15A NCAC .0102 is readopted with changes as published in 32:16 NCR 1598-1600 as follows:

15A NCAC 02S .0102 DEFINITIONS

The definition of any word or phrase used in this Subchapter shall be the same as given in G.S. 143-215.104B and the following words and phrases shall have the following meanings:

(1) "Act" means the Dry-Cleaning Solvent Cleanup Act of 1997.~~1997 and any amendments thereto.~~

(2) "Apparel and household fabrics" means apparel and fabrics that have been purchased at retail or have been purchased at wholesale for rental at retail.

(3) "Business" means "business" as defined in G.S. 59-102.

(4) "Chemicals of concern" means the specific compounds and their breakdown products that are identified for evaluation in the risk-based corrective action process. Identification may ~~can~~ be based on their historical and current use at the site, detected concentrations in environmental media, ~~media~~ and their mobility, toxicity, and persistence in the environment.

(5) "Closed container solvent transfer system" means a device or system ~~specifically~~ designed to fill a dry-cleaning machine with dry-cleaning solvent through a mechanical valve or sealed coupling in order to prevent spills or other loss of solvent liquids or vapors to the environment.

(6) "Complete exposure pathway" means an exposure pathway where a chemical of concern has reached a receptor.

(7) "Contaminated site" or "site" means the area defined by the ~~likely~~ current and future location of the chemicals of concern from a facility or abandoned site. A contaminated site may ~~could~~ be an entire property or facility, a defined area or portion of a facility or property, ~~property~~ or multiple facilities or properties.

(8) "Discovery Site" means the physical site or area where dry-cleaning solvent contamination has been discovered. A discovery site may or may not be the same property as the facility site.

(9) "Division" means the Division of Waste Management of the Department of ~~Environment and Natural Resources.~~Environmental Quality.

(10) "Dry-Cleaning Business" means a business having engaged in dry-cleaning operations or the operation of a wholesale distribution facility at a facility site.

(11) "Environmental media" means soil, sediment, surface water, groundwater, air, ~~air~~ or other physical substance.

(12) "Engineering controls" means physical modifications to a site to reduce or eliminate the potential for exposure to chemicals of concern.

(13) "Exposure pathway" means the course that a chemical of concern takes or may take from a source area to a receptor. Each exposure pathway includes a source or release from a source of a chemical of concern, a ~~potential~~ point of exposure, an exposure route, ~~route~~ and the ~~potential~~ receptor.

(14) "Facility site" means the physical location of a dry-cleaning facility, a wholesale distribution facility, ~~facility~~ or an abandoned site.

(15) "Hazard Index" means the sum of two or more hazard quotients for chemicals of concern or multiple exposure pathways to a particular receptor.

(16) "Hazard quotient" means the ratio of level of exposure of a chemical of concern over a specified time period to a reference dose for that chemical of concern derived for a similar exposure period.

(17) "Individual excess lifetime cancer risk" means the increase over background in an individual's probability of getting cancer over a lifetime due to exposure to a chemical.

(18) "Institutional controls" means nonengineered measures, including land-use restrictions, used to prevent unsafe exposure to contamination.

(19) "Material impervious to dry-cleaning solvent" means a material that has been certified by the manufacturer or an independent testing laboratory ~~such as Underwriters Laboratory,~~ to maintain its chemical and structural integrity in the presence of the applicable dry-cleaning solvent and prevent the movement of dry-cleaning solvent for a period of a least 72 hours.

(20) "Monitored natural attenuation" means an approach to the reduction in the concentration of chemicals of concern in environmental media due to naturally occurring physical, chemical,~~chemical~~ and biological processes.~~processes, which is based on best available scientific information.~~

(21) "Non-residential land use" means a use that is not a residential land use.

(22) "Number of full time employees" means the number of full-time equivalent employees employed by a person who owns a dry-cleaning facility, as calculated pursuant to 15A NCAC 02S .0103.

(23) "Person" means "person" as defined in G.S. 143-215.77(13).

(24) "Petitioner" means a potentially responsible party who submits a petition for certification of a facility site.

(25) "Point of demonstration" means the location selected between the source area and a point of exposure where levels of chemicals of concern are measured to ensure that site-specific target levels are being met.

(26) "Point of exposure" means the location at which an individual or population may come in contact with a chemical of concern originating from a site.

