

34         Whereas, the General Assembly finds that this approach should be applied to  
35 each contaminated area on a site-specific basis using knowledge of the area, the  
36 contaminants present, the effects of those contaminants on public health, safety, and  
37 welfare, and the actions of those contaminants in, and their effect on, the environment;  
38 and

39         Whereas, the General Assembly intends that the levels of remediation that are  
40 established for each contaminated area are to be applicable or relevant and appropriate  
41 standards under federal remediation programs; and

42         Whereas, the General Assembly intends that the protections afforded to  
43 public health, safety, and welfare and to the environment by existing environmental,  
44 health, and safety standards that apply to ongoing activities not be diminished in any

1 way, in order that those standards will continue to protect against the discharge or  
2 release of contaminants to the environment that would result in additional contaminated  
3 areas; Now, therefore,

4 The General Assembly of North Carolina enacts:

5 **SECTION 1.** Part 1 of Article 7 of Chapter 143B of the General Statutes is  
6 amended by adding a new section to read:

7 **"§ 143B-279.13. Adoption of rules for risk-based remediation.**

8 (a) As used in this section:

- 9 (1) 'Background' represents the concentration of a contaminant,  
10 determined by appropriate statistical methods, that is present at a site,  
11 but is not related to the release of a contaminant at the site.
- 12 (2) 'Contaminant' means a hazardous waste, as defined in G.S. 130A-290;  
13 a hazardous substance as defined in G.S. 143-215.77A and  
14 G.S. 130A-310; or any other substance regulated under a remediation  
15 program implemented by the Department.
- 16 (3) 'Corrective action plan' means a plan for eliminating sources of  
17 groundwater contamination or for achieving groundwater quality  
18 restoration based on rules established pursuant to this section.
- 19 (4) 'Department' means the Department of Environment and Natural  
20 Resources.
- 21 (5) 'Established standards' means the groundwater quality standards  
22 adopted pursuant to G.S. 143-214.1.
- 23 (6) 'Groundwater contamination' means a contaminant released to the  
24 environment that has resulted, or has the potential to result, in increase  
25 in the concentration of the contaminant or contaminants in the  
26 groundwater in excess of that allowed under established standards.
- 27 (7) 'Institutional controls' means nonengineered measures, including  
28 land-use restrictions used to prevent unsafe exposure to contamination.
- 29 (8) 'Regulated substance' has the same meaning as in G.S. 130A-310.31.
- 30 (9) 'Remediation' means all actions that are necessary or appropriate to  
31 clean up, mitigate, correct, abate, minimize, eliminate, control, or  
32 prevent the spreading, migration, leaking, leaching, volatilization,  
33 spilling, transport, or further release of a contaminant into the  
34 environment in order to protect public health or the environment.
- 35 (10) 'Responsible person' means a person who is or may be liable for  
36 remediation under the programs covered by this act.
- 37 (11) 'Secretary' means the Secretary of Environment and Natural  
38 Resources.

39 (b) The Secretary shall adopt rules to establish a consistent and uniform  
40 risk-based approach to the assessment, prioritization, and remediation of environmental  
41 contamination. The rules shall be consistent with the remediation standards and review  
42 procedures set out in subsection (c) of this section and provide for:

- 43 (1) The assessment of the contaminated area, including types and levels of  
44 contamination; the horizontal and vertical extent of contamination; the

- 1                    risk to public health, safety, and welfare and to the environment posed  
2                    by the contamination; and identification of the current and anticipated  
3                    future uses of property comprising the contaminated area.
- 4                    (2)    The acceptable level or range of levels of risk to public health, safety,  
5                    and welfare and to the environment.
- 6                    (3)    Definition of the circumstances under which no further remediation is  
7                    required.
- 8                    (4)    The process for determining an appropriate method of remediation to  
9                    achieve an acceptable level or range of levels of risk.
- 10                   (5)    The process for determining whether a risk-based approach to  
11                   remediation under the rules is appropriate for a particular contaminated  
12                   area. The process shall include, but not be limited to, consideration of  
13                   proximity of the contamination to water supply wells or other  
14                   receptors; current and anticipated future reliance on the groundwater as  
15                   a water supply; current and anticipated future land use; environmental  
16                   impacts; and the feasibility of remediating to established standards.
- 17                   (6)    The process for establishing, for each contaminant, the maximum  
18                   allowable quantity, concentration, range, or other measures of  
19                   contamination that will remain at the contaminated area at the  
20                   conclusion of active remediation.
- 21                   (7)    The level of oversight of the remediation that will be exercised by the  
22                   Department.
- 23                   (8)    The determination or certification that the quantity, concentration,  
24                   range, or other measure of each contaminant remaining at the  
25                   contaminated area at the conclusion of active remediation does not  
26                   exceed the maximum allowable, that an acceptable level of risk has  
27                   been achieved, and that no further remediation is required.
- 28                   (9)    The imposition of engineering and institutional controls and for  
29                   sampling, monitoring, and reporting requirements necessary to protect  
30                   public health and the environment.
- 31                   (10)   Public participation.
- 32                   (11)   Any other matter that the Secretary determines to be necessary to carry  
33                   out the intent of this section.
- 34                   (c)    Remediation Standards and Review Procedures. –
- 35                   (1)    Remediation standards. – Any person who proposes or is required to  
36                   respond to the release of a regulated substance at a site shall select and  
37                   attain compliance with one of the following environmental standards  
38                   when conducting remediation activities:
- 39                   a.     A background standard that achieves background as further  
40                   specified in subdivision (3) of this subsection.
- 41                   b.     A statewide health standard adopted by the Secretary that  
42                   achieves a uniform statewide health-based level so that any  
43                   substantial present or probable future risk to human health and

