

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2005

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HOUSE BILL 1778

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

Sponsors: Representatives Gibson, LaRoque (Primary Sponsors); Cole, Hill, McMahan, and Wright.

Referred to: Environment and Natural Resources, if favorable, Finance.

May 12, 2005

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 Tank Cleanup Act of 1988, the Brownfields Property Reuse Act of 1997, the

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

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

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

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

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

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

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

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

41 Whereas, the General Assembly intends that the protections afforded to
42 public health, safety, and welfare and to the environment by existing environmental,
43 health, and safety standards that apply to ongoing activities not be diminished in any
44 way, in order that those standards will continue to protect against the discharge or

1 release of contaminants to the environment that would result in additional contaminated
2 areas; Now, therefore,

3 The General Assembly of North Carolina enacts:

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

6 **"§ 143B-279.13. Adoption of rules for risk-based remediation.**

7 (a) As used in this section:

8 (1) 'Background' represents the concentration of a contaminant,
9 determined by appropriate statistical methods, that is present at a site,
10 but is not related to the release of a contaminant at the site.

11 (2) 'Contaminant' means a hazardous waste, as defined in G.S. 130A-290;
12 a hazardous substance as defined in G.S. 143-215.77A and
13 G.S. 130A-310; or any other substance regulated under a remediation
14 program implemented by the Department.

15 (3) 'Corrective action plan' means a plan for eliminating sources of
16 groundwater contamination or for achieving groundwater quality
17 restoration based on rules established pursuant to this section.

18 (4) 'Department' means the Department of Environment and Natural
19 Resources.

20 (5) 'Established standards' means the groundwater quality standards
21 adopted pursuant to G.S. 143-214.1.

22 (6) 'Groundwater contamination' means a contaminant released to the
23 environment that has resulted, or has the potential to result, in increase
24 in the concentration of the contaminant or contaminants in the
25 groundwater in excess of that allowed under established standards.

26 (7) 'Institutional controls' means nonengineered measures, including
27 land-use restrictions used to prevent unsafe exposure to contamination.

28 (8) 'Regulated substance' has the same meaning as in G.S. 130A-310.31.

29 (9) 'Remediation' means all actions that are necessary or appropriate to
30 clean up, mitigate, correct, abate, minimize, eliminate, control, or
31 prevent the spreading, migration, leaking, leaching, volatilization,
32 spilling, transport, or further release of a contaminant into the
33 environment in order to protect public health or the environment.

34 (10) 'Responsible person' means a person who is or may be liable for
35 remediation under the programs covered by this act.

36 (11) 'Secretary' means the Secretary of Environment and Natural
37 Resources.

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

42 (1) The assessment of the contaminated area, including types and levels of
43 contamination; the horizontal and vertical extent of contamination; the
44 risk to public health, safety, and welfare and to the environment posed

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

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

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

1 Secretary shall also adopt, along with the standards, the
2 methods used to calculate the standards.

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

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

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

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

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

28 I. A value that is 100 times the medium-specific
29 concentration for groundwater.

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

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

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attenuation of the regulated substance throughout the soil column.

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

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

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

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

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

d. Relationship to background. – The concentration of a regulated substance in an environmental media of concern on a site where the statewide health standard has been selected shall not be required to meet the statewide health standard if the statewide health standard is numerically less than the background standard. In such cases, the background standard shall apply.

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

1 activities by providing notice of intent to initiate remediation
2 activities, which shall be made in the following manner:

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

20 (5) Site-specific standard. –

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