(27) "Receptor" means any human, plant, or animal that ~~which~~ is, or has the potential to be, adversely affected by the release or migration of chemicals of concern.

(28) "Reference dose" means a toxicity value for evaluating potential non-carcinogenic effects in humans resulting from exposure to a chemical of concern.

(29) "Remedial action plan" means a plan that outlines activities to be undertaken to clean up a contaminated site and to reduce or eliminate current or potential exposures to receptors.

(30) "Representative concentrations" means a typical or average concentration to which the receptor is exposed over the specified exposure duration, within a specified geographical area, and for a specific route of exposure.

(31) "Residential land use" means use for human habitation, including dwellings such as single family houses and multi-family apartments, children's homes, nursing homes, and residential portions of government-owned lands (local, State ~~state~~ or federal). Because of the similarity of exposure potential and the sensitive nature of the potentially exposed human population, use for day care facilities, educational facilities, hospitals, and parks (local, State ~~state~~ or federal) shall be considered residential land use for the purpose of land use classification.

(32) "Risk-based screening level" means chemical-specific, risk-based values for chemicals of concern that [~~shall be~~]are protective of human health. The risk-based screening levels shall be ~~are~~ as follows:

(a) For known or suspected carcinogens, except for those chemicals of concern that have groundwater standards or interim standards established in 15A NCAC 02L, risk-based screening levels shall be ~~are~~ established for each chemical of concern at exposures that represent an individual excess lifetime cancer risk of one in 1,000,000.

(b) For systemic toxicants, except for those chemicals of concern that have groundwater standards or interim standards established in 15A NCAC 02L, risk-based screening levels shall be ~~are~~ established using a hazard quotient for each chemical of concern of 0.2.

(c) For chemicals of concern in groundwater that have 15A NCAC 02L standards, the risk-based screening level shall be the standards and interim standards established in 15A NCAC 02L.

(33) "Site-specific target level" means risk-based values for chemicals of concern that are protective of human health for specified exposure pathways and are derived from a consideration of site-specific information. The site-specific target levels shall be consistent with the Department's risk-based corrective action standards under G.S. 130A-310.68.[~~G.S. 130A-310.68 and rules adopted pursuant to Article 9 of Chapter 130A of the General Statutes.~~]~~are as follows:~~

~~(a) For known or suspected carcinogens, the sum of individual excess lifetime cancer risk values for all chemicals of concern for all exposure pathways may not exceed one in 100,000.~~

~~(b) For systemic toxicants, the Hazard Index for all chemicals of concern for all complete exposure pathways may not exceed 1.0.~~

(34) "Source" means non-aqueous phase liquid chemical, the locations of highest soil or ground water concentrations of the chemicals of concern, ~~concern~~ or the location releasing the chemical of concern.

(35) "Systemic toxicant" means a substance or agent that may enter the human body and have an adverse health effect other than causing cancer.

(36) "Unsaturated zone" means that part of the subsurface where interconnected voids are not all filled with water.

~~Note: Portions of this rule extracted, with permission, from E2081-00(2004)e1 Standard Guide for Risk-Based Corrective Action, copyright ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428, www.astm.org.~~

History Note: Authority G.S. 143-215.104B; 143-215.104D(b); ~~150B-21.2;~~
Eff. August 1, 2000;
Temporary Amendment Eff. June 1, 2001;
Amended Eff. October 1, 2007; August 1, 2002; ~~2002.~~
Readopted Eff. September 1, 2018.

15A NCAC 02S .0202 is readopted with changes as published in 32:16 NCR 1600-1601 as follows:

15A NCAC 02S .0202 REQUIRED MINIMUM MANAGEMENT PRACTICES

(a) No ~~All~~ abandoned sites~~sites, as defined by [G.S. 143-215.104B(b)(1),]~~ ~~G.S.143-215.104(B)(b)(1),~~ shall use underground storage tanks for solvents or waste.~~at all times after [August 1, 2000,] this Rule becomes effective, comply with Required Minimum Management Practice, Subparagraph (b)(5) of this Rule.~~

(b) All dry-cleaning facilities and wholesale distribution facilities shall ~~shall, at all times after this Rule becomes effective,~~ comply with the following minimum management practices:

(1) At no time shall any dry-cleaning solvent, wastes containing dry-cleaning solvent, or water containing dry-cleaning solvent be discharged onto land or into waters of the State, sanitary sewers, storm drains, floor drains, septic systems, boilers, or cooling- towers. All invoices generated as a result of disposal of all dry-cleaning solvent waste shall be made available for review upon request by the Department. If a dry-cleaning facility uses devices such as atomizers, evaporators, carbon filters, or other equipment for the treatment of wastewater containing solvent, all records, including ~~but not limited to,~~ invoices for the purchase, maintenance, and service of the ~~such~~ devices, shall be made available upon request by ~~to~~ the Department. Records shall be kept for a period of three years.