- 1 the environment is eliminated as specified in subdivision (4) of  
2 this subsection.
- 3 c. A site-specific standard that achieves remediation levels based  
4 on a site-specific risk assessment so that any substantial present  
5 or probable future risk to human health and the environment is  
6 eliminated or reduced to protective levels based upon the  
7 present or currently planned future use of the property  
8 comprising the site as specified in subdivision (5) of this  
9 subsection.
- 10 (2) Combination of standards. – A person may use attainment of any one  
11 or a combination of remediation standards described in subdivision (1)  
12 of this subsection to implement a site remediation plan and may  
13 propose to use the site-specific standard whether or not efforts have  
14 been made to attain the background or statewide health standard.
- 15 (3) Background standard. –
- 16 a. Standard. – Persons selecting the background standard shall  
17 meet background standard for each regulated substance in each  
18 environmental medium.
- 19 b. Certification of attainment. – Final certification that a site or  
20 portion of a site meets the background standard shall be  
21 documented in the following manner:
- 22 1. Attainment of the background standard shall be  
23 demonstrated by collection and analysis of representative  
24 samples from environmental media of concern, including  
25 soils and groundwater in aquifers in the area where the  
26 contamination occurs through the application of  
27 statistical tests set forth by rule or, if no rules have been  
28 adopted, in demonstration of a mathematically valid  
29 application of statistical tests. The Department shall also  
30 recognize those methods of attainment demonstration  
31 generally recognized as appropriate for that particular  
32 type of remediation.
- 33 2. A final report that documents attainment of the  
34 background standard shall be submitted to the  
35 Department that includes, as appropriate:
- 36 I. The descriptions of procedures and conclusions of  
37 the site investigation to characterize the nature,  
38 extent, direction, volume, and composition of  
39 regulated substances.
- 40 II. The basis for selecting environmental media of  
41 concern, descriptions of removal or  
42 decontamination procedures performed in  
43 remediation, summaries of sampling  
44 methodology, and analytical results that

- 1    demonstrate that remediation has attained the  
2    background standard.
- 3    3.    Where remediation measures do not involve removal or  
4    treatment of a contaminant to the background standard,  
5    the final report shall demonstrate that any remaining  
6    contaminants on the site will meet statewide health  
7    standards and show compliance with postremediation  
8    care requirements that may be needed to maintain  
9    compliance with the statewide health standards.
- 10     c.    No institutional controls for attainment. – Institutional controls,  
11     such as fencing and future land-use restrictions on a site, may  
12     not be used to attain the background standard. Institutional  
13     controls may be used to maintain the background standard after  
14     remediation occurs.
- 15     d.    Authority reserved. – If a person fails to demonstrate attainment  
16     of the background standard, the Department may require that  
17     additional remediation measures be taken in order to meet the  
18     background standard, or the person may select to meet the  
19     requirements of subdivision (4) or subdivision (5) of this  
20     subsection.
- 21     e.    Notice and review. – Persons utilizing background standard  
22     shall comply with the following notice requirements:
- 23     1.    A notice of intent to remediate a site to background  
24     standards shall be submitted to the Department that, to  
25     the extent known, provides a brief description of the  
26     location of the site, a listing of the contaminant or  
27     contaminants involved, a description of the intended  
28     future use of the property for employment opportunities,  
29     housing, open space, recreation, or other uses, and the  
30     proposed remediation measures.
- 31     2.    Upon completion of cleanup to background standards, a  
32     final report demonstrating attainment of the background  
33     standard shall be provided to the Department.
- 34     3.    The Department shall review the final report  
35     demonstrating attainment of the background standard  
36     within 60 days of its receipt or notify the person  
37     submitting the report of substantive deficiencies. If the  
38     Department does not respond with deficiencies within 60  
39     days, the final report shall be deemed approved.
- 40     (4)   Statewide health standard. –
- 41     a.    Standard. – The Secretary shall adopt statewide health standards  
42     for regulated substances for each environmental medium. The  
43     standards for groundwater shall be those numerical health-based  
44     standards for groundwater adopted by the Environmental

1                    Management Commission. In addition, the Secretary shall adopt  
2                    rules to establish medium-specific standards for soils. The  
3                    Secretary shall also adopt, along with the standards, the  
4                    methods used to calculate the standards.

5                    b. Medium-specific concentrations. – The following requirements  
6                    shall be used to establish a medium-specific concentration:

7                    1. Any regulated discharge into surface water occurring  
8                    during or attainment of the statewide health standard  
9                    shall comply with applicable standards for surface waters  
10                    adopted by the Environmental Management  
11                    Commission.