(2) Spill containment shall be installed and maintained under and around dry-cleaning machines, filters, dry-cleaning solvent pumps, stills, vapor adsorbers, solvent storage areas, and waste solvent storage areas.~~areas by January 1, 2002.~~ Spill containment shall have a volumetric capacity of 110 percent of the largest vessel, tank, or container within the spill containment area and shall be capable of preventing the release of the ~~applicable~~ liquid dry-cleaning solvent beyond the spill containment area for a period of at least 72 hours. All floor drains within or beneath the spill containment area shall be removed or ~~permanently~~ sealed with materials impervious to dry-cleaning solvents. Emergency adsorbent spill clean-up materials shall be on the premises. Facilities shall ~~must~~ maintain an emergency response plan that is in compliance with federal, State ~~state~~ and local requirements.

(3) All perchloroethylene dry-cleaning machines installed at a dry-cleaning facility after August 1, 2000, ~~the effective date of this Rule~~ shall meet air emissions that equal or exceed the standards that apply to a comparable dry-to-dry perchloroethylene dry-cleaning machine with an integrated refrigerated condenser. All perchloroethylene dry-cleaning facilities shall ~~must~~ be in compliance with the EPA Perchloroethylene Dry Cleaner NESHAP: 40CFR, Part 63, Subpart M to be eligible for certification.

(4) Facilities that use perchloroethylene shall use a closed container solvent transfer system by January 1, 2002.

(5) [~~After February 1, 2001, ~~]~~Within six months of the effective date of this Rule, no~~No~~ dry-cleaning facility shall use underground storage tanks for solvents or waste.

History Note: Authority G.S. 143-215.104D(b); ~~150B-21.2;~~
Eff. August 1, 2000;
Temporary Amendment Eff. June 1, 2001;
Amended Eff. August 1, 2002;~~2002.~~
Readopted Eff. September 1, 2018.

15A NCAC 02S .0301 is readopted with changes as published in 32:16 NCR 1601 as follows:

15A NCAC 02S .0301 FILING

(a) Any potentially responsible party petitioning ~~may petition~~ for certification of a facility site shall file ~~by filing~~ a petition with the Division using the DSCA Petitioner Questionnaire Form ~~forms~~ provided by the Division. The petition shall include a laboratory analysis demonstrating the presence of dry-cleaning solvent in environmental media at the discovery site. [~~Pursuant to~~]In addition to the requirements of G.S. 143-215.104F(b), [~~G.S. 143-215.104F and .104G,~~] the DSCA Petitioner Questionnaire Form shall include the following:

(1) petitioner contact information, their corporate status, and their relationship to the facility site;

(2) property owner contact information;

(3) location of the facility site;[~~and~~]

(4) status of the facility;[~~facility,~~] and[~~facility size pursuant to 15A NCAC 02S .0103.~~]

(5) facility size pursuant to 15A NCAC 02S .0103. ~~Petitions shall be verified by the petitioner, and shall include a laboratory analysis demonstrating the presence of dry cleaning solvent in environmental media at the discovery site.~~

(b) Petition forms may be obtained from the Dry-Cleaning Solvent Cleanup Act Program of the Superfund Section of the ~~Division,~~ Division at https://deq.nc.gov/about/divisions/waste-management/dry-cleaning-solvent-cleanup-act-program. ~~401 Oberlin Road, Raleigh, North Carolina, 27605.~~

History Note: Authority G.S. 143-215.104D(b); 143-215.104F; 143-215.104G;~~150B-21.2;~~
Temporary Adoption Eff. June 1, 2001;
Eff. August 1, 2002;~~2002.~~
Readopted Eff. September 1, 2018.