12                    2. Any regulated emissions to the outdoor air occurring  
13                    during or after attainment of the statewide health  
14                    standard shall comply with applicable standards for  
15                    outdoor air quality adopted by the Environmental  
16                    Management Commission.

17                    3. The concentration of a regulated substance in  
18                    groundwater in aquifers that are used or may be used in  
19                    the future for drinking water shall comply with the  
20                    groundwater standards adopted by the Environmental  
21                    Management Commission.

22                    4. For residential properties, the concentration of a  
23                    regulated substance in soil shall not exceed either the  
24                    direct contact soil medium-specific concentration based  
25                    on residential exposure factors within a depth of up to 15  
26                    feet from the existing ground surface, or the  
27                    soil-to-groundwater pathway numeric value throughout  
28                    the soil column, the latter to be determined by any one of  
29                    the following methods:

30                    I. A value that is 100 times the medium-specific  
31                    concentration for groundwater.

32                    II. A concentration in soil at the site that does not  
33                    produce a leachate in excess of the  
34                    medium-specific concentrations for groundwater  
35                    in the aquifer when subjected to the Synthetic  
36                    Precipitation Leaching Procedures, Method 1312  
37                    of SW 846, Test Methods for Evaluating Solid  
38                    Waste, promulgated by the United States  
39                    Environmental Protection Agency.

40                    III. A generic value determined not to produce a  
41                    concentration in groundwater in the aquifer in  
42                    excess of the medium-specific concentration for  
43                    groundwater based on a valid, peer-reviewed  
44                    scientific method that properly accounts for

1 factors affecting the fate, transport, and  
2 attenuation of the regulated substance throughout  
3 the soil column.

4 IV. For nonresidential properties, the concentration of  
5 a regulated substance in soil shall not exceed  
6 either the direct contact soil medium-specific  
7 concentration based on nonresidential exposure  
8 factors within a depth of up to 15 feet from the  
9 existing ground surface using valid scientific  
10 methods reflecting worker exposure or the soil to  
11 groundwater pathway numeric value determined  
12 in accordance with paragraph 4 of this  
13 sub-subdivision.

14 V. Exposure scenarios for medium-specific  
15 concentrations for nonresidential conditions shall  
16 be established using valid scientific methods  
17 reflecting worker exposure.

18 c. Additional factors. – When establishing a medium-specific  
19 concentration, other than those established under paragraph 1,  
20 2, or 3 of sub-subdivision b. of this subdivision, the  
21 medium-specific concentration for the ingestion of  
22 groundwater, inhalation of soils, ingestion and inhalation of  
23 volatiles and particulates shall be calculated by the Department  
24 using valid scientific methods, reasonable exposure pathway  
25 assumptions, and exposure factors for residential and  
26 nonresidential land use that are no more stringent than the  
27 standard default exposure factors established by the United  
28 States Environmental Protection Agency based on the following  
29 levels of risk:

30 1. For a regulated substance that is a carcinogen, the  
31 medium-specific concentration is the concentration that  
32 represents an excess upper-bound lifetime cancer target  
33 risk of one in 1,000,000.

34 2. For a regulated substance that is a systemic toxicant, the  
35 medium-specific concentration is the concentration to  
36 that which human populations could be exposed by  
37 direct ingestion or inhalation on a daily basis without  
38 appreciable risk of deleterious effects for the exposed  
39 population.

40 d. Relationship to background. – The concentration of a regulated  
41 substance in an environmental media of concern on a site where  
42 the statewide health standard has been selected shall not be  
43 required to meet the statewide health standard if the statewide



- 1 health standard is numerically less than the background  
2 standard. In such cases, the background standard shall apply.
- 3 e. Certification of attainment. – Final certification that a site or  
4 portion of a site meets the statewide health standard shall be  
5 documented in the following manner:
- 6 1. Attainment of cleanup levels shall be demonstrated by  
7 collection and analysis of representative samples from  
8 the environmental medium of concern, including soils,  
9 and groundwater in aquifers at the point of compliance  
10 through the application of statistical tests set forth in  
11 rules or, if no rules have been adopted, in a  
12 demonstration of a mathematically valid application of  
13 statistical tests. The Department shall also recognize  
14 those methods of attainment demonstration generally  
15 recognized as appropriate for that particular remediation.
- 16 2. A final report that documents attainment of the statewide  
17 health standard shall be submitted to the Department that  
18 includes the descriptions of procedures and conclusions  
19 of the site investigation to characterize the nature, extent,  
20 direction, rate of movement of contaminants on the site,  
21 and cumulative effects, if any, volume, composition, and  
22 concentration of contaminants in environmental media,  
23 the basis for selecting environmental media of concern,  
24 documentation supporting the selection of residential or  
25 nonresidential exposure factors, descriptions of removal  
26 or treatment procedures performed in remediation,  
27 summaries of sampling methodologies and analytical  
28 results that demonstrate that contaminants have been  
29 removed or treated to applicable levels, and  
30 documentation of compliance with postremediation care  
31 requirements if they are needed to maintain the statewide  
32 health standard.
- 33 f. No institutional controls for attainment. – Institutional controls,  
34 such as fencing and future land-use restrictions on a site, may  
35 not be used to attain the statewide health standard. Institutional  
36 controls may be used to maintain the statewide health standard  
37 after remediation occurs.
- 38 g. Authority reserved. – If a person fails to demonstrate attainment  
39 of the statewide health standard, the Department may require  
40 that additional remediation measures be taken in order to meet  
41 the health standard or the person may select to meet the  
42 requirements of subdivision (3) or subdivision (5) of this  
43 subsection.