15A NCAC 02S .0502 is readopted with changes as published in 32:16 NCR 1601 as follows:

15A NCAC 02S .0502 ABATEMENT OF IMMINENT HAZARD

If the Division determines from factors such as chemical concentrations, exposure pathways, and receptors that contamination or conditions at a site constitute an imminent hazard as defined in G.S. 143-215.104B(b)(16), the Division shall ~~may~~ require the development and implementation of a plan to abate the imminent hazard. Actions taken to abate the imminent hazard may include~~include, but are not limited to, provision of~~ alternate sources of drinking water, soil excavation, vapor mitigation, ~~mitigation~~ and well abandonment.

History Note: Authority G.S. 143-215.104C; 143-215.104D; 143-215.104N;~~150B-21.2;~~
Eff. September 1, 2007;~~2007.~~
Readopted Eff. September 1, 2018.

15A NCAC 02S .0503 is readopted as published in 32:16 NCR 1601 as follows:

15A NCAC 02S .0503 PRIORITIZATION OF CERTIFIED FACILITIES AND SITES

(a) The Division shall determine the priority ranking of certified facilities and abandoned sites for the initiation and scheduling of assessment and remediation activities.

(b) The Division shall consider the following factors in determining the priority ranking of a facility or site:

(1) proximity ~~Proximity~~ of contamination to public and private water supply wells and surface water;

(2) existing ~~Existing~~ or potential impacts to public and private water supply wells and surface water;

(3) existing ~~Existing~~ or potential vapors from contamination entering buildings and other structures;

(4) existing ~~Existing~~ or potential exposure to contaminated soils;

(5) the ~~The~~ degree of contamination in soil, groundwater, ~~groundwater~~ and surface water; and

(6) any ~~Any~~ other factor relevant to the degree of harm or risk to public health and the environment posed by the existence or migration of contamination at the facility or site.

~~(c) The Division shall determine the initial priority of facilities and sites based on information available to the Division.~~

(c) ~~(d)~~ The priority ranking of facilities and sites shall be ~~updated and~~ revised annually to reflect updated ~~changes in site conditions and current~~ information.

History Note: Authority G.S. 143-215.104C; 143-215.104D; ~~150B-21.2;~~
Eff. September 1, 2007;~~2007.~~
Readopted Eff. September 1, 2018.

15A NCAC 02S .0506 is readopted with changes as published in 32:16 NCR 1601-1603 as follows:

15A NCAC 02S .0506 TIERED RISK ASSESSMENT

(a) A tiered risk assessment shall be conducted to establish risk-based screening levels or site-specific target levels for a site.

(b) A site conceptual model shall be developed including the following elements:

(1) the ~~The~~ type and distribution of chemicals of concern;

(2) the ~~The~~ geology and hydrogeology;

(3) an ~~An~~ exposure model that identifies the receptors, including sensitive subgroups, and the exposure pathways; and

(4) land ~~Land~~ use classification as either residential or non-residential.

(c) Tier 1. A Tier 1 risk assessment is based on chemical-specific risk-based screening levels. The representative concentrations of chemicals of concern that exist at a site shall be compared to these risk-based screening levels for all complete and potentially complete exposure pathways. If the concentrations exceed the risk-based screening levels, the Division may require remediation of the site to risk-based screening levels or the performance of a Tier 2 risk assessment to establish site-specific target levels. Factors considered by the Division when determining if remediation or a Tier 2 assessment is warranted shall include:

(1) whether ~~Whether~~ the assumptions on which the risk-based screening levels are based are representative of the site-specific conditions;

(2) whether ~~Whether~~ the site-specific target levels developed under Tier 2 either are likely to be ~~significantly~~ different than the risk-based screening levels or will ~~significantly~~ modify remediation activities; or

(3) whether ~~Whether~~ the cost of remediation to achieve risk-based screening levels will likely be greater than the cost of further tier evaluation and subsequent remediation.