- 1            h. Notice and review. – Persons utilizing the statewide health  
2            standard shall notify the Department of planned remediation  
3            activities by providing notice of intent to initiate remediation  
4            activities, which shall be made in the following manner:
- 5            1. A notice of intent to remediate a site shall be submitted  
6            to the Department that provides, to the extent known, a  
7            brief description of the location of the site, a listing of  
8            the contaminant or contaminants involved, a description  
9            of the intended future use of the property for  
10           employment opportunities, housing, open space,  
11           recreation, or other uses, and the proposed remediation  
12           measures.
- 13           2. Notice of the submission of the final report  
14           demonstrating attainment of the statewide health  
15           standard shall be submitted to the Department.
- 16           3. The Department shall review the final report  
17           demonstrating attainment of the statewide health  
18           standard within 60 days of its receipt or notify the person  
19           submitting the report of substantive deficiencies. If the  
20           Department does not respond with deficiencies within 60  
21           days, the final report shall be deemed approved.

22           (5) Site-specific standard. –

- 23           a. General. – Where a site-specific standard is selected as the  
24           environmental remediation standard or where the background or  
25           statewide health standard is selected but not achieved, remedial  
26           investigation, risk assessment, cleanup plans, and final reports  
27           shall be developed using the procedures and factors established  
28           by this subdivision.
- 29           b. Carcinogens. – For known or suspected carcinogens, soil and  
30           groundwater cleanup standards shall be established at exposures  
31           that represent an excess upper-bound lifetime risk of between  
32           one in 10,000 and one in 1,000,000. The cumulative excess risk  
33           to exposed populations, including sensitive subgroups, shall not  
34           be greater than one in 10,000.
- 35           c. Systemic toxicants. – For systemic toxicants, soil and  
36           groundwater cleanup standards shall represent levels to which  
37           the human population could be exposed on a daily basis without  
38           appreciable risk of deleterious effect to the exposed population.  
39           Where several systemic toxicants affect the same target organ  
40           or act by the same method of toxicity, the hazard index shall not  
41           exceed one. The hazard index is the sum of the hazard quotients  
42           for multiple systemic toxicants acting through a single-medium  
43           exposure pathway or through multiple-media exposure  
44           pathways.

- 1           d. Groundwater. – Cleanup standards for groundwater shall be  
2           established in accordance with sub-subdivisions b. and c. of this  
3           subdivision using the following considerations:  
4           1. For groundwater in aquifers, site-specific standards shall  
5           be established using the following procedures:  
6           I. The current and probable future use of  
7           groundwater shall be identified and protected.  
8           Groundwater that has a background total  
9           dissolved solids content greater than 2,500  
10           milligrams per liter or is not capable of  
11           transmitting water to a pumping well in usable,  
12           and sustainable quantities shall not be considered  
13           a current or potential source of drinking water.  
14           II. Site-specific sources of contaminants and  
15           potential receptors shall be identified.  
16           III. Natural environmental conditions affecting the  
17           fate and transport of contaminants, such as natural  
18           attenuation, shall be determined by appropriate  
19           scientific methods.  
20           2. Groundwater not in aquifers shall be evaluated using  
21           current or probable future exposure scenarios.  
22           Appropriate management actions shall be instituted at  
23           the point of exposure where a person is exposed to  
24           groundwater by ingestion or other avenues to protect  
25           human health and the environment. This shall not  
26           preclude taking appropriate source management actions  
27           by the responsible party to achieve the equivalent level  
28           of protection.  
29           e. Soil. – Concentrations of regulated substances in soil shall not  
30           exceed:  
31           1. Values calculated in accordance with sub-subdivisions b.  
32           and c. of this subdivision based on human ingestion of  
33           soil where direct contact exposure to the soil reasonably  
34           occurs.  
35           2. Values calculated to protect groundwater in aquifers at  
36           levels determined in accordance with sub-subdivisions  
37           a., b., c., and d., of this subdivision.  
38           3. Values calculated to satisfy the requirements of  
39           sub-subdivision g. of this subdivision. with respect to  
40           discharges or releases to surface water or emissions to  
41           the outdoor air.  
42           Such determinations under this sub-subdivision shall  
43           take into account the effects of institutional and  
44           engineering controls, if any, and shall be based on sound