(d) Tier 2. A Tier 2 assessment shall allow consideration of site-specific information in order to calculate site-specific target levels. This information includes the locations of actual points of exposure and points of demonstration as well as site-specific geologic, hydrogeologic, ~~hydrogeologic~~ and contaminant fate and transport parameters. ~~All parameters and procedures used during the Tier 2 risk assessment shall be provided by the Division.~~ The representative concentrations of chemicals of concern that exist at a site shall be compared to these Tier 2 site-specific target levels for all complete and potentially complete exposure pathways. If the concentrations exceed the Tier 2 site-specific target levels, the Division may require remediation of the site to Tier 2 site-specific target levels or the performance of a Tier 3 risk assessment to establish alternative site-specific target levels. Factors considered by the Division when determining if remediation or a Tier 3 assessment is warranted shall include:

(1) whether ~~Whether~~ the assumptions on which the Tier 2 site-specific target levels are based are ~~sufficiently~~ representative of the site-specific conditions;

(2) whether ~~Whether~~ the alternative site-specific target levels developed under Tier 3 either are likely to be ~~significantly~~ different than the Tier 2 site-specific target levels or will ~~significantly~~ modify remediation activities; or

(3) whether ~~Whether~~ the cost of remediation to achieve Tier 2 site-specific target levels will likely be greater than the cost of further tier evaluation and subsequent remediation.

(e) Tier 3. A Tier 3 risk assessment shall allow consideration of additional site-specific and toxicological data in order to calculate alternative site-specific target levels. This data may include alternative, technically defensible toxicity factors, physical and chemical properties, site-specific exposure factors, and alternative fate and transport models. The representative concentrations of chemicals of concern that exist at a site shall be compared to these Tier 3 site-specific target levels for all complete and potentially complete exposure pathways. If the concentrations exceed the Tier 3 site-specific target levels, the Division shall consider the results of the Tier 2 and Tier 3 assessments to determine the site-specific target levels.

(f) The determination of risk-based screening levels and site-specific target levels shall be based on the following assumptions and requirements:

(1) concentrations ~~Concentrations~~ of chemicals of concern in soil shall not exceed Tier 1 residential risk-based screening levels on land classified as residential land use. Concentrations in soil may exceed Tier 1 residential risk-based screening levels on property containing both residential and non-residential land use if the ground-level uses are non-residential and the potential for exposure to contaminated soil has been eliminated;

(2) an ~~An~~ ecological risk evaluation shall be conducted ~~with guidance provided by the Division~~ to determine the risk to plant and animal receptors and habitats;~~habitats.~~

(3) the ~~The~~ most recent versions of the following references, in order of preference, shall be used to obtain the quantitative toxicity values necessary to calculate risk to identified receptors:

(A) Integrated Risk Information System (IRIS);

(B) provisional peer reviewed toxicity values ~~Provisional Peer Reviewed Toxicity Values~~ (PPRTVs); and

(C) published ~~Published~~ health risk assessment data, and scientifically valid peer-reviewed published toxicological data;~~data.~~

(4) all ~~All~~ current and probable future use of groundwater shall be protected. If groundwater has been contaminated or is likely to be contaminated, a point of exposure shall ~~must~~ be established to quantitatively evaluate the groundwater use pathway. The point of exposure shall be established at the nearest to the source of the following locations:

(A) closest ~~Closest~~ existing water supply well;

(B) likely ~~Likely~~ nearest future location of a water supply well;

(C) hypothetical ~~Hypothetical~~ point of exposure located at a distance of 500 feet from the downgradient property boundary of the facility site; or

(D) hypothetical ~~Hypothetical~~ point of exposure located at a distance of 1000 feet downgradient from the source;~~source.~~

(5) for ~~For~~ chemicals of concern for which there is a groundwater quality standard in 15A NCAC 02L, concentrations at the point of exposure shall not exceed the groundwater quality standards as specified in 15A NCAC 02L. For chemicals of concern for which there are no groundwater quality standards, concentrations at the point of exposure shall not exceed the risk-based screening levels or site-specific target levels for these chemicals of concern that assume ingestion based on domestic water use;

(6) concentrations ~~Concentrations~~ of chemicals of concern shall be measured and evaluated at a point of demonstration well to ensure that concentrations are protective of any point of exposure; ~~exposure.~~

(7) surface ~~Surface~~ water is protected. The standards for surface water shall be the water quality standards in 15A NCAC 02B.

~~*Note: Portions of this rule extracted, with permission, from E2081-00(2004)e1 Standard Guide for Risk-Based Corrective Action, copyright ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428, www.astm.org .*~~

History Note: Authority G.S. 143-215.104D; ~~150B-21.2;~~
Eff. September 1, 2007;~~2007.~~
Readopted Eff. September 1, 2018.