- 1                                    scientific principles, including fate and transport analysis  
2                                    of the migration of regulated substance in relation to  
3                                    receptor exposures.
- 4                    f.       Factors. – In determining soil and groundwater cleanup  
5                                    standards under subsections (d) and (e) of this section, the  
6                                    following factors shall also be considered:
- 7                                    1.       Use of appropriate standard exposure factors for the land  
8                                    use of the site with reference to current and currently  
9                                    planned future land use and the effectiveness of  
10                                   institutional or legal controls placed on the future use of  
11                                   the land.
- 12                                   2.       Use of appropriate statistical techniques, including, but  
13                                   not limited to, Monte Carlo simulations, to establish  
14                                   statistically valid cleanup standards.
- 15                                   3.       The potential of human ingestion of regulated substances  
16                                   in surface water or other site-specific surface water  
17                                   exposure pathways, if applicable.
- 18                                   4.       The potential of human inhalation of regulated  
19                                   substances from the outdoor air and other site-specific  
20                                   air exposure pathways, if applicable.
- 21                    g.       Air and surface water. – Any discharges into surface water or  
22                                   any emissions to the outdoor air that occur during or after  
23                                   attainment of the site-specific standard shall comply with  
24                                   applicable surface water quality and air quality standards  
25                                   adopted by the Environmental Management Commission.
- 26                    h.       Relationship to background. – The concentration of a regulated  
27                                   substance in an environmental medium of concern on a site  
28                                   where the site-specific standard has been selected shall not be  
29                                   required to meet the site-specific standard if the site-specific  
30                                   standard is numerically less than the background standard. In  
31                                   such cases, the background standard shall apply.
- 32                    i.       Combination of measures. – The standards may be attained  
33                                   through combination of remediation activities that can include  
34                                   treatment, removal, engineering, or institutional controls and  
35                                   can include innovative or other demonstrated measures. The  
36                                   Department may disapprove a site-specific remediation plan  
37                                   that consists solely of fences, warning signs, or land-use  
38                                   restrictions unless the site-specific standard is developed on the  
39                                   basis of exposure factors that are no less stringent than those  
40                                   that would apply to the site at the time the contamination is  
41                                   discovered.
- 42                    j.       Evaluation of remediation plan. – The final remediation plan for  
43                                   a site submitted to the Department shall include remediation

1 alternatives and a final remedy that considers each of the  
2 following factors:

3 1. Long-term risks and effectiveness of the proposed  
4 remedy includes an evaluation of:

5 I. The magnitude of risks remaining after  
6 completion of the remedial action.

7 II. The type, degree, and duration of postremediation  
8 care required, including but not limited to,  
9 operation and maintenance, monitoring,  
10 inspections, and reports and their frequencies or  
11 other activities that will be necessary to protect  
12 human health and the environment.

13 III. Potential for exposure of human and  
14 environmental receptors to regulated substances  
15 remaining at the site.

16 IV. Long-term reliability of any engineering and  
17 voluntary institutional controls.

18 V. Potential need for repair, maintenance, or  
19 replacement of components of the remedy.

20 VI. Time to achieve cleanup standards.

21 2. Reduction of the toxicity, mobility, or volume of  
22 regulated substances, including the amount of regulated  
23 substances that will be removed, contained, treated, or  
24 destroyed; the degree of expected reduction in toxicity,  
25 mobility, or volume; and the type, quantity, toxicity, and  
26 mobility of regulated substances remaining after  
27 implementation of the remedy.

28 3. Short-term risks and effectiveness of the remedy,  
29 including the short-term risks that may be posed to the  
30 community, workers, or the environment during  
31 implementation of the remedy, and the effectiveness and  
32 reliability of protective measures to address short-term  
33 risks.

34 4. The ease or difficulty of implementing the proposed  
35 remedy, including commercially available remedial  
36 measures, degree of difficulty associated with  
37 constructing the remedy, expected operational reliability,  
38 available capacity and location of needed treatment,  
39 storage and disposal services for wastes, time to initiate  
40 remedial efforts, and approvals necessary to implement  
41 the remedial efforts.

42 k. Attainment. – Compliance with the site-specific standard is  
43 attained for a site or portion of a site when a remedy approved

1 by the Department has been implemented in compliance with  
2 the following criteria:

3 1. Soil, groundwater, surface water, and air emission  
4 standards as determined under sub-subdivisions a.  
5 through h. of this subdivision have been attained.

6 2. Attainment of the site-specific standard shall be  
7 demonstrated by collection and analysis of samples from  
8 affected media, as applicable, such as surface water, soil,  
9 groundwater in aquifers at the point of compliance  
10 through the application of statistical tests set forth by  
11 rule or, if no rules have been adopted, the Department  
12 shall recognize those methods of attainment  
13 demonstration generally recognized as appropriate for  
14 that particular remediation.

15 1. Site investigation and remedy selection. – Any person selecting  
16 to comply with site-specific standards established by this  
17 subdivision shall submit the following reports and evaluations,  
18 as required under this subdivision, for review and approval by  
19 the Department:

20 1. A remedial investigation report that includes:

21 I. Documentation and descriptions of procedures  
22 and conclusions from the site investigation to  
23 characterize the nature, extent, direction, rate of  
24 movement, volume, and composition of regulated  
25 substances.

26 II. The concentration of regulated substances in  
27 environmental media of concern, including  
28 summaries of sampling methodology and  
29 analytical results and information obtained from  
30 attempts to comply with the background or  
31 statewide health standards, if any.

32 III. A fate and transport analysis may be included in  
33 the report to demonstrate that no present or future  
34 exposure pathways exist.

35 IV. If no exposure pathways exist, a risk-assessment  
36 report and cleanup plan are not required, and no  
37 remedy is required to be proposed or completed.

38 2. If required, a risk-assessment report that describes the  
39 potential adverse effects under both current and planned  
40 future conditions caused by the presence of a regulated  
41 substance in the absence of any further control,  
42 remediation, or mitigation measures. A baseline  
43 risk-assessment report is not required where it is

- 1                                    determined that a specific remediation measure can be  
2                                    implemented to attain the site-specific standard.
- 3                                    3.    A cleanup plan that evaluates the relative abilities and  
4                                    effectiveness of potential remedies to achieve the  
5                                    requirements for remedies described in subsection (j) of  
6                                    this section when considering the evaluation factors  
7                                    described in subsection (i) of this section. The plan shall  
8                                    select a remedy that achieves the requirements for  
9                                    remedies described in subsection (j) of this section. The  
10                                   Department may require a further evaluation of the  
11                                   selected remedy or an evaluation of one or more  
12                                   additional remedies in response to comments received  
13                                   from the community surrounding the site as a result of  
14                                   the community involvement plan established in  
15                                   subsection (o) of this section that are based on the factors  
16                                   described in subsection (i) of this section or as a result of  
17                                   its own analysis that are based on the evaluation factors  
18                                   described in subsection (j) of this section.
- 19                                   4.    A final report demonstrating that the approved remedy  
20                                   has been completed in accordance with the cleanup plan.
- 21                                   5.    Nothing in this section shall preclude a person from  
22                                   submitting a remedial investigation report,  
23                                   risk-assessment report, and cleanup plan at one time to  
24                                   the Department for review.
- 25                                   m.    Notice and review provisions. – Persons utilizing the  
26                                   site-specific standard shall comply with the following  
27                                   requirements for notifying the public and the Department of  
28                                   planned remediation activities:
- 29                                   1.    A notice of intent to remediate a site to one or more  
30                                   site-specific standards shall be submitted to the  
31                                   Department that provides, to the extent known, a brief  
32                                   description of the location of the site, a listing of the  
33                                   contaminant or contaminants involved, and the proposed  
34                                   remediation measures. At the same time a notice of  
35                                   intent to remediate a site is submitted to the Department,  
36                                   a copy of the notice shall be published in a newspaper of  
37                                   general circulation serving the area in which the site is  
38                                   located. The Department shall establish specific criteria  
39                                   for the form and content of such notices.
- 40                                   2.    The notices required by this sub-subdivision shall  
41                                   include a 30-day public comment period during which  
42                                   the public may submit comments to the persons  
43                                   undertaking remediation and to the Department. Persons  
44                                   undertaking remediation are encouraged to develop a

1 proactive approach to working with appropriate local  
2 governments and with their site neighbors in developing  
3 and implementing remediation and implementing  
4 remediation and reuse plans.

5 3. The following notice and review provisions shall apply  
6 to each cleanup plan and final report demonstrating  
7 compliance with the site-specific standard:

8 I. When a cleanup plan is submitted to the  
9 Department, the plan shall include the comments  
10 received during the public notice period, as well  
11 as responses from the persons preparing the  
12 reports and plans. The Department shall review  
13 the plan within 60 days of its receipt or notify the  
14 person submitting the plan of any deficiencies. If  
15 the Department does not respond with  
16 deficiencies within 60 days, the plan shall be  
17 deemed approved.

18 II. A final report demonstrating compliance with the  
19 site-specific standard shall be submitted to the  
20 Department upon completion of the cleanup plan's  
21 implementation. At the same time that the final  
22 report is submitted to the Department, a summary  
23 of the report shall be published in a newspaper of  
24 general circulation serving the area in which the  
25 site is located. The Department shall review the  
26 report within 90 days of its receipt and either  
27 notify the person submitting the report of any  
28 deficiencies or notify the person submitting the  
29 report that no further remediation action is  
30 necessary on the site. If the Department does not  
31 respond with deficiencies within 90 days, the final  
32 report is deemed approved and no further  
33 remediation action is necessary on the site.

34 (d) This section and rules adopted pursuant to this section shall not be construed  
35 to limit the authority of the Department to require investigation, initial response, or  
36 remediation of environmental contamination under any other provision of law when  
37 necessary to address an imminent threat to public health or pending a determination by  
38 the Department, under rules adopted pursuant to this section, that a risk-based approach  
39 to remediation of a contaminated area is appropriate, or if the Department determines  
40 that a risk-based approach to remediation of the contaminated area is not appropriate.  
41 This section and rules adopted pursuant to this section shall not be construed or  
42 implemented in any manner that reduces the requirements of programs that are intended  
43 to avoid or mitigate the release or discharge of contaminants to the environment that  
44 would result in additional environmental contamination. Rules adopted pursuant to this



1 section shall not be deemed to modify the bases upon which the health-based  
2 groundwater standards are adopted by the Environmental Management Commission  
3 pursuant to Article 21 of Chapter 143 of the General Statutes.