15A NCAC 02S .0507 is readopted with changes as published in 32:16 NCR 1603 as follows:

15A NCAC 02S .0507 REMEDIAL ACTION PLAN

(a) If the level of contamination of any chemical of concern exceeds risk-based screening levels or site-specific target levels, a remedial action plan shall be developed and implemented at the site.

(b) A remedial action plan shall ~~must~~ be sufficient to meet the risk-based screening levels or site-specific target levels established for the site and shall include, if applicable:

(1) a ~~A~~ summary of the results of all assessment and interim remedial activities conducted at the site;

(2) justification ~~Justification~~ for the remediation method selected based on an analysis of each of the following factors:

(A) results ~~Results~~ from any pilot studies or bench tests;

(B) the ~~The~~ remediation methods considered and why other alternatives were rejected;

(C) practical ~~Practical~~ considerations in implementing the remediation, including ease of construction, site access, and required permits;

(D) operation ~~Operation~~ and maintenance requirements;

(E) the ~~The~~ risks and effectiveness of the proposed remediation including an evaluation of the type, degree, frequency, and duration of any post-remediation activity that may be required, including operation and maintenance, monitoring, inspection, reporting, and other activities necessary to protect public health or ~~health, safety, and welfare and~~ the environment;

(F) long-term ~~Long-term~~ reliability and feasibility of engineering and institutional controls;

(G) technical ~~Technical~~ feasibility of the proposed method to reduce the concentrations of chemicals of concern at the site;

(H) estimated ~~Estimated~~ time required to achieve risk-based screening levels or site-specific target levels;

(I) cost-effectiveness ~~Cost-effectiveness~~ of installation, operation and maintenance, when compared to other remediation alternatives; and

(J) community acceptance;~~Community acceptance.~~

(3) an ~~An~~ evaluation of the expected breakdown chemicals or by-products resulting from natural processes;

(4) a ~~A~~ discussion of the proposed treatment or disposition of contaminated media that may be produced by the remediation system;

(5) an ~~An~~ operation and maintenance plan and schedule for the remediation system;

(6) design ~~Design~~ drawings of the proposed remediation system;

(7) a ~~A~~ groundwater monitoring plan to monitor plume stability and effectiveness of the remediation;

(8) a ~~A~~ plan to evaluate the effectiveness of the remedial efforts and the achievement of risk-based screening levels or site-specific target levels;

(9) a ~~A~~ plan that addresses the health and safety of nearby residential and business communities;

(10) a ~~A~~ discussion of how the remedial action plan will protect ecological receptors;

(11) all ~~All~~ required land-use restrictions and notices prepared in accordance with G.S. 143-215.104M and 15A NCAC 02S. 0508; and

(12) measures ~~Measures~~ necessary to protect plant and animal receptors and habitats.

(c) Monitored natural attenuation of chemicals of concern may be approved as an acceptable remediation method, provided:

(1) all ~~All~~ free product has been removed or controlled to the maximum extent practicable;

(2) contaminated ~~Contaminated~~ soil is not present in the unsaturated zone above risk-based screening levels or site-specific target levels for the soil-to-groundwater pathway for the site unless it is demonstrated that the soil does not constitute a continuing source of contamination to groundwater at concentrations that pose a threat to human health, safety or the environment, and it is demonstrated that the rate of natural attenuation of chemicals of concern in groundwater exceeds the rate at which the chemicals of concern are leaching from the soil;

(3) the ~~The~~ physical, chemical and biological characteristics of each chemical of concern and its by-products are conducive to degradation or attenuation under the site-specific conditions;

(4) the ~~The~~ travel time and direction of migration of chemicals of concern can be predicted with reasonable certainty;

(5) available ~~Available~~ data shows an apparent or potential decrease in concentrations of chemicals of concern;

(6) the ~~The~~ chemicals of concern will not migrate onto adjacent properties that are not served by an existing public water supply system, unless the owners have consented to the migration of chemicals of concern onto their property;

(7) if ~~If~~ any of the chemicals of concern are expected to intercept surface waters, the groundwater discharge will not exceed the standards for surface water contained in 15A NCAC 02B .0200;

(8) all ~~All~~ necessary access agreements needed to monitor groundwater quality have been or can be obtained; and

(9) a ~~A~~ monitoring program, sufficient to track the degradation and attenuation of chemicals of concern and by-products within and down-gradient of the plume and detect chemicals of concern and by-products at least one year's travel time prior to their reaching any existing or foreseeable receptor, is developed and implemented. Analytical data collected during monitored natural attenuation shall be evaluated on an annual basis to determine if the annual rate of expected progress is being achieved.