4 (e) Except as provided in subsection (j) of this section, rules adopted pursuant to  
5 this section shall apply uniformly to the remediation of environmental contamination  
6 under:

- 7 (1) The Inactive Hazardous Sites Response Act of 1987, G.S. 130A-310,  
8 et seq.
- 9 (2) The hazardous waste management program administered by the State  
10 pursuant to the federal Resource Conservation and Recovery Act of  
11 1976, Pub. L. 94-580, 90 Stat. 2795, 42 U.S.C. § 6901, et seq., as  
12 amended.
- 13 (3) Solid Waste Management facilities regulated under Article 9 of  
14 Chapter 130A of the General Statutes.
- 15 (4) The federal Superfund program administered in part by the State  
16 pursuant to the Comprehensive Environmental Response,  
17 Compensation, and Liability Act of 1980, Pub. L. 96-510, 94 Stat.  
18 2767, 42 U.S.C. § 9601, et seq., as amended, the Superfund  
19 Amendments and Reauthorization Act of 1986, Pub. L. 99-499, 100  
20 Stat. 1613, as amended, and G.S. 130A-310.20, et seq.
- 21 (5) The groundwater protection corrective action requirements adopted by  
22 the Environmental Management Commission pursuant to Article 21 of  
23 Chapter 143 of the General Statutes.
- 24 (6) Oil and Pollution and Hazardous Substances Control Act, Parts 1 and 2  
25 of Article 21A of Chapter 143 of the General Statutes.

26 (f) A person who undertakes remediation of environmental contamination may  
27 elect to proceed under either the applicable provisions of law set out in subsection (e) of  
28 this section and rules adopted pursuant to those provisions or under the rules adopted  
29 pursuant to this section. If a person elects to proceed under rules adopted pursuant to  
30 this section, the rules adopted pursuant to this section shall supersede rules adopted  
31 pursuant to the provisions of law set out in subsection (e) of this section. If a person  
32 elects to proceed under rules adopted pursuant to this section, any maximum allowable  
33 quantity, concentration, limit, or other measure of contamination that is allowed to  
34 remain at the contaminated area at the conclusion of active remediation that is  
35 established under the rules will supersede rules adopted under other provisions of law.

36 (g) A person who undertakes remediation of environmental contamination under  
37 site-specific cleanup standards as set forth in subdivision (5) of subsection (c) of this  
38 section shall pay a fee to the Risk-Based Remediation Fund in an amount equal to three  
39 thousand dollars (\$3,000) for each acre or portion of an acre of contamination; however,  
40 no person shall be required to pay more than seventy-five thousand dollars (\$75,000) to  
41 the Risk-Based Remediation Fund for any individual site, regardless of its size. This  
42 onetime fee shall be payable at the time the person undertaking cleanup submits the  
43 cleanup plan to the Department.

1        (h) Once the Department determines that a person has successfully completed a  
2 cleanup of contamination to one of the three accepted cleanup standards set forth in  
3 subsection (c) of this section, the Secretary shall relieve that person of any further  
4 liability for cleanup at the site.

5        (i) Rules adopted pursuant to this section shall be based on an evaluation of all  
6 reasonably foreseeable risks presented to public health, safety, and welfare and to the  
7 environment by environmental contamination and shall be based on all relevant and  
8 reasonably available scientific information pertaining to those risks. The rules shall be  
9 written so that they can be interpreted and implemented with a reasonable degree of  
10 effort and expense. The rules may provide for reasonable distinctions among  
11 contaminated areas based on any relevant factor, including the nature and extent of the  
12 environmental contamination, the risk of harm posed by the contamination to public  
13 health, safety, and welfare and to the environment; the size and complexity of the  
14 contaminated area; proximity of the contamination to water supply wells or other  
15 receptors; current and anticipated future reliance on the groundwater as a water supply;  
16 and the current and anticipated future uses of the contaminated area and adjacent lands.

17        (j) Rules adopted pursuant to this section shall require that any assumption about  
18 the future use of the contaminated area on which a level or range of levels of risk is  
19 based be reflected in appropriate restrictions on the future use of the property provided  
20 in G.S. 143B-279.9 and that the restrictions be recorded in accordance with  
21 G.S. 143B-279.10.

22        (k) Rules adopted pursuant to this section shall provide for the use of licensed  
23 professionals, including Professional Engineers, Professional Geologists, and Registered  
24 Environmental Consultants, in the assessment, prioritization, and remediation of  
25 environmental contamination. The rules shall specify the circumstances under which  
26 work performed by a licensed professional is presumed to comply with the rules.

27        (l) The Secretary shall not allow risk-based remediation under rules adopted  
28 pursuant to this section for environmental contamination that occurs after the effective  
29 date of this act unless all of the following occur:

30            (1) The person undertaking the remediation petitions the Secretary for  
31 authority to undertake a risk-based remediation.

32            (2) The Secretary determines, based on information submitted by the  
33 petitioner, that the contamination did not result from any willful  
34 violation of any substantive law, rule, or regulation applicable to the  
35 source and intended to prevent or mitigate discharges or releases or to  
36 facilitate the early detection of discharges or releases.

37            (3) The Secretary determines, based on information submitted by the  
38 petitioner, that the contamination did not result from willful or wanton  
39 misconduct by the person responsible for the source of the  
40 contamination.

41            (4) The person undertaking the remediation of the contamination agrees to  
42 forgo any litigation with the Department over responsibility for such  
43 contamination.

1           (5) The Secretary determines that timely action on cleanup is in the best  
2           interest of public health or the environment.

3           (6) The petitioner pays a fee of five thousand dollars (\$5,000) to the  
4           Groundwater Remediation Fund."

5           **SECTION 2.** Temporary rules shall be adopted to implement G.S.  
6 143B-279.13, as enacted by Section 1 of this act, pursuant to G.S. 150B-21.1(a)(2), and  
7 the publication of this temporary rule in the North Carolina Register shall serve as a  
8 notice of rule-making proceedings for a permanent rule pursuant to G.S. 150B-21.1(e).

9           **SECTION 3.** The Secretary of Environment and Natural Resources shall  
10 adopt temporary rules to implement G.S. 143B-279.13, as enacted by Section 1 of this  
11 act, on or before 1 October 2006.

12           **SECTION 4.** The Secretary of Environment and Natural Resources shall use  
13 all reasonable efforts to obtain a written agreement from the United States  
14 Environmental Protection Agency that G.S. 143B-279.13, as enacted by Section 1 of  
15 this act, and the rules adopted by the Secretary pursuant to G.S. 143B-279.13 are  
16 consistent with the Comprehensive Environmental Response, Compensation, and  
17 Liability Act of 1980, Pub. L. 96-510, 94 Stat. 2767, 42 U.S.C. § 9601, et seq., as  
18 amended, and the Superfund Amendments and Reauthorization Act of 1986, Pub. L.  
19 99-499, 100 Stat. 1613, as amended.

20           **SECTION 5.** Part 1 of Article 7 of Chapter 143B of the General Statutes is  
21 amended by adding a new section to read:

22 **"§ 143B-279.14. Groundwater Remediation Fund.**

23           (a) There is established under the control and direction of the Department of  
24 Environment and Natural Resources the Groundwater Remediation Fund. The  
25 Groundwater Remediation Fund shall be a nonreverting fund consisting of fee payments  
26 made to the Department pursuant to G.S. 143B-279.13, monies appropriated for such  
27 purpose by the General Assembly, investment interest credited to the Fund, and other  
28 monies paid to or recovered on behalf of the Groundwater Remediation Fund.

29           (b) The Groundwater Remediation Fund may be used to pay the costs of:

30           (1) Remediating environmental contamination at sites that have previously  
31 undergone a risk-based remediation but are later found to present an  
32 imminent hazard to public health or the environment, where a  
33 responsible person cannot be identified or located or where the  
34 responsible person is unable to pay the costs of cleanup, and where  
35 there is no other dedicated source of State or federal funds to  
36 undertake the remediation.

37           (2) Establishing alternative drinking water supplies for third parties,  
38 affected by environmental contamination described in subdivision (1)  
39 of this subsection.

40           (3) Establishing, administering, and maintaining a geographic information  
41 system capable of mapping the land and water resources of the State  
42 that are remediated under risk-based remediation.

43           (4) Administrative and staffing support necessary to implement  
44 G.S. 143B-279.13."

1           **SECTION 6.** On or before 1 October 2008, the Department of Environment  
2 and Natural Resources shall report to the Environmental Review Commission as to the  
3 steps the Secretary of Environment and Natural Resources and the Department have  
4 taken to implement this act. The report shall include information on the adoption of  
5 rules to implement G.S. 143B-279.13, as enacted by Section 1 of this act, the number of  
6 contaminated areas that have been proposed for remediation under the rules, the number  
7 of contaminated areas that are undergoing active remediation under the rules, the  
8 number of contaminated areas at which remediation under the rules has been completed,  
9 the number of contaminated areas that are known or believed to be appropriate for  
10 remediation under the rules, the number of contaminated areas for which the  
11 Department has determined that a risk-based approach to remediation under the rules is  
12 not appropriate and the reasons for each determination, and information regarding  
13 licensed professionals who are involved in the implementation of remediation under the  
14 rules. On or before 1 October 2009, the Department shall undertake an examination of  
15 the risk-based cleanup procedures currently in place for cleanup programs administered  
16 by the Department that are not included in G.S. 143B-279.13(e), as enacted by Section 1  
17 of this act, and report to the Environmental Review Commission on what actions would  
18 be necessary to make cleanup under those programs consistent with the rules established  
19 pursuant to G.S. 143B-279.13, as enacted by Section 1 of this act. Those programs  
20 include the following:

- 21           (1)    The Leaking Petroleum Underground Storage Tank Cleanup Act of  
22                   1988, G.S. 143-215.94A, et seq.
- 23           (2)    The Brownfields Property Reuse Act of 1997, G.S. 130A-310.30, et  
24                   seq.
- 25           (3)    The Dry-Cleaning Solvent Cleanup Act of 1997, G.S. 143-215, et seq.

26           **SECTION 7.** This act is effective when it becomes law.