(d) If the Division determines that it is technically impracticable to achieve a risk-based screening level or site-specific target level for a specific chemical of concern due to geological conditions, remediation technology limitations, site conditions, physical limitations, ~~limitations~~ or other factors, the Division shall~~may~~ approve or modify the remedial action plan to provide for the use of institutional controls, engineering controls, and long-term

monitoring until the risk-based screening levels or site-specific target levels are met. Methods that may be used to demonstrate that remediation is technically impracticable include the following:

(1) a ~~A~~ full-scale field demonstration consisting of an operating remediation system;

(2) a ~~A~~ pilot study applying a remediation technology on a small portion of the contaminated site;

(3) predictive ~~Predictive~~ analyses or modeling that shows the potential for the migration and remediation of chemicals of concern to occur at the site;

(4) comparison ~~Comparison~~ of specific conditions at the subject site to those of similar sites in case studies or peer-reviewed and published research papers;

(5) a ~~A~~ combination of the above methods; or

(6) other ~~Other~~ equivalent methods that demonstrate that remediation is technically impracticable.

History Note: Authority G.S. 143-215.104D; ~~150B-21.2;~~
Eff. September 1, 2007;~~2007.~~
Readopted Eff. September 1, 2018.

15A NCAC 02S .0508 is readopted as published in 32:16 NCR 1603 as follows:

15A NCAC 02S .0508 LAND-USE RESTRICTIONS

~~(a)~~ The Division, pursuant to the risk assessment procedures of 15A NCAC 02S .0506, ~~Division~~ may require the imposition, recordation, ~~recordation~~ and enforcement of land-use restrictions pursuant to G.S. 143-215.104M.

~~(b) All land use restrictions and notices shall be on forms provided by the Division.~~

History Note: Authority G.S. 143-215.104D; 143-215.104M; ~~150B-21.2;~~
Eff. September 1, 2007;~~2007.~~
Readopted Eff. September 1, 2018.

15A NCAC 02S .0509 is readopted as published in 32:16 NCR 1603 as follows:

15A NCAC 02S .0509 NO FURTHER ACTION CRITERIA

(a) A "No Further Action" notice documents the Division's decision that the site has been assessed and remediated, and that the site conditions pose no unacceptable risks as long as the recorded land-use restrictions are maintained. The Division shall issue a "No Further Action" notice ~~letter~~ if each of the following criteria is met:

(1) risk-based ~~Risk-based~~ screening levels or site-specific target levels for each chemical of concern have been achieved, and, if applicable, plant and animal receptors and their habitats have been protected;~~protected.~~

(2) ~~The stability~~ monitoring of the groundwater plume for ~~has been verified by a monitoring period of~~ at least one year following a complete site characterization as described in 15A NCAC 02S .0504 shows that the plume is not expanding, and concentrations of chemicals of concern in groundwater exhibit a stable or decreasing trend based on all available data representative of the entirety of the groundwater plume; ~~after achievement of the goals set forth in the remedial action plan;~~ and

(3) all ~~All~~ required land-use restrictions and notices pursuant to G.S. 143-215.104M have been filed in the office of the register of deeds of the county or counties in which the property described is located.~~recorded.~~

(b) The Division shall not issue a "No Further Action" notice ~~letter~~ if the Division has determined that it is technically impracticable pursuant to 15A NCAC 02S .0507 to remediate the site to risk-based screening levels or site-specific target levels.

(c) If site conditions change or additional information becomes available to the Division to indicate that the "No Further Action" notice ~~letter~~ no longer applies, the site poses an unacceptable risk to human health, safety, ~~safety~~ or the environment, or the land-use restrictions imposed in accordance with G.S. 143-215.104M are violated, the Division may rescind the "No Further Action" notice ~~letter~~ and require further remedial action at the site.

History Note: Authority G.S. 143-215.104D; 143-215.104M;~~150B-21.2;~~
Eff. September 1, 2007;~~2007.~~
Readopted Eff. September 1, 2018.